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HISPA BRICK magazine

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Frontcover by Vesa Lehtimäki
Backcover by Satanspoet

In this issue of HispaBrick Magazine®

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Editorial

by lluisgib

It can be difficult to write an editorial without becoming monotonous, blowing your own trumpet or using the typical clichés you can find in any editorial. In this thirteenth issue of HispaBrick Magazine® I will try to describe a little of its history and to put the person who thought this all up in his place (in a positive way).

Approximately 4 years ago I got a call from Carlos, an AFOL from Madrid, who proposed the creation of a magazine dedicated to our favourite bricks. I thought it an excellent idea and accepted without a minute's thought.

We published a first issue, in Spanish (one of these days we'll have to translate it) and were surprised at how well it was received. From the first issue, Carlos took care of coordinating the articles and interviews and, above all, the arduous task of doing the layout.

After the first issue and its unexpected "success", we decided to make an extra effort and publish some articles in Spanish and English in issue 002 and two separate editions starting with 003, despite the effort this means for AFOLs with no experience in this field.

The magazine has continued to improve till this issue 013. Changes and improvements in the layout, the search for AFOLs to interview, threats when articles are not delivered on time... Hours and more hours for the simple pleasure of enjoying a magazine about our hobby and (occasionally) a pat on the back from a fan who appreciates the magazine and decides to share this with us.

I know Carlos won't like this editorial, as he is not the kind of person to look for prominence, but this time he will have to "suffer" it a little. Thanks to his work we enjoy this magazine, interesting articles, alternative models, a Community created around the Magazine... and personally his friendship and that of those involved in this project.

Thank you Carlos for making this dream come true. Happy 4th anniversary... and many happy returns!
#

Photographing the cold Hoth

By HispaBrick Magazine®
Pictures © Vesa Lehtimäki

Sometimes you find great pictures on the internet, where the protagonist is a construction made with LEGO® bricks, but sometimes LEGO is only part of the work of art, a character within the composition. Today we talk to a genius of the snowscape of Hoth, ..., LEGO, The Empire Strikes Back, photography, ..., what more could we ask for?

HBM: First of all, tell us about yourself, your name, where are you from, your work ...

My name is Vesa Lehtimäki, born and living in Helsinki, Finland. I have worked as a designer since late 80's, time period includes a decade as a magazine designer and an Art Director. Free illustrator since 2006, free and happy.

HBM: Why did you start photographing LEGO minifigs and sets?

VL: There was no particular reason why LEGO, I just started a project of documenting our kid's toys to save them in photographs before they break or vanish over the years. The part about Star Wars™ toys just got out of hand and curiosity took over. With Flickr the photography took a turn that I did not expect and I'm enjoying it very much. I built LEGO a lot when I was a kid, I guess, to my own surprise, it is something my inner kid relates to strongly.

HBM: Do you build with LEGO bricks or do you leave that task to your kid? What does he think about the appearance of the minifigs after they are photographed?

VL: I do not build LEGO myself, everything in my photos is built by our kid and borrowed from his fun and play. Sometimes I have to rebuild some items because of playwear and erosion, the snowspeeder is one of those items, I think I've rebuilt it three times for photography by now. I try to keep in mind that the bricks do not belong to me, I do not want be one of those dads who buys toys for the kid and steals them to his own purposes later on. I return all items to the kid, no restrictions.

There are a couple of exceptions to this rule, the Blade Runner Police Spinner is mine and I have bought an extra AT-ST walker because I got tired of rebuilding the kid's walker. Of recent images, the 3A toys stay on the shelf, too.

I honestly do not know what the kid thinks about the photos. He's curious enough to taking a look from time to time, and he liked the book with the LEGO Hoth photos I made for him at Blurb. I think it's more like him allowing me to borrow his stuff and being big hearted enough not to give me any hard time over it. Watching me photographing has probably stripped any mystery from the photographs themselves, so it's not that big a deal. Besides, he's more into making his own, like LEGO animation movies, mostly Clone Wars related stuff.

HBM: One of the aspects that attract attention in your work is the atmosphere you achieve. Getting those fantastic snowy scenes from Hoth can't have been easy. Why the search for that not easy to get environment? Which was the path to reach the desired effect?

VL: Hoth is a dear place to me. I was a kid when the original trilogy came out and I saw them all in cinema at the time. The Empire Strikes Back is special for me because of the snow element, and the fact it was filmed in Norway, our neighbour country. I have always loved snow and, especially as a kid, I played in it a lot, built snowcastles and such.

When I first tried the snow with LEGO something just clicked and I wanted to do more. One experiment led to another and gradually the technique I use now emerged. It's all trial and error with a twist of determination. To pursue this particular snow spray effect is because I simply think it's cosy and beautiful, but also because I haven't really seen it elsewhere. It almost feels as if I'm doing something that's mine.

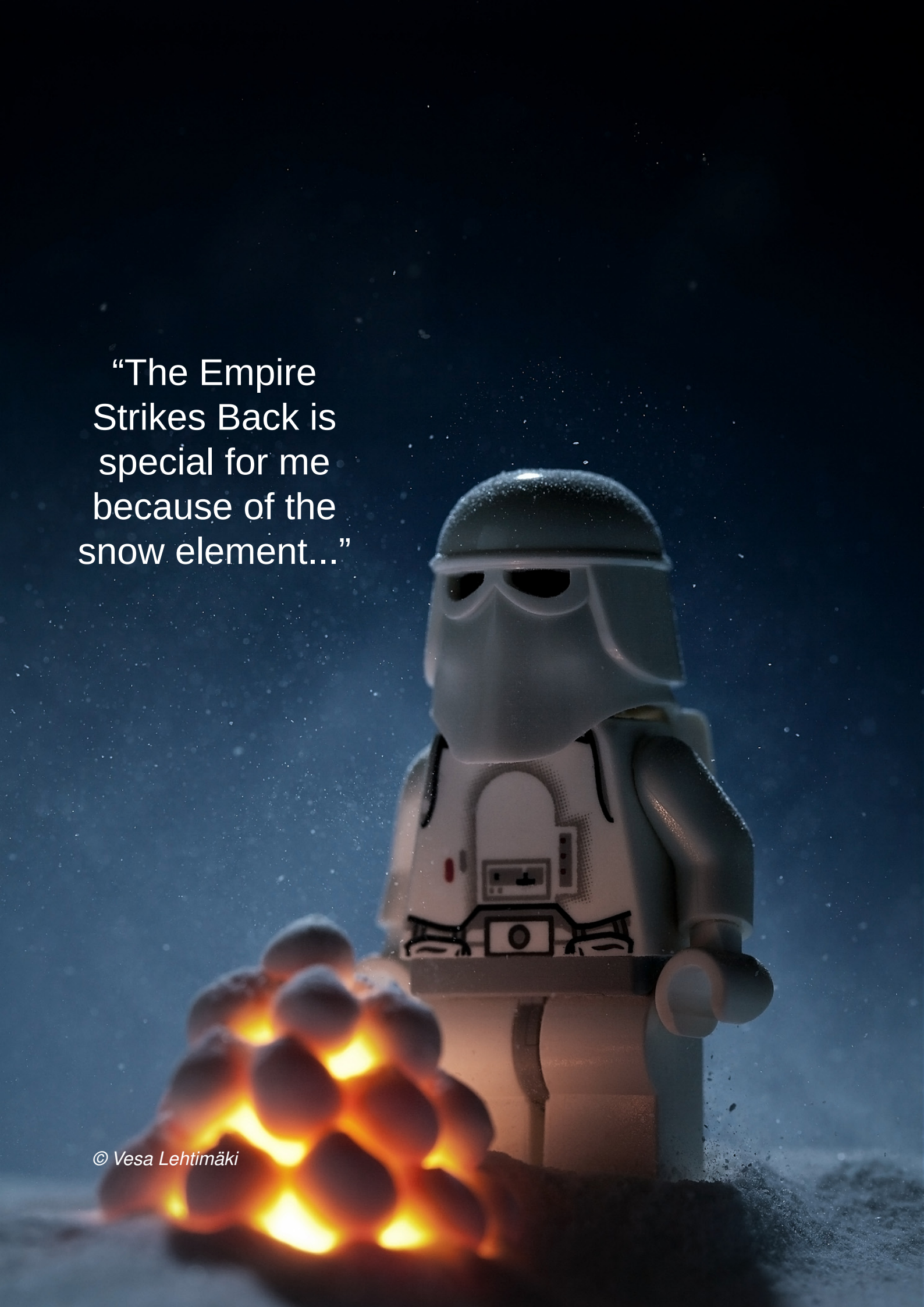
The technique is a bit laborious and I think I'm developing some kind of allergy to the baking powder I use. At least I'm getting nosebleeds if I'm careless and end up breathing the stuff. It's a bit painful sometimes, really.

HBM: From the moment you have a new idea for a picture until the finished result, which are the steps you take?. How many attempts you make before you get the desired effect? How long can the whole process take until you make the photo public?

VL: This varies a lot. The quickest shots with snow effects may come about in couple of hours from start to the finished photo, but usually it takes longer. Much longer. I think the most laborious shoot was "The Arrival" which I had to shoot three times over a five day period, with about 350 exposures to get it right. That means building and dismantling the whole setup on three separate occasions.

http://www.flickr.com/photos/avanaut/4577963694/in/set-72157622579369884

The most annoying shoots have been the ones with huge blizzard effects. To capture that I have to set the whole thing up in our bathroom, block the doors, protect the camera, take my clothes off and shoot with remote while simultaneously creating a blizzard by blowing on the baking powder snow with a hairdryer. It looks great but the stuff gets everywhere,



literally, I'm all white from the stuff afterwards. The cleaning and washing may take an hour, ot two. There is something I like about this madness, the effect is not as grand as the effort to achieve it, actually, I think it could be achieved in Photoshop alone. I just I like the idea that I do it all in-camera.

http://www.flickr.com/photos/avanaut/5014470554/in/set-72157622579369884

I usually have a starting point, an idea towards which I'm going. I build a simple setup, usually on our livingroom desk and start working. The process itself is flexible, I allow the ideas to change according to what works and what doesn't during the shoot. Sometimes an idea gets abandoned altogether and a new idea takes place, an idea that can emerge from discovering something unexpected while working with the first idea. Sometimes it's easy, sometimes it's all dead ends.

I often shoot random frames during the shoot to catch lucky strokes, firing the camera sometimes not even looking at it, just banging away (I just love digital photography!). The luckies may lead to having them uploaded instead of the carefully prepped actual photos. If this happens, I just put together fun little backstory that fits the image, not the other way round.

After any photosession I go thru the lot of RAW images, when a decent frame is found I open it in Photoshop and adjust the colours and that's about it.

HBM: Have you given up on any project because of not getting what you wanted?

VL: Yes, many. I have numerous folders with hundreds of photographs of abandoned projects, things that just did not work. For example, I'm really frustrated with theTatooine concept, I just cannot get it to work properly and I cannot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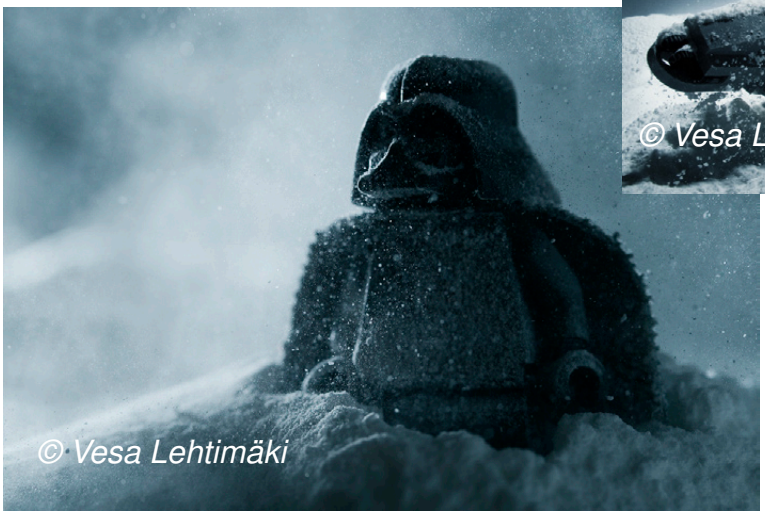
© Vesa Lehtimäki


© Vesa Lehtimäki

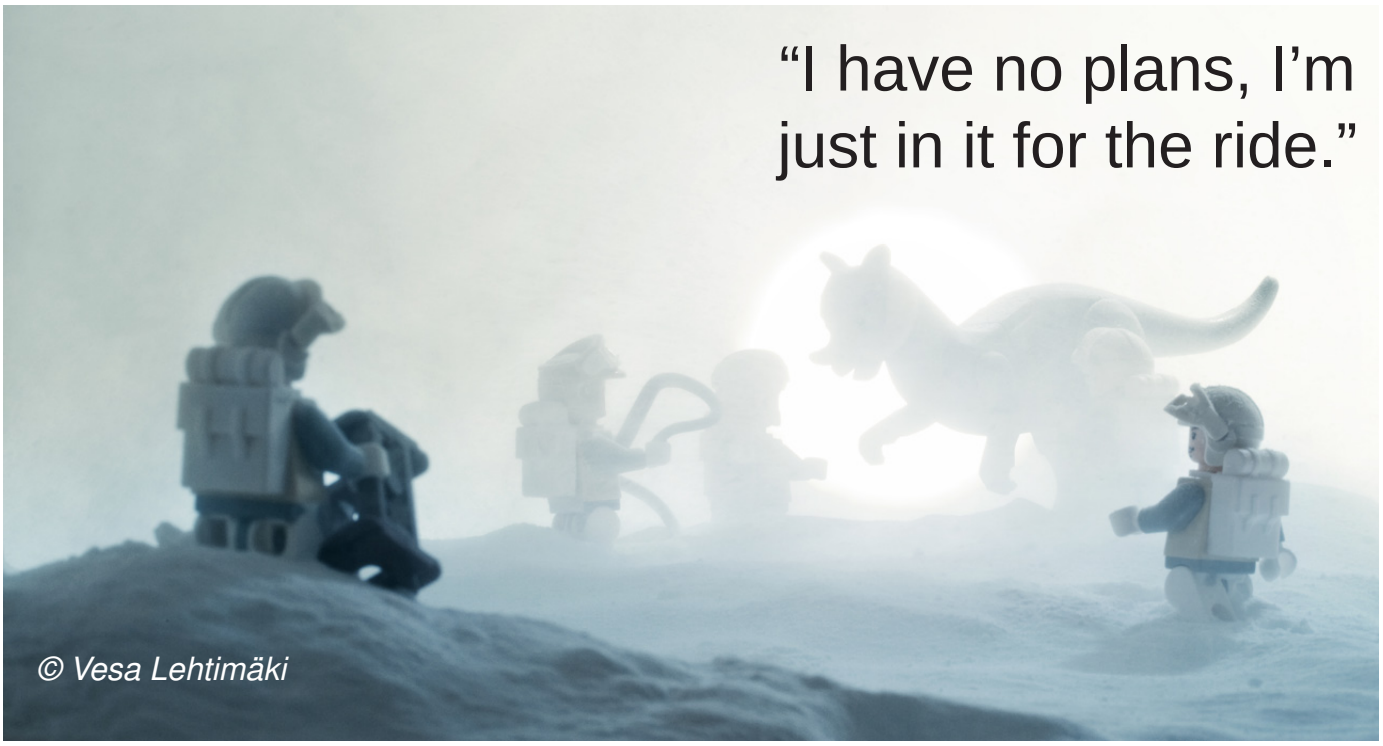

“I have no plans, I’m just in it for the ride.”
© Vesa Lehtimäki

figure out where the problem is. Sure, there are some Tatooine shots I've uploaded, but if you only knew how many I haven't uploaded. I thought about uploading some of the failures to Flickr labeled as "Fails" at some point, but the discarded photos really are not that interesting, they're just fails.

HBM: Another of the aspects that determine the atmosphere of your creations is how you manage the light. How much is the result of the illumination for the picture and how much is post processed?

VL: I think this is due to the process of taking so many variations, I can shoot up to 500 exposures at best for a single photograph, changing the lighting for each exposure just a bit holding the lightsource(s) manually. I go thru the exposures a bunch at the time, try to see what is good and shoot more until I get it right. I do not add any light effects afterwards, actually, I do not add anything to my photos afterwards. The only photomanipulation I do is removing unwanted elements, such as threads, supports and dust. If I deviate from this I try to remember to mention it in the caption of the photo.

I do, however, process the images, sometimes heavily, I use filters, and layers, I adjust colours, contrasts and such but I do that for the whole image, maybe a little masking here and there, but never adding any elements to the photos.

More fun this way.

HBM: Lately you're making new versions of old works. Have you changed your technique or the way of thinking about those scenes in particular?

VL: The reason I've revisited old photos is that I purchased a new camera. The difference between a Canon 400D and Canon 5D Mark 2 is very big and I wanted to see if the old stuff gets any better with higher resolution. In the revisited shots there have been a lot of airborne snow, It shows way better with the new gear, I like that.

HBM: If you had to choose one of your pictures, which one would you choose? Why?

VL: Of the LEGO® shots I've always been really happy with "The Moonlight Shadow". There's something in it that summarizes a lot of the photography I've done with the LEGO. It has snow in it with only a very subtle airborne snow effect, it has very good lighting, the moon and the background mountain range worked great, the colour of the snow lantern adds warmth and drama to the otherwise very cold atmosphere, and the little snowtrooper minifigs happened to stand almost perfectly in different places so that the one staring at the lantern steals the show. And this is all in-camera, nothing's been altered, except minor adjustments to contrasts. It is not the most popular of my shots but I'm quite fond of it personally.

http://www.flickr.com/photos/avanaut/5411192881/in/set-72157622579369884

HBM: Do you plan to change the theme of your pictures in the future? Perhaps taking advantage of the return of the superhero minifigs?

VL: I have no plans, I'm just in it for the ride. If it gets boring I do something else, if not, which is what I hope for, I'll stick to Star Wars™ and LEGO for a little while longer. The kid is growing up and taking interest in a larger variety of stuff, if he starts to do something entirely different than playing with LEGO, I do not know what to do. The whole LEGO photography is very much connected to what he does. I honestly don't know.

There is still at least one thing we're really waiting for, however, and that's the upcoming Lord of the Rings sets. See, I read the Hobbit to the kid as a bedtime story – twice. Then I read the Lord of the Rings, the whole thing! It took almost three months' worth of evenings to finish but it was worth every second of it, it was a wonderful experience. Not long after finishing the book, the news of the new LotR sets came out and we've been waiting eagerly ever since. It's going to be great fun, I already have made some test shots for those. I have to start saving money now. :D
#

LEGO® Through Time And Space

Text by Dr. Sinister (A J Summersgill)
Pictures by Dr. Sinister and their respective owners

I have a confession to make. LEGO® is not my first love. Yes, I know, it's a strange statement to make in a LEGO-related magazine, but there is something that got to me a long time before LEGO…the BBC television series, "Doctor Who".

"Doctor Who" is the world's longest running science fiction TV serial, having first aired between November 1963 and November 1989, with a brief revival in 1996 and then a full-blown new series in 2005 that is still going strong. The show occupies a unique niche in British culture similar to that of "Star Trek" in the United States.

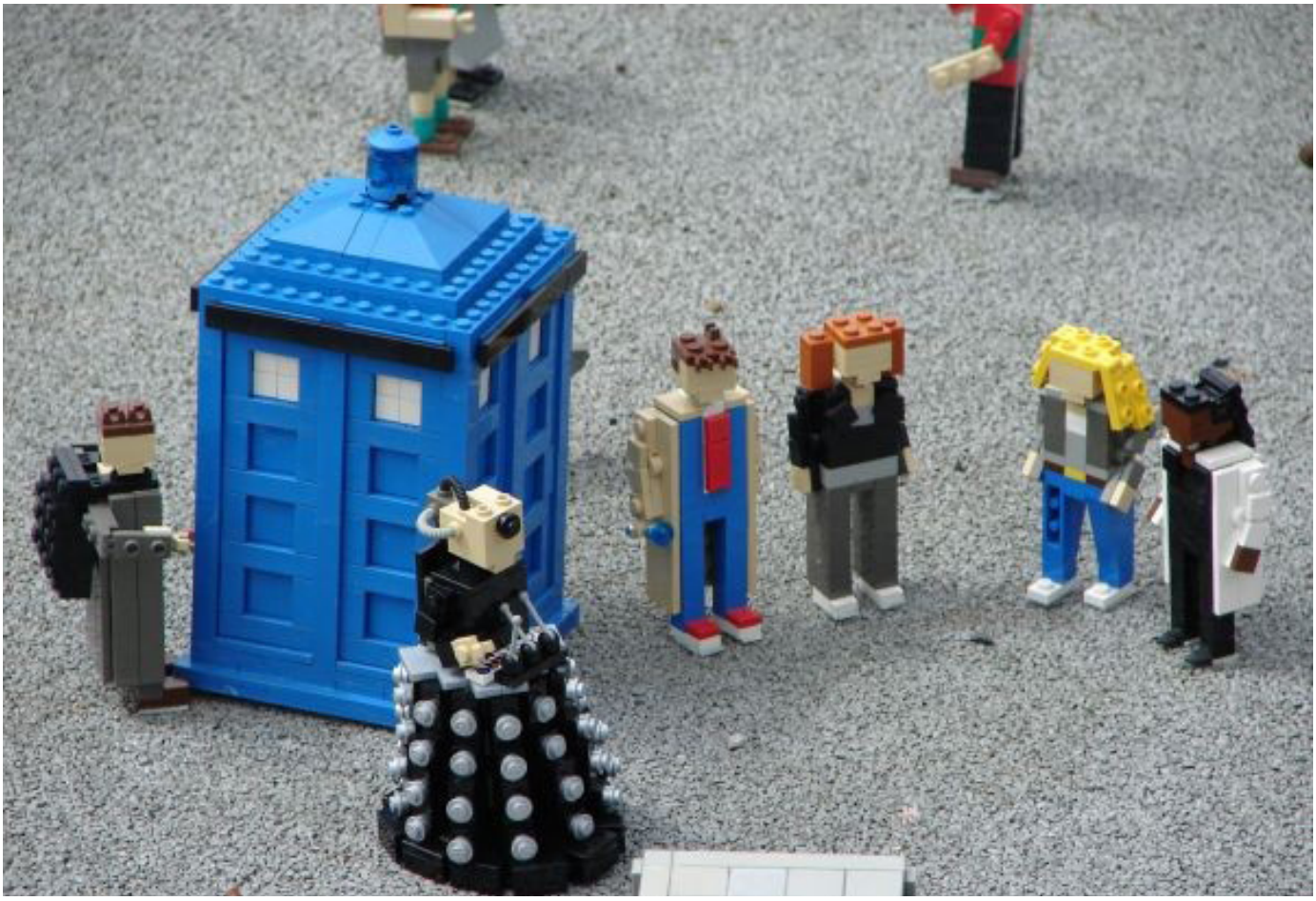
The series is chameleon-like in its ability to change styles. At times it has been quirky, humorous, thoughtful, insightful and downright terrifying, and sometimes all of these things in the space of just one episode.

The central premise of "Doctor Who" is the adventures of a character who we only know as The Doctor – a 900+ year old Time Lord from the planet Gallifrey. The Time Lords are an infinitely old race who mastered the art of time travel millennia ago but who ostensibly only used their great powers to observe and catalogue events. The Doctor, bored with this sedentary lifestyle, decided to escape and see the universe for himself, and so he stole one of the Time Lords' time travel devices – a TARDIS (Time And Relative Dimensions In Space). Thus the universe of "Doctor Who" is one where adventures can take place across all of time and space, on any planet at any point in its history, past, present or future.

Given the popularity of the show, it is of course no surprise to find that there have been a great many representations of some of the central icons of the show in LEGO form. There are even Doctor Who LEGO characters at LEGOLAND Windsor within the London area of Miniland!

http://www.flickr.com/photos/doctorsinister/2649158353/in/pool-30874488@N00/

In the space of this article, I will highlight some of the best "Doctor Who" LEGO creations out there.



The Doctor.

Perhaps the single cleverest concept of the show is its ability for the lead actor to change – ensuring its longevity. In 1966 the actor playing The Doctor, William Hartnell, was suffering from ill health. The writers thus came up with the concept of regeneration – allowing The Doctor to morph into a younger body and thus ensure that the show could continue. The Doctor has since regenerated a number of times, and the current episodes feature the adventures of the 11th Doctor played by Matt Smith. It's important to realise that The Doctor is still the same person, albeit different incarnations can bring out varied nuances in his personality and approach to solving problems.

The various Doctors have all had a somewhat…unique… approach to their style of dress, and so for LEGO® builders, there is often a choice to be made when representing them brick form.

Andrew Cookston prefers a purist approach to his minifigures:

http://www.flickr.com/photos/thebritishbafoon/5613647108/sizes/m/in/set-72157626483450570/

Whereas Billy Riner is one of many AFOLs to have attempted to capture the various incarnations of The Doctor by using customised pieces:

http://www.flickr.com/photos/44590462@N05/6126011832/in/set-72157626478138067

The Daleks.

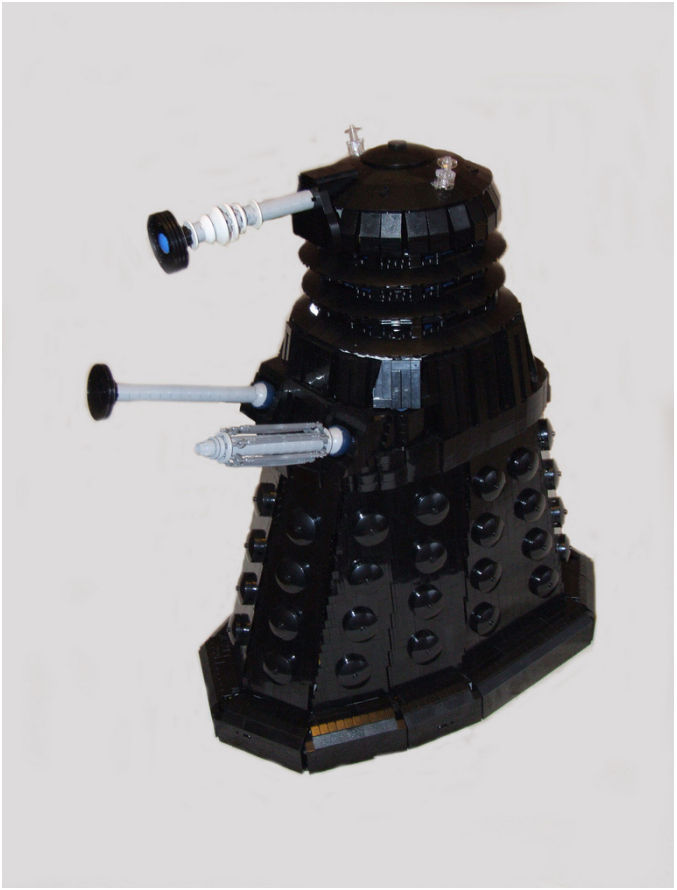
During his travels, The Doctor has encountered many alien races. The first and undoubtedly the most popular of these were the dreaded Daleks – evil creatures from the planet Skaro. Within their menacing gliding cases, the Dalek machines contain vicious mutated blobs of pure hatred, the result of a dirty nuclear war on their homeworld. Believing themselves to be the ultimate life form and destined to rule the universe, the Daleks are essentially allegories of Nazi Germany, terrorising other races everywhere they go and barking out their favourite catchphrase - "Exterminate!".

Unfortunately, Daleks are very tricky things to build in LEGO, because their unique shapes do not translate well to the angles found in our favourite building toy. Nevertheless, there are a great many fantastic Dalek creations out there, as evidenced by the LEGO Daleks Flickr group.

http://www.flickr.com/groups/lego-daleks/pool/with/2115038201/

Peter Salter has built a fantastic large-scale Dalek that features LEGO power functions – the Dalek can move and the dome (head) rotates.

http://www.flickr.com/photos/34247814@N07/4150973049/in/photostream



Peter Reid, known for his neo-classic space creations, amongst other things, built this LEGO Dalek using some controversial techniques.

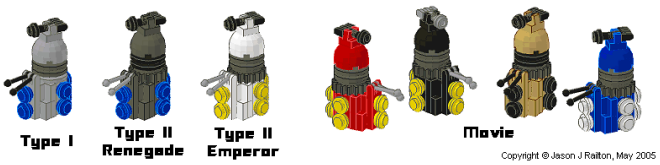
http://www.flickr.com/photos/legoloverman/2115038201/in/photostream

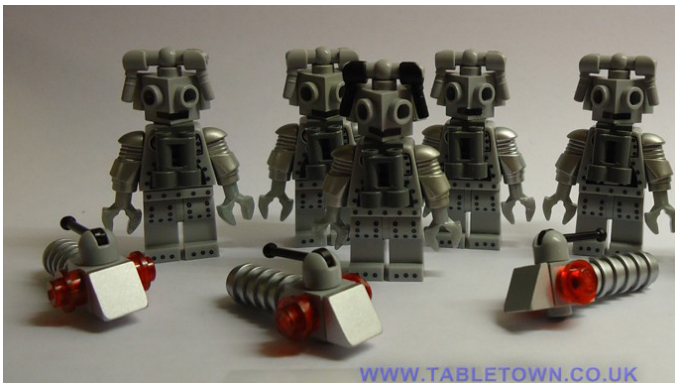
My favourite Daleks though are those built by Steven Locke. Steven has really gone the extra mile by constructing a variety of different Daleks to the same scale, but in different colours. Indeed, the Daleks have appeared in various liveries down the decades. Here are just two of his Daleks, with a similarly scaled K9 (more on him below!).

http://www.flickr.com/photos/legoavon/274603914/in/pool-30874488@N00/

Finally, as you can imagine, building minifig-scale Daleks is very hard, but that hasn't stopped people from trying, and here, Jason Railton has provided some images and instructions for his own design:

http://www.brickshelf.com/cgi-bin/gallery.cgi?f=130993





The Cybermen.

Of the many "big names" in "Doctor Who", it would be remiss not to mention the Cybermen. A race of humanoid cyborgs, the Cyberman originally hailed from the Earth's twin planet, Mondas, which was hurled away from the sun in some kind of cataclysmic event. In increasingly desperate attempts to keep themselves alive on their doomed world, the humans of Mondas began to augment their bodies with cybernetic components, eventually replacing parts of their very brains and becoming emotionless drones, obsessed only with survival and converting others to become like them. The Cyberman share many concepts with The Borg from "Star Trek", although they pre-date The Borg by some 20 years or so.

My own take on the Cybermen also owes a lot to Flickr user "JimmytheJ" who came up with the fantastic idea for the "jug handles" on a Cyberman's head:

http://www.flickr.com/photos/doctorsinister/4796788315/

http://www.flickr.com/photos/10962799@N04/4777893173/

K-9.

During his travels, The Doctor has had many companions to accompany him and assist him in writing the wrongs of the universe. There is no time within this article to list them all, but one in particular deserves special mention as he is uniquely suited to building in LEGO®. The Fourth Doctor (played by Tom Baker) was, for a while, accompanied by a robotic dog from the year 5,000. The dog, known as K9 (a pun on "canine") was essentially a mobile computer, and equipped with a laser in his nose. Louise Dade has cornered the market in constructing a minifig scale K9 using only 14 pieces.

http://www.flickr.com/photos/bladewood/2852937331/

The TARDIS.

I will conclude this piece with a focus on the TARDIS, The Doctor's time machine.

The Time Lords created TARDISes so they could observe the universe, and they were designed to blend in with their surroundings. Thus, for example, if a TARDIS were to arrive in Rome at the height of the Roman Empire, it might disguise itself as a pillar or a statue. The Doctor's TARDIS however, arriving in 1963 and leaving in something of a hurry during the first televised adventure, is also somewhat temperamental and so it is that his machine is stuck looking like a British Police Box from the era.

Police Boxes were small cubicles that were positioned on British streets before the advent of personal radio sets. They contained a telephone, desk, writing equipment and could even be used to hold arrested criminals whilst the Officer awaited transport to remove them to a station. At the time the series started, they were a common sight around the UK, although now there are less than a dozen or so remaining.

The TARDIS, like all machines of its type, is also larger on the inside than the outside. In fact, it has been suggested that the internal space is infinite. Once beyond the doors, there is a large central control room from where the machine can be "flown" through time and space. Beyond that, there are bedrooms, libraries and even a swimming pool!

Tim Fegan has created a stunning large-scale LEGO® TARDIS:

http://www.flickr.com/photos/doctorsinister/2916160104/in/pool-1417078@N24

This one by Flickr user Doctor Mobius is even larger!

http://www.flickr.com/photos/doctormobius/3501633759/in/set-72157617731848805

Creating the TARDIS in Minifig scale presents its own challenges because of the four-way symmetry of the Police Box shape. The LEGO TARDIS group on Flickr has dozens of examples of LEGO TARDISes from around the world.

http://www.flickr.com/groups/1417078@N24/pool/with/2916182120/

However, to round off, I'd like to share with you my own minifig-scale LEGO TARDIS creation. Having built on the work of others before me, I'm particularly pleased with the way this turned out, having achieved the four-way symmetry and yet managing to keep the size at the right scale.

As you will see, my TARDIS has engraved tiles for the lettering (courtesy of Tommy Armstrong, The Brick Engraver) and even internal lighting from Lifelites, although I'm still not sure how I managed to get it in there!

http://www.flickr.com/photos/doctorsinister/4949452738/in/set-72157624066706705

My TARDIS design gets used quite a lot in my spoof series of LEGO vignettes entitled "Doctor Hasn't a Clue". Here's the first of these, although you will note that this was made before my engraved bricks had arrived.

http://www.flickr.com/photos/doctorsinister/4671563141/in/set-72157624066706705

To accompany my LEGO® TARDIS, I have a page set up on my website where you can view an instructional video on how to build one for yourself. There are also videos of two public TARDIS-builds that I gave in 2010. I'm pleased to say that as a result, there are copies of my LEGO TARDIS around the world!

http://www.tabletownonline.com/TARDISinst.php

The same page has a list of parts, and a downloadable set of instructions:

http://www.tabletownonline.com/TARDIS.zip

I hope you have enjoyed this journey through time, and I would encourage anyone who hasn't seen the show to check it out – you might be pleasantly surprised by what you find!
#

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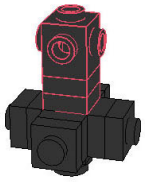
1 x Plate round 1x1 (Black)

8 x Plates 1x1 (Black)



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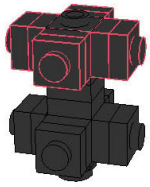

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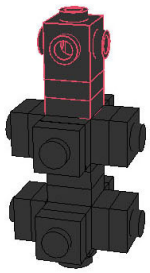

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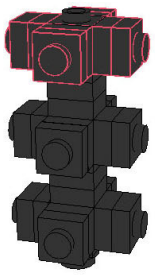

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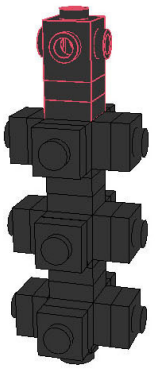

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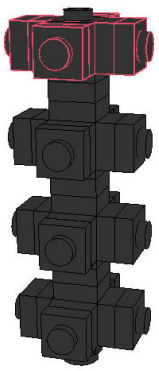

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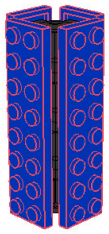
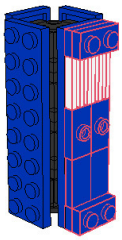


4 x Plates 2x8 (Blue)



4 x Plates 1x2 (Blue)
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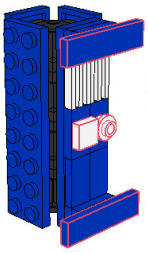
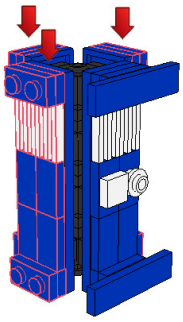
2 x Tiles 1x2 (Blue)
2 x Plates modified 1x2 with 1 stud (Blue)

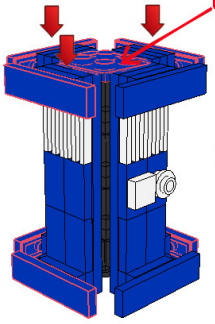


2 x Tiles 1x4 (Blue)
1 x Tile 1x1 (White)
1 x Plate round 1x1 (White)



3 X

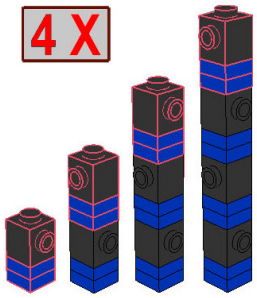
4 x Plates 1x2 (Blue)
2 x Tiles modified 1x2 grille with botton groove (White)
4 x Tiles 1x2 (Blue)



1 x Plate 2x2 (Blue)

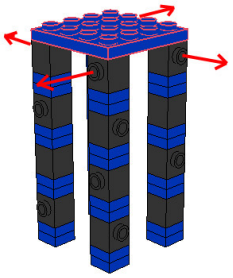
3 X

2 x Tiles 1x4 (Blue)

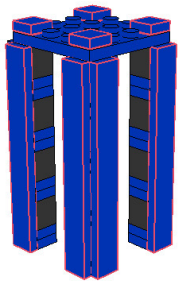


4 X

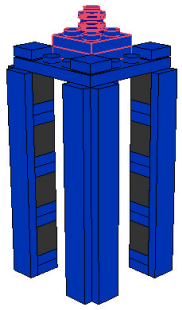
4 x Bricks modified 1x1 with stud in 1 side (Black)
8 x Plates 1x1 (Blue)



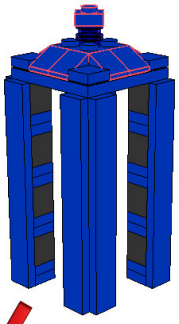
1 x Plate 4x4 (Blue)



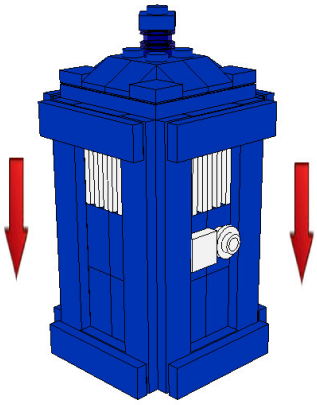
4 x Tiles 1x1 (Blue)
8 x Tiles 1x8 (Blue)



2 x Plates 2x2 (Blue)
2 x Plates round 1x1 (Trans Blue)



1 x Plate 1x1 (Blue)
8 x Slopes 30 1x1x2/3 (Blue)



TARDIS

by Dr. Sinister

Image by Legotron

Sorting

By arvo

We are certain that the same parameters that directly relate “resources” with “production”, in any imaginable scenario, are perfectly applicable to this hobby. Why not? It is an activity that seeks to achieve a goal, consuming time and resources of all kinds, besides requiring a certain space for it. It seems a very simple recipe, but to keep things running smoothly some planning is absolutely required, which has to be founded on the very idea of ORDER.

In our case, this reflection came a bit late

.....when we started to build in a more intense way, our only concern was to maintain or even improve the quality of our constructions, all other considerations had no place and the effort was concentrated exclusively on placing piece after piece.

Building in bed, which at first was funny and even endearing, began to be “mandatory” because boxes took up so much space, as they gained in height, that eventually they became the walls (literally) of our own prison. Moving between so many bricks was the closest thing to playing Tetris with the Gameboy in one hand and the paper roll in the other. Finding parts became an odyssey, a kind of act of faith that bore fruit of some strange statistical law. To come across “something” for the second time was so unlikely that the “parts remover” came to be permanently in our pockets (for fear of eternal loss) and rare was the occasion that, while looking for the lighter, our dear ad green fetish didn´t peep out.

Anyone who reads these lines will be more or less familiar with what we are talking about, ultimately it comes down to the unconscious and uncontrolled accumulation of material that, over the years, is common for most of us and it ends up impeding the construction until we abandon any initiative even before we attempt it.

And because of that, because many of us share this experience, we would like to tell you how we remedied this situation. How we approach it and how we solve it, creating a friendly and supportive environment, which speeds up and drives any project, giving us back those first feelings, those that we should never lose.

Origins

The first time we had the opportunity to see how LEGO order , sort and store parts in Denmark, we were blown away. Everything seemed to serve a much-studied logic, which of course ended up convincing us because the system seems so intuitive.

However, what was truly exciting was enjoying that presentation which was really impeccable. The experience was illuminating, any excuse was good to look into that furniture and enjoy that “vision”. Bright colours, matte or solids, arranged in perfect tonal harmony, ingenious grouping of shapes and sizes, classification by type, function or subject.

Fascinating ... we accept our fetish streak, but that raised our deviation to a superlative degree ... we loved it.

All this seemed beautiful at the time, though somewhat accessory, but we never imagined how it would be essential to continue building. Our volume of parts could still be considered modest and all the discomforts of the process were about to surface.

In any case, we take note of it all.

After that, it was impossible for us to look at our DIY kits without thinking with a certain sadness about the amount of money we had foolishly spent. Was it predictable? Can an expense like that be avoided? Probably not. Just as a collection evolves, so does the storage method, and to start from time 0 with a system that accompanies us throughout all the stages seems more than difficult.

It would not be much longer until we felt the first ravages. With so many parts around us it was impossible to build something comfortably, and it not only affected the way we played, but also the time we spent playing, getting smaller and of poorer quality. We had to do something about it, or we were doomed to suffer more and more, or worse, doomed to give up.

Searching...

Once we get to the “saturation point”, i.e. the moment we literally prefer to mop the floor to building, we decided to take the plunge. Order.

We would park all our projects and would dedicate the time necessary to create a system as close as possible to that seen in Denmark. We would seek the most appropriate furniture and would equip it with elements and accessories to make it a capable, open and functional system.

Needless to say that we did not get any of these three qualities, but we had fun!

Finding a cabinet type drawer that suits our needs, it is not difficult. In fact nearly all serve, the offer is so wide that you can even afford to choose them to match your shoes. We chose to look for models with drawers that are not very high and not very deep.

By the very nature of the game, a drawer by itself is not much. You have to put “classifiers” in each of your drawers and whether they were in the form of honeycomb tray, in individual boxes, or simple dividers, finding them was no easy task. The dimensions of the one conditioned the other and we had to have a very clear idea of the elements we would use and their availability (stores cannot always guarantee a total supply)

.....and when we say “very clear”, we mean very, very, very clear. Why? Let’s do numbers (they will be approximate, of course, as we will take certain measures for trays and boxes):

A more or less important part collection needs 8 medium size drawers to store them all. A typical drawer cabinet will have about 6 drawers, and in each of its drawers trays, boxes or separators would be organised depending on the look and feel we want to give to the system. For example,

Moulded trays: 2 per box. Total: 8x6x2 =**96 trays**

Individual Boxes: 15 per box. Total: 8x6x15 = **720 boxes**

Separators: 1 set per box. Total: 8X6 = **48 sets**

You have to be very sure about the option you choose. Spending is important and any misstep can leave you with empty pockets and a room full of useless “plastic”.

In an effort to reproduce the system seen in Denmark, we chose a combination of trays and individual boxes. Unless you can order from a factory, moulded trays with very specific measures (there are several companies that accept orders of this type) it is very difficult to find models with the required measures in a store. With two trays and 3 boxes per drawer we achieved something very similar to our initial idea.

Unfortunately this combination takes just under 70% of the available volume. Not much, but it’s the most we could get after a lot of headaches. To reach a figure closer to 100%, it would be logical to choose the separators, since the only remaining space is occupied by each of the bands (separators) that make up the grid. However, a drawer with dividers presents a drawback which seems important, you cannot extract groups of pieces from the drawer, which is entirely feasible with trays or boxes (simply remove the corresponding tray or box).

The available moulded trays for parts are not too many, which is detrimental to the classification and storage possibilities, forcing us to mix in many cases different types of parts.

In any case, trying to dedicate a tray to each type of piece would have been naïve, it would take dozens of holes for each colour, so mixing types of parts was something we always had had in mind.

Sorting

It took us months to find the right setup and as many more to finish completing it (for example, we had to buy the boxes direct to factory, because we needed so many that no store could respond to our request). With the first phase completed, it was time for the second, “sorting”.

We were never clear about what should have been the guidelines. Which characteristic should take precedence? What defines a group? What quality is more easily associated to a set of elements? What properties can we assimilate faster? What lingers longer in our memory? ...

... too much detail for a couple of guys who only wash at Easter and the festival of San Blas.

We never really cared to find a “logical” system, our main objective was not that. We only wanted to put it “out of the way” and if possible, to find something nice, cosy that would give us the our desire to play back.

With this hope we imposed a single premise, “the colour will prevail over any other property”

For obvious reasons, we have been unable to maintain a fixed scheme in every colour, but we have tried to repeat certain configurations or groupings in order to establish a “rule” to expedite any search.

On the other hand, minifigures, “curved” pieces or Technic parts have been grouped occupying their own “thematic” space.

the wheels ... in their own cabinet, and then some.

Other smaller pieces have required an entirely different configuration from the rest, making it necessary to resort to other types of boxes for storage.

The “trans” pieces were the first to go into the new system and it is one of our favourite ‘corners’:

To give it some “finishing” we put a kind countertop on the furniture that we padded manually. It gives us an ideal surface to build on. The texture is really nice, and most importantly ... we can play quietly (no more nights of clandestine building!)

During the early days it was the change strange. We went from having a room/watering hole to a kind of “orphan” room, full of drawers and with no part in sight. It took some “exercises” to get used to the system but then we saw how fast we can now built, too fast, perhaps. What once required half a day with preparations, staging, actual construction and “end of the party”, was now only a matter of minutes. With everything at hand and with little effort to get the desired part, the constructions grew at such a fast pace that we barely had time to assimilate or question the design.

.....it’s funny, we had to “slow down” the process now that the times have been drastically reduced, trying to make the construction phase gets it proper role and leaving more room for phases like modification and considering alternatives or solutions.
#

Art made from LEGO®, not LEGO Art

By John Cake and Darren Neave

We are John Cake and Darren Neave, formerly known as *The Little Artists*. We have been professional artists for about fifteen years. Our work has involved many different materials and themes but our pieces made in LEGO® are probably the most well-known.

From an early age, both of us used played with LEGO. As we got older we found that we could use it to visualise our ideas, and it was one of the reasons that we became friends at art college. We are still totally obsessed by LEGO, constantly reading FBTB, Brothers Brick and of course HispaBrick! It would be nice to be able to make our own non-art models but we are way too busy. We always say that one day we will build a massive *Hogwarts* castle.

LEGO is a great material to quickly make something solid or illustrate an idea. It is a material that we totally understand, we think of everything in terms of LEGO dimensions or how we can use it for real-world applications.
We were actually using it to make a mould for something at art college in 1994 and we saw the potential for a Damien Hirst shark tank piece. So, the original project was dropped and the first LEGO shark tank was made.

This piece sat around the studio for a while because we weren't too sure what to do with it. Then in 1999, we worked out that we could make Salvador *Dalís Lobster Telephone* and started to think a bit more about what this meant. There was no art in the LEGO System or City themes, and there wasn't a Modern Art LEGO theme, so we started to think of something between these two ideas. We wanted to create pieces that followed the "grammar of LEGO" and were as if LEGO had made a range of Modern Art sets, almost souvenirs of the Artworld. This then led us into putting these pieces back into

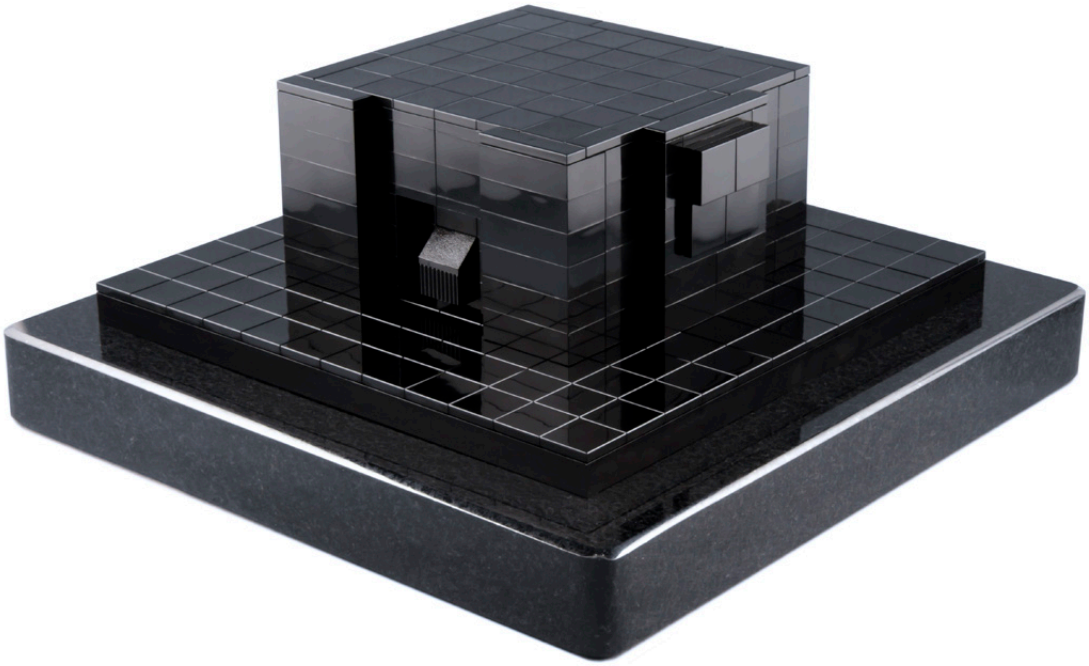
the LEGO® world, in photographic scenes depicting these artists, their work, the galleries and the associated myths. It was at this time that we discovered Bricklink and that opened up everything for us. Recreations of works by Jeff Koons, Andy Warhol, Chapman brothers, Rachel Whiteread and many others soon followed.

This all culminated in a big exhibition, that travelled to Liverpool, New York, Poznan and Auckland. The main sculpture in this show was *Art Craziest Nation*, which has changed a lot over the years. It is a sculpture that is a gallery for all the LEGO recreations we have made; normally we exhibit each piece on an individual plinth. It follows the LEGO logic of being an open building where you can get to the interior but have a sense of the exterior at the same time.

The first version, from 2003, was a very straight, classical building, with white walls and a grey floor. We kept it very simple in order to show the smaller sculptures. We also filled it with hundreds of different minifigs so it looked like a gala opening at the museum.

What we call the *Final Version*, was done in 2009. This time we were asked by an art collector to produce some work to raise funds for the new wing of the Museum of Modern Art Tel-Aviv. We were fascinated by the architect's plans and were really inspired by the recent *UCS Death Star set*. The architect had twisted the building, so we wanted to somehow recreate that. We decided to build in a sideways SNOT style so that we could get lots of different angles into each floor, all centred around a light-well – just like the *Death Star*. It was really cool to get to build something that pushed our building techniques further. It also started us thinking in more abstract sculptural terms, moving on from the recreating-the-world-in-LEGO approach.

Our most recent work comes from this approach. We re-made a lot of our original art sculptures, such as the Rachel Whiteread room and the Tracey Emin bed, but this time in all black. This removed the cute character of the bright colourful pieces and obscured the visual relation to the original artists' works. The results were surprising. We found that we had to look at them differently to make sense of them. The solid, shiny black was hard to focus upon, so you could only really work out the shape when you moved and the reflections changed. They



also seemed to have a sinister feeling, which sort of acted as a catalyst for the next piece…

PKS 0521-365 is a sculpture based upon the house from Hitchcock's film, Psycho. We wanted to build something that would be very imposing and would be recognisable as a sort of silhouette. An important attribute of the Psycho house is that it becomes more iconic when it is darker. The starting point was a collection of the original production plans of the house, which we transposed into minifig scale. The really awkward part was getting all of the pieces in black and in pristine condition. The roof corner slopes, in particular, were very hard to get hold of. The whole piece took us about 6 months to make, is about 45cm high and has over 2000 bricks for the internal support structure alone.

We are currently working on a sculpture that takes the Brunel University Lecture Theatre as its starting point. This piece of brutalist architecture was used in the film *A Clockwork Orange* as the *Ludovico Medical Facility*. Again, it has a striking shape that is imposing and sinister, and bears a slight resemblance to the bridge of the *Imperial Star Destroyer*. We are using *Ldraw* quite heavily in the development of this piece. It means we can enjoy working out the details and interesting parts, without having to worry about devising a massive support structure just yet. We think that this piece will keep us busy for quite a while…

Images:

Art Craziest Nation Final Version - 2009 LEGO® 120cm x 120cm x 70cm

PKS 0521-365 - 2011 LEGO 540mm x 600mm x 430mm

H 1705-250 - 2010 LEGO on Black Granite 240mm x 240mm x 160mm

The Mengele of the Animal World - 2007 Lamda Print 30cm x 21cm
#

Oversized load in small-scale

“Swedish giants” by an italian LEGO® builder

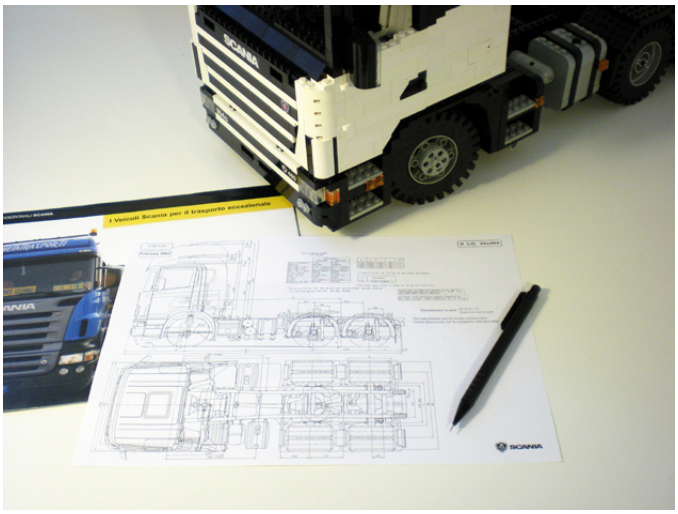
By Andrea Lattanzio (Norton74)

A passion that comes from far off

As almost all children I started playing with LEGO® bricks at an early age, “stealing” them from my older brother who in time passed them on to me.
At the beginning of eighties I was awe struck by the 12V Train theme and, after insistent requests to mum and dad the Train set #7740 arrived for Christmas. Many others followed the “Trans Europe Express” and in this way the collection got bigger little by little.
After my childhood all the bricks, sets and original boxes came to my country house attic where at times I peeked into the old dusty wooden trunks to remember the long and carefree times spent playing.

Hit by the LEGO® bug

Around the year two thousand, immersed in my dark age, my uncle and aunt gave me a very big bag full of spare bricks of my younger cousin; they were going to throw them away.
For a long time the bag remained in the country house attic, together with the other bricks, closed in the wooden trunks, until I decided to look inside during a long and boring winter Sunday.
Soon I found a lot of rails, wheels and many other Train parts but they weren’t familiar to me. Curiosity to understand what they were pushed me to type the words LEGO® train on my PC and at that moment “I discovered a world”. I never imagined that across the five continents there were so many adult LEGO® builders, building the most fantastic things.
Furthermore, I discovered the existence of many web sites



where you could download free instructions, catalogues and all kinds of information about the LEGO® world and even a site for buying and selling single used bricks from all the world (“bricklink” has been fundamental to building my truck models). In a few days, after many hours of internet research, I understood that in addition to other parts, the bag contained two little treasures: the set # 4563 (Load and Haul Railroad) and especially the set # 4558 (Metroliner – a myth for LEGO® 9V Train collectors). After downloaded the instructions I built them in a few hours and I discovered with a great pleasure that the two sets were complete, including the minifigures.
I caught the LEGO® bug and from that moment on I couldn’t only build original sets but I had to build something great and designed by me, a unique model as detailed as possible that replicated a real subject.

Old times were good times... remembering dad’s old trucks

Since I was a child I have been intrigued by the world of trucks, probably because when I went to my dad’s firm to help him he always took me for a drive with the old IVECO trucks of the seventies and eighties, an indelible memory in my mind.
So I right away decided to build a truck with LEGO® bricks, but not a normal truck but a large-scale truck.
Rummaging through my old LEGO® pieces I found some very big LEGO® Technic wheels and soon I decided to use them for my trucks. Thanks to many LEGO® model images found on LEGO® fan websites I understood that I could build a very detailed 1/13 scale model, practically similar to the 1/1 model.
I chose to use the classic LEGO® bricks assembly technique, leaving the studs and not covering them with “tiles”, because I think it’s more characteristic and because it reminds me of my childhood and the “golden age” of LEGO® bricks. I always use only original bricks to build my models, only the stickers are not LEGO® pieces but are made by me with a graphic application (Adobe Illustrator).

Ready, steady, go!

First of all I had to choose the model to build. I chose a Swedish SCANIA: the 164G 6X4 of the “4 series”, manufactured from 1995 til 2004 (Truck of the year 1996). I’ve always liked the “4 series” because of its rounded shapes and for the family feeling that reminds memof the previous SCANIA series (furthermore the line was designed by Bertone, a very famous Italian designer).
Once brand and model were decided, and my LEGO® bricks availability was verified, I was ready to start building. It was the fall of 2006.
First I built the front grille, that it’s the most distinctive part of the truck. Once I finished the front hood I started to outline the chassis, made of two spars linked by a few reinforced bars. I wanted to make it as real as possible and so I went to SCANIA dealer of my town where I found the technical drawing with all the sizes (chassis, cab etc…). With the technical draft in my hands I could respect the 1/13 ratio and build a perfect chassis. Then I completed the entire cab.
Next I built the two fuel tanks, the exhaust silencer, the side ladder, the fifth wheel, the 4 rear mudguards and all the other details. Now only the engine unit was missing.

From the beginning I wanted to equip the SCANIA with the most powerful engine unit, the V8 engine with 480 HP. Thanks to many photos found in SCANIA’s on-line imagebank I could build it using “light grey” LEGO® bricks. The cab can be opened and beneath it is positioned the powerful V8 engine coupled with the gearbox. The front grille can be opened too, discovering the radiator. The first version I built had the fixed cab doors but at the end of 2010 I modified the doors and, using plate hinges, now the doors can be fully opened. The doors have a little glove box on the inside. Also the sunroof can be opened.
I also put two 4,5 Volt light bricks behind the two lamps so the lights work thanks to a remote controlled battery box.
I finished the SCANIA in February 2008, after about 100 hours of hard work (including document, image and pieces research) and I’m very happy and proud of it.
It wasn’t finished yet. In fact I again had a lot of pieces and so I decided to give the white SCANIA a “brother”. In December 2008, inspired by an illustration of a yellow SCANIA on the box of a 1/24 scale plastic model released by Italeri (a famous Italian scale-model manufacturer), I decided to build

another “4 series”, a yellow 124L. It had practically the same cab of the SCANIA 164G (the first I built) but with a shorter chassis and one rear axle only. A tractor truck for long distance routes.
In a few weeks I built my second 1/13 tractor truck in a very bright yellow. It looks great!

Modelling and large scales

Besides LEGO® bricks I have always loved static model building and I have more than once built 1/24 plastic kits of cars and trucks. But my dream has always been a very big 1/8 scale truck model released by Pocher Rivarossi (a historic Italian static scale trucks and trains manufacturer that went bankrupt a few years ago): it was the VOLVO F12 model year ’83.
When Pocher released it in the mid eighties it was very very expensive and because of this my parents couldn’t give me one. So I have waited to have a job and enough money to start searching it on eBay. In November 2010 I found the right model at the right price on eBay, and so I bought it.
Soon I decided to give the Pocher F12 a “brick brother” and in December 2010 I started to build the LEGO® F12. With the very detailed 1/8 model in my hands I could calculate the truck sizes respecting the ratio. I started with the chassis that is composed of two spars curved on the front side (I made the curves with hinge plates). After building and fitting the differential I made the steering axle shafts fitted in the right place as the real truck. At the end of this first phase I built the fifth wheel, the front bumper and the front white grille complete with the lamps. The first step was complete and the truck looked very fine and with a great aesthetic impact.
From January 2010 I designed and built the cab with all its distinctive elements.
I started with the front mudguards making reference to them to calculate the ground height of the cab. Then I made the front cab parts, the great black grille (the most distinctive element of the F12), the side deflectors and I started designing the doors. To open them I couldn’t use the same mechanism of the SCANIA because there was not enough room. So after many attempts I fitted two hinges working opposite to each other. The only disadvantage is the presence of two quite big “brick blocks” inside the cab, fortunately they’re black and so they aren’t so evident.
Taking the measurements of length, width and height of the cab through the measuring of the POCHER F12, I was able to build the cab with simply red bricks. I completed it with supplemental roof lamps, mirrors, screen wipers, air filter pipe and back cab service light. The F12 started to look like the 1/1 original model.
In February I worked on the back chassis elements, the ones linked to the spars. The vertical exhaust pipe looks great as it was represented on the original VOLVO brochure. The pipe is

linked to the chassis by an oblique bar. The pipe also has the top cover.
Fuel tanks are made of light grey “brick rounds”. Finally I built the two side boxes, for battery and tools (they can be opened) and the rear mudguards (more curved than the SCANIA ones). Two bars, linked to the chassis, carry the mudguards.
As for the SCANIA I left the engine and gearbox building for the end.
The engine is a 6 cylinder inline of 12 litres and I used only light grey bricks. In a few working nights the engine unit was ready to be fitted into the chassis. Then I joined the gearbox with the rear differential using 1X1 bricks round.
In April 2011 the red VOLVO was complete.
A curiosity: I’ve discovered a real out of service VOLVO F12 (model year 1987) placed on a container at the entrance of a transport company close to Milan; I spent the last day of 2011 taking pictures of my model (MY ‘83) side by side with the real truck. To close the year in a big way!

From F12 to F16

As for the first SCANIA I built, also for the F12 I couldn’t resist to give it a “brother” and so on April 2011 I started building the VOLVO F16 Globetrotter. The F16 is the second upgrade of the F10/F12 series that came in 1987. The F16 truck had a new six-cylinder, straight-in-line engine with four valves per cylinder and a high-placed camshaft. It was widely used for hauling large train weights, such as timber trucks in Scandinavia (a market hitherto dominated by Scania AB trucks powered by the Scania V8 engine) and road trains in Australia.
Lamps are now rectangular and the front grille is bigger than the F12 one. The VOLVO logotype is smaller and on the left side of the front cab, in the middle of the big black grill there’s now the VOLVO square logo and the F12 tag is replaced with the F16 tag.
To distinguish the two models better I chosen the Globetrotter version, the one with the upturned roof that represented a revolution at the beginning of the eighties.
I decided to build it completely in black, as the truck that VOLVO presented to the specialized press during the F16 launch press conference and as the 1/8 Pocher model.
So I was going to build the second VOLVO of the pair that POCHER released on the modelling market many years ago.
I started with the frame, copying the F12 one and then I built the cab using bricks “slope 75°” that give the truck a very realistic Globetrotter look. As the F12 also the F16 has a lot of details.
I finished the model in September 2011: my stable of giants is complete (at least for now…).
By a curious coincidence in 2012 VOLVO Trucks will celebrate the 25th anniversary of the 16 litre engine (the F16 one exactly) and to promote this event the manufacturer has made a great movie in which the old and glorious black F16 470 HP (as my LEGO® model) “fights” against the brand new FH 16 750 HP (the most powerful truck in the world) on an icy uphill road right out of Ghoteborg: a great challenge!
Job, wife, daughter (1 ½ years old) and an oncoming son permitting I’m already thinking about a future project: after 4 Swedish giants it’s time I built an Italian truck. In Italy there’s an old truck that is still loved by truckers and fans: it’s the IVECO TurboStar. Wait and see…
#

The therapeutic value of LEGO®

Text by Carien Borst
Images by Joop Flamman

Emergis is an institution for mental healthcare in the Netherland, and it treats about 10.000 people every year in the province of Zeeland. The long-term care and living is one of the seven sectors of Emergis and it has five apprenticeship companies that are used by about 400 people. Apprenticeship companies are companies for people who for psychiatrically and/or psychological reasons have fallen outside of the regular labour market. By means of work rehabilitation these people work on social recovery and re-integration.
In July 2011 the LEGO® project was started.

Why LEGO?

Why use LEGO in psychiatry? The LEGO project provides a variety of activities, from low threshold to complex, that fit the interests and qualities of the employees. Second hand LEGO has been bought and gathered on a large scale. The LEGO elements that were acquired are washed, sorted and put together. The participants in this project look for building instructions on the internet and take care of administration and computer tasks. Complete sets are sold in the shop and on the internet. Anyone with a demand and goal related to work rehabilitation and occupation is welcome in the LEGO project.

LEGO connects psychiatry and society

The LEGO project makes a link between psychiatry and society. Customers coming to the apprenticeship company are people who would not normally have contact with people in mental healthcare. Because LEGO is popular. young and old, everyone knows it and wants to visit our shop. Collectors are looking for rare sets from the ‘50s and ’60s. With a LEGO catalogue under one arm and assisted by the employees, they look for that one LEGO piece in the boxes with parts. Children are awed and can hardly choose what set to buy with their pocket money or ask for their birthday.

LEGO and autism

“The LEGO project passes over the difficulties someone with autism can experience. It uses qualities people with autism possess and people are valued for their expertise” says Corné Verhoeven, who is specialized in treating people with autism.

The characteristics of LEGO can be seen as a metaphor for people with autism. For them the world often consists of loose elements; the LEGO bricks. There is no connection or consistency between them. However, following building instructions you automatically arrive at the desired end result. That gives support and structure. Working with LEGO is clear, predictable, logical and target oriented. This logic and approach fits very well with autistic people.

LEGO the elderly

Another group of people who use LEGO are the elderly who stay in the psychiatric department for observation and diagnosis. They may suffer from dementia combined with psychiatric problems. Especially the men like to work with LEGO and they usually build buildings or vehicles.

Esther van de Kimmenade, occupational therapist: “what stands out is that they can easily spend hours looking for bricks, sorting and building. Focus and concentration are usually much shorter with other activities. LEGO provides enough impulses to spend more time on an activity and requires the use of imagination. We also notices that communication improves. We can easily make contact by joining in the building process and conversation are started about what is being built and old memories come up..”

LEGO helps building structure and health

LEGO has unique characteristics and a worldwide recognition which gives a new dimension to work rehabilitation for many employees of the apprenticeship company. LEGO is not the objective, but means that has so far allowed 43 people to find their way to the apprenticeship company and this number is increasing.

LEGO contributes to the health of people whose limitation would otherwise keep them at home, which usually increases problems and care consumption due to worsening depressions, addiction and feelings of worthlessness. Emergis’s apprenticeship companies take a stand for a group

of people for whom a normal work environment is not (yet) within reach. The apprenticeship company and the LEGO® project make a world of difference.

The “Social Return on Investment”[1] investigation that was recently carried out shows that the apprenticeship companies do not represent a large cost for a society in which government funding disappears endlessly. The apprenticeship companies return a social benefit. Each Euro that is invested in the company yields 2.25 Euro for the society. People are less prone to develop a psychosis or depression thanks to day and night rhythm, they experience newfound structure in their lives and have a reason to get out of bed. In addition, they discover that despite their problems they are capable of doing something This decreases visits to psychiatrists and people need to be interned less frequently.

Finally

An employee of the apprenticeship company tells her story

“I had a paid job but eventually I ended up being at home. I couldn’t hold on to the job because there was too much pressure. If I have no daytime activities it feels like the wall are closing in on me and thoughts keep milling through my mind. I find it hard to create structure in my life and as a result I am mostly active during the night time. Consequently I have no reason to get up. The danger is that I get trapped in a negative spiral which results in depression and an even bigger distance from work. I am happy I had the courage to start over in this company.” Agnes[2]

[1] Reseach report Social Return on Investment – Werkcentrum Gered Gereedschap (2011)
[2] Werkcentrum Gered Gereedschap maakt het verschil (2010)
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LEGO® and Autism

By Shelly Timson and Rob Deakin

Shelly Timson[1] sits down with Rob Deakin to talk with him about how he is using LEGO® play to help disadvantaged kids, especially kids with Autism Spectrum Disorders

Shelly: Hi Rob. Could you please introduce yourself?

Rob: Sure. I'm Rob Deakin and I live in Melbourne Australia. I am 45 years old, married with two kids. I work in Cyber Security and I am an Adult Fan of LEGO.

Shelly: You are involved in quite a large number of LEGO related activities. Can you give people an idea of what LEGO activities you do[2]?

Rob: Ok. I have a business that prints on LEGO bricks. You may have seen the brick badges that people were at LEGO conferences. I print many of those and also print on minifigs. This has been a great way to meet people from LUGs all over the world and hear about their special projects and local events. Even better I print on bricks for many professional builders and get to find out about those special secret projects months before they are public.

Shelly: And the podcast?

Rob: That is the podcast I run called LAML Radio[3]. LAML stands for LEGO and MORE LEGO. It is another way I stay in touch with the community.

Shelly: It's not just a podcast. It is the longest running and most popular language podcast for Adult Fans of LEGO

Rob: Well maybe in English at least. I've even managed to have a few LCPs[4] on the show.

Shelly: We wanted to talk to you about the work you have been doing via ASD Aid. This looks like a fantastic program that AFOLs can get behind.

Rob: Well yes. I am hoping that eventually the AFOL community will support our program and we can get it happening globally. But we have a massive amount of work to do here in Australia first.

Shelly: Tell us about how you got involved with helping disadvantaged kids and what you are doing.

Rob: Well as you know I have had many opportunities to work with kids and LEGO over the decades. Through these opportunities I've seen firsthand the special benefits that LEGO play provides. What we are doing is bringing those benefits to disadvantaged kids and especially kids in families impacted by Autism Spectrum Disorders.

Shelly: What do you mean by the benefits of LEGO play?

Rob: LEGO fans all over the world know about the direct benefits of LEGO play for kid's development. For example, in early learning and education circles you will find lots of information on how LEGO play is great for development of dexterity, counting and spatial skills just to name a few. However, what I am talking about is not just the basic benefits. I am interested in the magic that seems to happen when people gather to build something together. When kids are creating and building in a group it is a different social experience for those kids than playing sport or other group activities.

Shelly: So this is not just about getting the disadvantaged kids access to bricks?

Rob: We do that as well but that is not my focus. My mission is to create a place where these kids can connect through a common interest. So we can create opportunities to transform what is traditionally seen as a solo interest into something that can be shared with others. So after a lot of investigation I created a not-for-profit to provide access to LEGO play sessions aimed at families living with Autism Spectrum Disorders.

Shelly: Why specifically Autism Spectrum Disorders?

Rob: I started to notice this strange behaviour of some parents while watching their kids playing during LEGO sessions. Naturally many parents are quite impressed by their kids building skills or really like how kids interact when they play with LEGO bricks. However something entirely different was going on with a few parents. For example there were these emotional Mums trying to hold back tears or their bottom lip would be quivering. Initially I thought there was a problem, however I discovered that these were tears of joy or relief. I came to understand that these families were living with Asperger and other disorders and it was a very special moment to see their child playing alongside typically developing kids and being accepted. The parents explained to me that, while some families can find play opportunities for their special needs kids, many families miss out on the normal play or party invites that we all take for granted. As one Mum bluntly said to me, in the play ground, kids who act odd or quirky quickly get dropped off the normal round of play dates and invites.

[1] Shelly is a Female Adult Fan or LEGO, Girl Guide Leader and Mother of 2. She has direct experience of the challenges of living with ASD and is a volunteer leader at one of Rob's Clubs.
[2] Rob also runs LEGO workshops, parties and other events. He is one of the organisers of the Melbourne LUG (MUGs) and one of the people who pulls together Brickvention; Australia's premier LEGO Fan event which attracts well over 10,000 visitors.
[3] www.lamlradio.com
[4] LEGO Certified Professionals

Shelly: So you are trying to fill that gap with special sessions?

Rob: I don't call them special sessions. It is important not to stigmatise LEGO® play for these kids. From the kids point of view they are going to the Brick Club every month and meeting their club mates. They show what they have been building or they work on their current creations. It is the acceptance that is special. The parents know that we are providing a social meeting place and working subtlety on the on challenges for kids with ASDs.

Shelly: ASD means Autism[5] Spectrum Disorders. People may have heard of Autism but we haven't really told people what that is and what these challenges are? So what is an Autism Spectrum Disorder?

Rob: The short answer is we do not know what it is. The cause is still unknown but researchers tell me that it is an alteration of brain development. Some say it is looking like having some genetic basis while others say that the evidence is not strong enough to conclude that. The top researchers in the world are still trying to work it out. I'm just a LEGO, guy not a medical expert so I would encourage people to read[6] more about it to get the full story about the complexity of the science. What I can tell you is what it means for the families I meet. Basically Autism Spectrum Disorders are a category of developmental disorders. It covers a very wide range of function levels across a spectrum of conditions, including Autism and Aspergers Syndrome. It includes people who have significant problems interacting socially and communicating and also have stereotypical behaviours like repetitive routines or deep obsessive interests. What is really important is to understand that there is a wide spectrum of behaviours. However in some people a combination occurs and that significantly impacts a person's capability. All these things come together and make it difficult for these kids to make and retain friends. ASD kids lack the kind of empathy and ability to maintain conversations that are important to sustain friendships. In particular role play and free use of imagination is struggle for many of these kids which can make playing with others difficult. They tend to be preoccupied with certain things and have very narrow interests and inflexibility to deal with change and want specific routines.

Shelly: These conditions are quite common aren't they? Do you think people know that?

Rob: It is quite staggering. The latest data on diagnostic rates is now 1 in 110 children and it is the most prevalent disability diagnosis in Australia. That rate is pretty much the same everywhere in the world from richest to poorest communities. What is not revealed in that figure is that it is 4 to 5 time more common in boys. I think because you can't tell an ASD kid from looking at them people is just not aware of the magnitude ASD in their communities. There are tens of millions of people especially in less developed countries that live in extremely difficult situations especially if myths and superstitions cause these people to be victimised or ostracized.

Shelly: So what help do these kids need?

Rob: The massive numbers of kids and the profound effect the disability has on both the individual and the family makes it hard almost everywhere in the world to get relevant, accessible and cost effective support. My very small part is focusing on using the innate interest many ASD children have in the LEGO system and providing a simple, extremely cost effective and practical way to provide impacted families with a place to help their kids develop their communication and social skills.

Shelly: Why do so many ASD children have an innate interest in LEGO building?

Rob: I don't know but they do. I discovered all these families with an interest in LEGO bordering my own obsession. I can now say that with a sense of humour having met and shared stories with many ASD families. Because you see for many ASD kids it actually is an obsession in the true sense of the word. So while AFOLs may joke about our affinity for the brick, for these kids it is a fixation at a very different level. But what I discovered was that LEGO was a much more productive and helpful focus than many other candidates in these children's lives.

Shelly: But why LEGO?

Rob: I don't know exactly but it is very important to understand is that ASD people are much more attracted to systems and objects. I suspect that LEGO play appeals because it has a structural logic in its design and provides a tactile or kinesthetic medium through which kids can work. An ASD kid may find other activities which involve lots of talking, abstraction, listening or observing difficult and prefer to undertake physical interaction with toys. So in LEGO play you "do" something with all these objects and see the results of your thinking materialise in front of you. There is no ambiguity in that result and there is an inherent system and logic in the building which is something ASD kids really desire.

Shelly: So you created these groups for fans of LEGO who also have an ASD?

Rob: Saying fans of LEGO may be true but you need to understand what I discovered about families impacted by ASDs. I found hundreds of families for which LEGO time was the major focus for their child; not just an interest. They didn't

[5] The word autism comes from a Greek word autós meaning self
[6] http://en.wikipedia.org/wiki/Autism_spectrum

know that all these other families in their community that were just like them. I was able to introduce them to other families and they started to realise they were not alone and could support each other. It was a lot like the early days of the AFOL community where adults started to find others with common interests in LEGO®. The difference here was that LEGO was a life line for these families not just a hobby. So we get the families together and the kids and their siblings play with LEGO bricks.

Shelly: So how do you see LEGO groups providing assistance?

Rob: Unfortunately, even in developed countries to get any Government assistance you need to have quite severe impacts. So many families of kids with milder symptoms of Autism and Aspergers in only one domain (such as inappropriate social behaviours) will not be able to get a diagnosis and will get no support. So at a very basic level just meeting other families in similar circumstances is something that provides support in its own right. But I am discovering every week other ways that these groups help. For example siblings often come to the groups and they get to meet other kids in similar situations. Can you imagine the strain on parents and the other kids over balancing attention inside the family? So at the club the big brother or little sister can meet somebody in exactly the same situation as they are in. That is really important conduit for communication for those kids (and they also get to play LEGO).

Shelly: What about the more basic benefits?

Rob: At its simplest, I bring a massive brick pile and provide that to the kids to play with. So at that a simple level a fatigued Mum just gets a break for a few hours in an environment where ASD kids are accepted. Now that would suit some families just fine but we are also trying to provide more than that. Many kids would happily solo play with all the LEGO bricks and sets we have for hours. With the expense of LEGO sets in Australia disadvantaged families don't have much and we are able to let them use our collection to provide a chance for the child to build more freely. The kids love to play with all the different elements and parts I bring.

Shelly: But you do much more than give parents a break at your sessions don't you?

Rob: Yes. At the top end of care there are a few clinics and schools around the world that use LEGO play in formal therapies and certainly many of the therapists I've met in Melbourne who use LEGO elements in their daily practice. We are not trying to provide any formal therapies. We are trying to use the child's interest in LEGO play as a bridge to other people and a way of improving social skills. The spectrum is so wide and severity levels so different that we can use even the smallest thing to create opportunity for development. So just moving our door sign a few feet can challenge some kids who need routine. We try to think about the special needs of these kids in everything we do. We try to steer kids away from solo play and gently guide (those that can handle it) to interact with other kids. So for example bringing something that you have made may begin the step towards a conversation about it with somebody new. For more high functioning kids it is a chance to discuss the building techniques used or how much they love a new set. For these kids the challenge may be to take turns when talking and we try to role model appropriate conversations.

Shelly: You have a particular set of connections you look at for these sessions don't you?

Rob: My approach is based on strengthening three connections. Firstly there is the connection within the immediate family. LEGO building is something that the kid can do with Mum, Dad and siblings and there are opportunities to be pursued there to make family life better. Secondly we are aiming to make connections with peers so that they have a support group especially in preparing for difficult teenage years and finally if those connections can be achieved connecting to the community especially by displaying creations.

Shelly: You really think displaying creations is important don't you?

Rob: Yes it is a really very vital part in the journey. To display in a socially appropriate way is at the heart of the challenges that ASD people face. Displaying is about working with withdrawal, humility, and difficulties dealing with the "chaos" caused by other people's view points. It is not as easy as you would think to get an ASD child to work appropriately on a display. The simple act of putting a creation out for others to see is so rich with social nuisances that we take for granted. Taking and giving criticism appropriately is an area where higher functioning kids need lots of practice. Here is where we are trying to get them to think beyond just the model. So we think

about how will the other person see the model, how will you react if they really like it, what if they don't look at your model, what if somebody else wins the prize. That is why I encourage kids to bring something every session and set a theme each session to build towards. The theme also helps the family with focus and a shared goal each month.

Shelly: What has been the reaction to the ASD Aid?

Rob: I have been overwhelmed by people wanting help and to set up clubs and to find out about my approach. When I created a basic web site last year, within days I was getting request from people all over the world for information and I was also receiving hundreds of emails from researchers and therapists. Several wanted to know when our next training course was running so they could fly here to attend. I found that daunting and had to explain that I was just a bloke and a few mates not a big specialist clinic. From the parents there has been overwhelming praise and they love it. The kids live for the clubs sessions with many parents reporting improvements. They now have a focus every month that they build towards. . Mum can also use that focus throughout the month to manage behaviours. And just like an Adult LUG these guys now have a group they can share their interest with.

Shelly: So what are the plans for ASD Aid now?

Rob: We have a solid base to operate from now and I really want to thank Amaze (Autism Victoria) for their help in connecting us to families in Victoria. That was vital in getting our first club operating. Now we are working to get some community groups organised so they can run sessions in their local areas. Our plan is to develop a few clubs and build up some resources that we can share with the rest of the community. We are also going to improve our web site to enable people around the world to register their interests or volunteer. Part of the plan is to enable people anywhere in the world to establish a club similar to ours. So we will build an action kit that Champions can access and start building a club.

Shelly: Is that where you see AFOLs helping out?

Rob: Absolutely. With tens of thousands of LEGO® fans worldwide we have the perfect base from which to spread the message about LEGO clubs for ASD kids. It is not hard to imagine AFOLs around the world championing a LEGO club in their local area. Just a few AFOLs and a handful of families can be a club. I don't want people to be put off by thinking they need some special qualifications. I would encourage people to just start talking about what they can do with a few impacted families and run a small session as a pilot. If you need ideas or want to register your interest to help out email me. I want to hear about every club and help where we can. I may have been contacted by other locals from your area and can put you in touch with volunteers, donors or families who could use some help.

Shelly: Do you think these clubs will improve acceptance of ASD people?

Rob: My own attitude has really changed having seen lots of ASD kids at play. While low functioning kids have a daily struggle, I don't look at higher functioning kids and automatically think of them as disabled any longer. For me they just seem to have a "difference in being" that we need to accept and accommodate. Society needs to recognise that these special people are capable in their own way. Top researchers like Simon Baron-Cohen[7] and others look in non-judgmental ways about ASD behaviour. One of the things that has given me hope that we can change people's attitudes are organisations like the **Specialisterne**[8] (The Specialists). They are a company that provides a working environment where it is 'normal' to have ASD and they create the best possible working environment for special people. For example they can be outstanding at things like detail technical testing, quality control and data conversion work. Things others may find are chores are welcome and even satisfying job for a person with ASD. In the LEGO world for example a boy may really hate having to be involved in a school sport but he just loves sorting and classifying LEGO parts. Why force him to play football just because that is what all the other kids love? If we can show him how to use his interest, leverage his strength then work with others he can find a valued place in society. On a small scale, can you imagine how much LEGO there is to be sorted in a typical city? I am sure there are hundreds of Brick Link store owners and AFOLs who would love to provide work experience for people who love sorting. ASD Aid is trying to find these types of niches and connecting these people together so we can all "Play Well" together.

[7] http://autismresearchcentre.com/docs/papers/2002_BC_ASDisability.pdf

[8] http://www.specialisterne.com/

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Modular castle

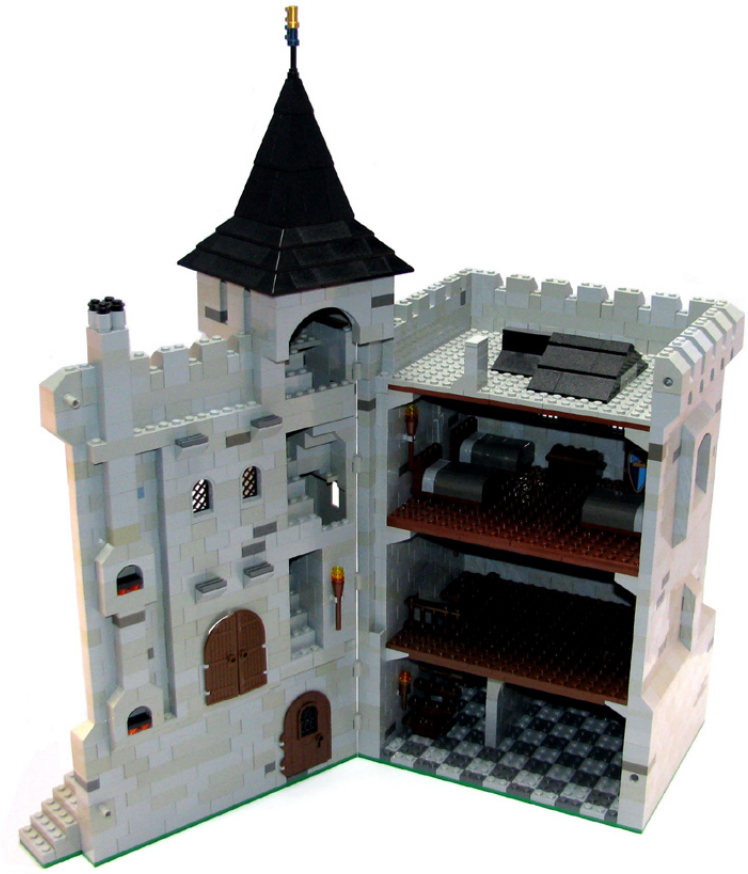
By Legotron

One of my favourite elements of LEGO® is everything related to castles and medieval constructions. I have always had in my mind the idea of building my own castles, scenes and cities depicting medieval life.

The first time I saw a castle built with LEGO® bricks was the set 375 Yellow Castle. I was very impressed with it. It was a very expensive set that I couldn't buy, so every time I went to the market place I stood in front of the shop to see every detail of that incredible castle. After passing my "dark age" I started to build new constructions with LEGO® bricks. One of the first things I wanted to do was to build a castle. Fortunately I was able to buy a used set 6074 Black Falcon's Fortress, which I built countless times. Then I began to ponder the idea of building my own castle. The idea was to make a castle that could be gradually expanded, by adding new sections of walls, towers and other elements. Back in 2006 I started to work on the design of my castle. It was going to be a castle consisting of many interchangeable modules.

The idea.

I took the idea for the design of my modular castle from one of my father's magazines of train models. That castle consisted of a big square tower, with the typical aspect of the medieval fortresses located in Central Europe, all surrounded by a wall with many smaller towers. I wanted to build a tower big enough to be the most important and prominent element of the castle. Then I should have to make many modules of the walls and towers to surround that main tower. All the elements around the tower should be of modular design and compatible with each other in order to be able to have countless different designs of the castle. I decided to make all the elements of the wall with a length of 3 studs or multiple of 3 studs, thus I could have all the castle wall elements with even and odd length. This was very important to ensure that I wouldn't have any problems when I wanted to attach new elements to my castle, like entrance doors, towers or other buildings of different lengths. I usually have a tendency towards standardization, to ease the construction and search for parts, and modularity, to be able to store the whole project in a small place, so this kind



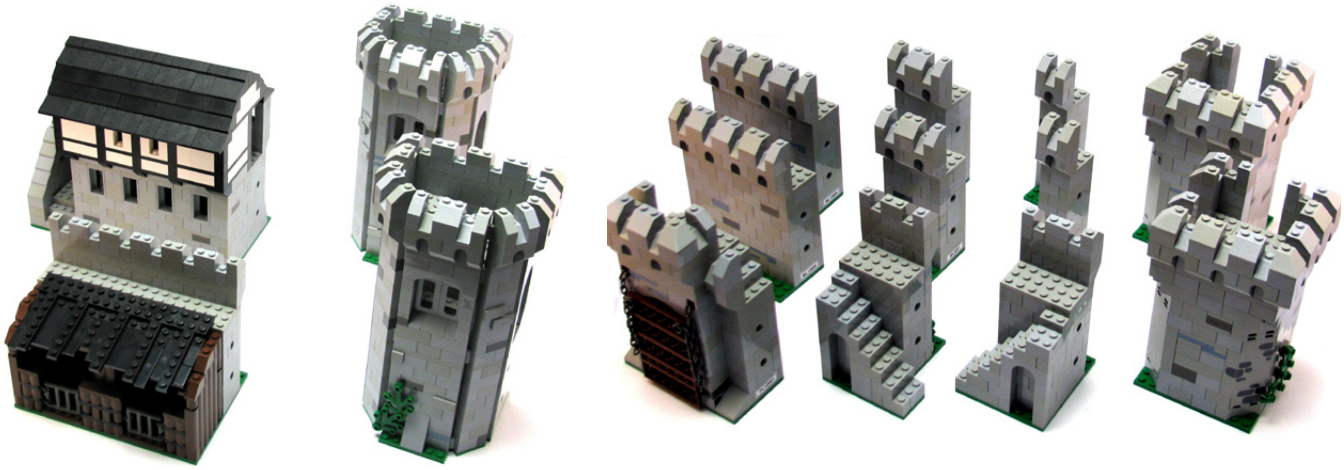
of idea is fine to me and there was no problem to apply it to this new project to build a castle.

The design.

I began the design of the castle with the main tower. I looked at some pictures of other castles made with LEGO® bricks, and I realized that it was a nice thing to make interior details. This feature would make the design more complex, in order to grant access to the interior of the tower, but the final result would be worth it. I was buying bricks for several months to have an adequate stock in order to prepare the building of the main tower. Meanwhile I started to plan the design for the tower. The first designs were based on a system of floors, one over the other but they were all but satisfactory. Another idea was to make one mobile wall, attached with hinges so that it could be opened to access to the interior. I tried many different designs to get one that was nice. The main tower was a very important part of the project, as it was the main feature of the castle. In my opinion it is very important to define some elements to focus the work when you start a big LEGO® project. If you try to finish all the project in one session, and you fail due to minor details you will stop the entire project. But, if you have some elements to design that don't go ahead and others in which you are successful, you will be able to continue in those things and to resume the stopped designs some time later. It is very important to be motivated when faced with a major project. So I also began to design the walls and towers of the castle. I wanted the walls to be very thick, in order to put minifigs in the top of the walls and look realistic, so that the top of the wall had to be as thick as the bottom part. The castle sets from LEGO® have walls that are only one stud thick, and the top parts are 3 or 4 studs thick. So my designs of walls had to be 4 studs thick. I also wanted to have the proper stairs to climb to the top of the walls. Those were the first modules with a finished design. I didn't want to have very complex modules so I discarded rounded elements or curved walls, but I would try to get as many different elements as possible to build a nice castle.

The building process.

I had decided to use a large amount of 1x2 bricks for the construction of the castle in order to obtain a stone built appearance. In the same way as the design the building process, I began with the main tower. The first floor was the basement of the tower with the dungeon. Three of the walls were fixed while the front wall was attached to the body of the tower with hinges. More hinges were added to that mobile wall as the tower increase in height. At the beginning I focused my work on the structure of the castle, and I left the interior details for later. As the main tower was rising I began to build some wall modules of 6 and 12 studs long. When I finished a floor of the main tower I relaxed a little by building some wall elements, that was fine as the work in the tower was very slow. When I finished all the floors of the tower I began to make the towers of the wall in order to have some corners. These towers were slightly higher than the wall, and had 7



sides. They were attached to 2 wall elements with 90 degree orientation, to get the corners of the external wall.

After several months of construction the famous grey colour changing came and I had to stop the project, as the price of the old grey pieces began to rise considerably. I was not sure whether to continue with the old colour or to start with the new one. So I decided to use the available parts to finish the current modules, and I finished the main gate part, but then I realized that the height of the wall was too low, and the gate was very ugly. After one year I was almost finished, I had almost completed the main tower and I had built enough elements to close a little perimeter of walls around the tower. At that point I decided to resolve the problem of the colour of the bricks. I used a mix of both colours, with a little quantity of other colours to make a mottled appearance. The result was very nice, but I had to take everything apart to apply the mix of colours.
I carried the castle to some AFOL events and I put some pictures on Internet. There were some people complaining about the main gate element. Yes, it was everything but nice, so I had to change it. I realized the problem was the height of the wall, too low to have that door. I had to take it apart again, but I had to decide which was the height I had to increase in the walls. I wanted to add 4 bricks height to the wall modules. But the boxes I store the modules of the castle in, allowed only to add 2 additional bricks. So 2 bricks was the height increase. When I rebuilt all the modules I changed the colour ratio so I used more light bluish grey bricks and less of light grey colour. This meant that I didn't have to buy new bricks of the expensive old colour to convert all the modules. Finally this was the design I used to build all the modules of the castle. The new gate design was better than before and I continued building new modules till I ran out of parts.
For several years I halted the castle project in order to focus on other projects, and I started to populate the castle with minifigs and medieval houses. I made some minor efforts to complete the interior of the main tower. The Fantasy Era sets were very nice for this task, as I got many troops and peasants for the castle, with the colours and decorative elements of the Royal Crown faction, so I decided to convert the castle to Royal Crown.
In 2009 the project was resumed and I began the construction of new elements of the castle, such as the defence towers of the wall of the main gate. The new set 10193 Medieval Market Village was a milestone in the castle project, as it was used to complete the village when I bought it. So in 2010 I made my first full diorama of a medieval city [1]. This was a great boost for the castle and I decided to add a new element, the barracks of the guard. I had many elements for the castle, so I stopped adding new elements.

Future developments.

One of the remaining tasks in the castle is to finish the decoration of the interiors of all its rooms. The new Kingdoms sets are very interesting for this purpose, as they have a lot of furniture and decorative items.
The current structure of the castle is completely square and full of straight elements, so some of the ideas for the future are to provide the castle with some rounded towers and curved wall modules, as well as elements of different heights. Furthermore, by adding new buildings I want to give a more realistic look to the castle. I also want to increase the size of the internal parade ground, in order to recreate the famous jousting scenes in the interior of the castle, much like the fantastic set 10223 Joust Kingdoms.

References:
[1] Gallery with pictures of the medieval display of 2010 with the castle: http://www.brickshelf.com/cgi-bin/gallery.cgi?f=447186
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LEGO
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Interview: Adam Reed

By HispaBrick Magazine®

He is the soul behind the Architecture theme. A theme clearly focused on the AFOL that in the recent months has opened to the world in different ways. Adam Reed has been kind enough to dedicate some of his limited time to answer a few questions.

HBM: How did the collaboration with LEGO® for the Architecture theme come about?

Adam Reed: After dissolving my architecture practice about five years ago, I sought a new challenge in an area that combined the ability to use my hands and to teach others about architecture. I determined that using the LEGO brick would allow me to get back into model-making while also using a familiar medium to teach others about the often intimidating topic of Architecture, Engineering and Construction Design.

I began creating large and small scale architecture models of landmarks I admired from around the world. After posting photos of these creations online, I was invited to a LEGO fan convention in Washington, DC. It was at this convention that my work was noticed by TLG attending the event. I was able to speak with representatives from the New Business Group and explain my passion for using the LEGO brick as a medium for teaching others about architecture. Following several meetings, LEGO also believed that there was potential to achieve the goals I had for use of the LEGO brick and an agreement to produce and distribute the “LEGO Architecture” line was born.

HBM: What was its original purpose? To what degree has that goal been fulfilled?

AR: The purpose of the LEGO Architecture line was to reach a non-traditional LEGO consumer audience while using the LEGO brick as a design medium and educational tool to teach about the art, architecture, design and engineering of structures from around the world. I think we are just grazing the surface of meeting this goal, with a multitude of architects and designs still left to explore and represent.

HBM: How do you select the building that becomes a set?

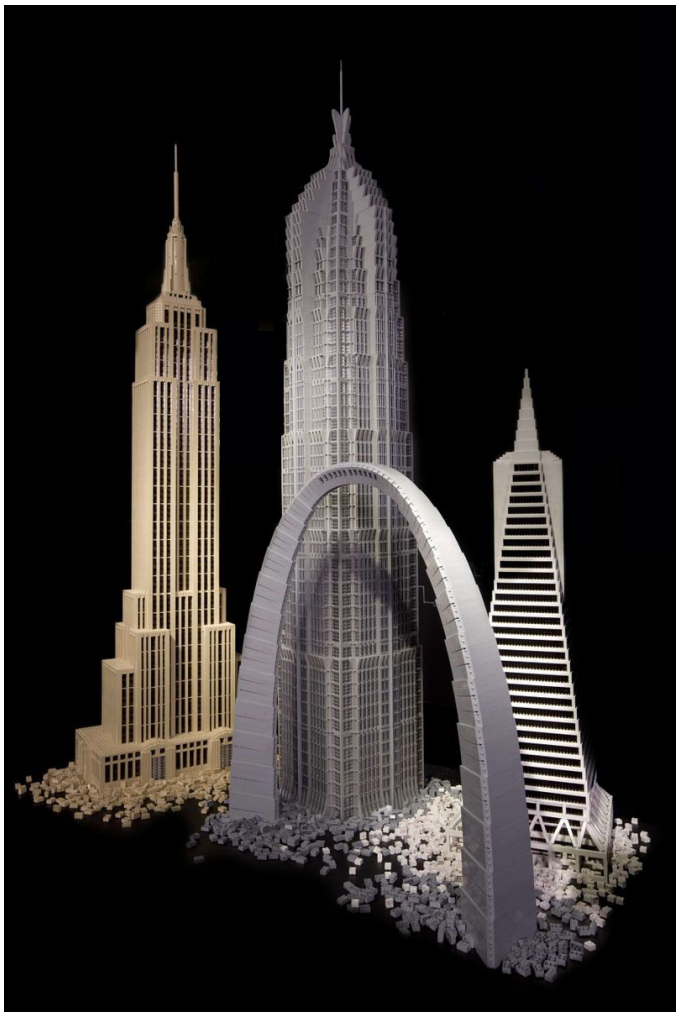
AR: There are several factors that go into choosing landmarks that can be produced in set form. First and foremost, it needs to be determined if the set can be represented properly using the LEGO brick. It also has to be proven that a potential set can reach expected sales forecasts, securing licensing agreements and moreover continues to represent and maintain our motto or celebrating the past, present and future of architecture to inspire all.

HBM: Can you describe the process of creating a set?

AR: The process can vary, but generally I start by going through several design studies using various bricks and plates to explore the best way to represent a landmark using LEGO elements. At this stage we have an idea of how involved the set will be which in turn will help to determine the overall scale, complexity, style considerations, etc. After completing a model that I feel is the best possible representation, I will send photos and renderings of the model on to LEGO for further study and recreation if needed. LEGO then reviews and determines if the model can be created using the elements chosen or if edits are necessary. As this process is taking place if necessary a licensing agreement for the development and sale of the set will be formalized. Finally, if the set design is approved and necessary permissions are reached to design the building the set we will then go into production.

HBM: What conditions must a set meet to belong to the Architecture theme (number of parts, scale,...)?

AR: A number of conditions must be met for a potential set to become a part of the line. A desired scale or price point is sometimes determined before a set is designed and then a set must be designed to fit these parameters. Often the main requirement of a model becoming a set in the line is determining if the bricks used to create the model are available



for productions and use in a set. If any key parts or color choice are not available, then a set may not be considered. Other factors that apply would be who our target audience will be, will this be a “grab & go” souvenir that can be easily traveled with by thousands of tourists or will this set be a deeper study into a structure that may have a more focused audience.

HBM: Have you ever thought about changing the scale?

AR: There is an interest in exploring landmarks in a larger scale. To do this, it would have to be the right landmark with the final model meeting all requirements for having a set produced. A larger scale would also mean a higher retail price point which is often times discouraged to avoid eliminating anyone from being a potential consumer of our product line.

HBM: Have you ever missed the existence of any LEGO® part for your designs?

AR: I often go over a wish list of parts that could, should and deeply wish would be available in LEGO form. While designing the Robie House model, we were able to create a new element, the concave 33 degree roof slope. So, given the right set of circumstances we are allowed to produce new elements.

HBM: By using such a small number of parts and such a small scale, what is the criteria for choosing the final model? Has any design proved to be too “poor” visually when completed because of these limitations?

AR: In creating a model I generally go through many designs before deciding on a final design that is a good fit for becoming a set. If I cannot determine a scale or design that I feel truly represents any landmark in an artistic interpretation, I will not even present that design for set consideration. In my studio I would estimate that I have over 170+ concept models, study sections, and an array of details and doodads.

HBM: What has led you to ask the opinion of the fans for the next set?

AR: Fans have always written and voiced their opinions on what landmarks they would like to see represented in the LEGO Architecture line. This effort is really a proactive way to see what landmarks fans would be most interested in seeing as a part of the line in the future.

HBM: Have you prepared ideas of how to build these buildings before asking for the preferences of the fans?

AR: Potential designs will be explored as votes and suggestions are received.

HBM: Will more buildings be used from the list of proposals?

AR: All suggestions and votes will be considered, but the use of any of the proposals can only be determined as product development is outlined and continually reviewed on a yearly basis.

HBM: Have you considered or planned a set of a Spanish building?

AR: We have received many suggestions for Spanish architecture to be represented in a LEGO Architecture set. These suggestions are too being explored and could potentially result in set, only time will tell. I have attempted a few of Santiago Calatrava designs, but no success as of yet.

HBM: Have you considered the possibility of making statues, bridges or other architectural elements that are not buildings?

AR: I am very interested in using the LEGO brick to create

other engineering and design feats. The brick lends itself well to architectural models, but it can also serve as a key piece in moving forward and educating about how other design structures are created and celebrating those forms as well. I am very much interested in Dams, Roller Coasters and Bridges, whether or not these areas will ever be up for consideration is still being decided.
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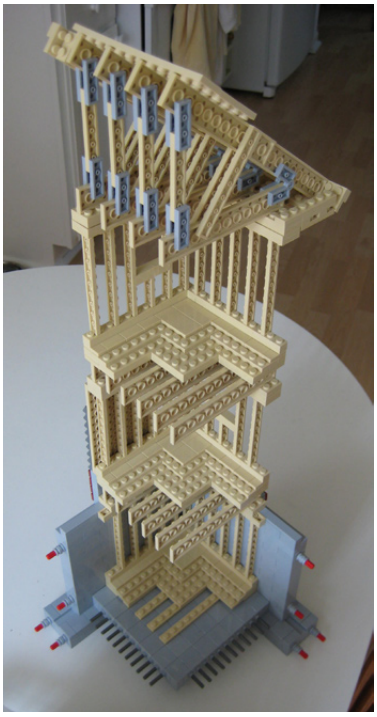


Adam Reed Tucker

LEGO Architecture

LEGO Certified Professional

BRICKSTRUCTURES

Gaga Robots

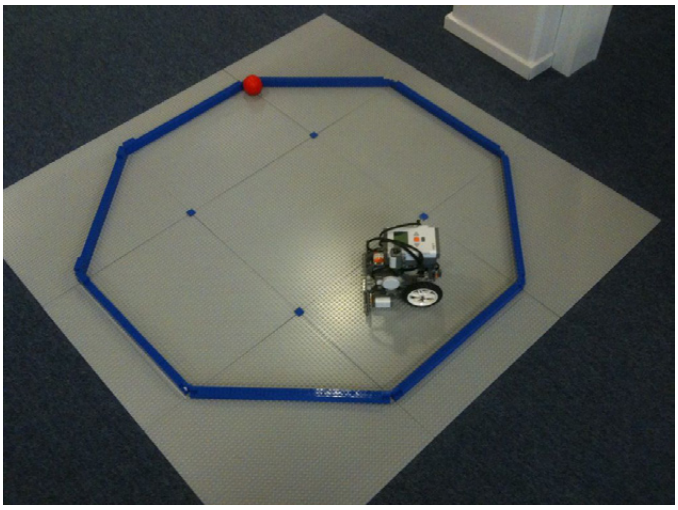
By 1brick

Gaga is a form of dodge ball I found at a summer camp where I used to teach a full on 8 week hardcore LEGO® MINDSTORMS program and was one of THE games to be good at camp. It was the true test of camphood, where bloody knuckles and scraped knees were badges of honor. The game was played in an octagonal arena about 5 meters by 5 meters, with a concrete floor, 4 foot tall walls and a door to let combatants in and out as they were struck. The ball was a hard, but springy kickball, forgiving for the game, but hard on the face if you were unlucky enough to get hit there. Your target was everything below the knees, but you were not allowed to pick up the ball, only strike it with your fist or hand. You weren't able to hit the ball more than once unless it hit another surface first, such as the wall, or another person's target area and hitting the ball out of the gaga ring would get you out of the game. The game is epic, and everyone plays as hard as they can. The kids (and counselors) had been begging me to build the game out of LEGO the whole time I worked there.

At first it would just be a model, but then maybe, just maybe a working MINDSTORMS game. I never had the time (or the resources) until I came to my current job, even though it would be just for a year. I finally had an opportunity and a reason when an event called BEEP rolled into town, and the MINDSTORMS booth was looking for something new and novel to bring. So about a month or so before the event, I decided to take it on.

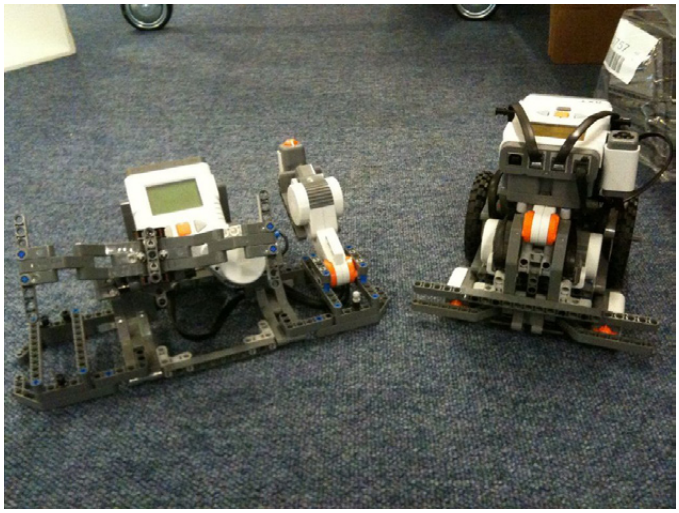
The ring was what really made the game interesting. It felt like standing in a gladiators arena. The original eight walls of the game were held up by thick wood pillars and the walls themselves were old, beaten and worn but strong and full of character. The LEGO version had to feel just as epic. What started out as blue brick borders on top of 9 grey baseplates became a fearsome black wall on top of a custom (sort of) laminated wood base with mitered corners. The 16 high walls were light but strong. Internally they have technic brick frame and the walls are 8x16 tiles on both sides adding strength and flexibility. They were held to the base with Dual-Lock, commonly used on FLL Tables. I was able to secure the wood base through one of the project managers where I work. He had it custom made just for me! Having the right ball was pretty important too. The Duplo ball could do the trick, but it was hard to get enough inertia the from the robot's puncher. I tried some other larger balls as well, rubber and foam with different weights. The best solution came to be multiple balls. At some point the game had been played with over 15 Duplo balls, and it makes the game that much more exciting.

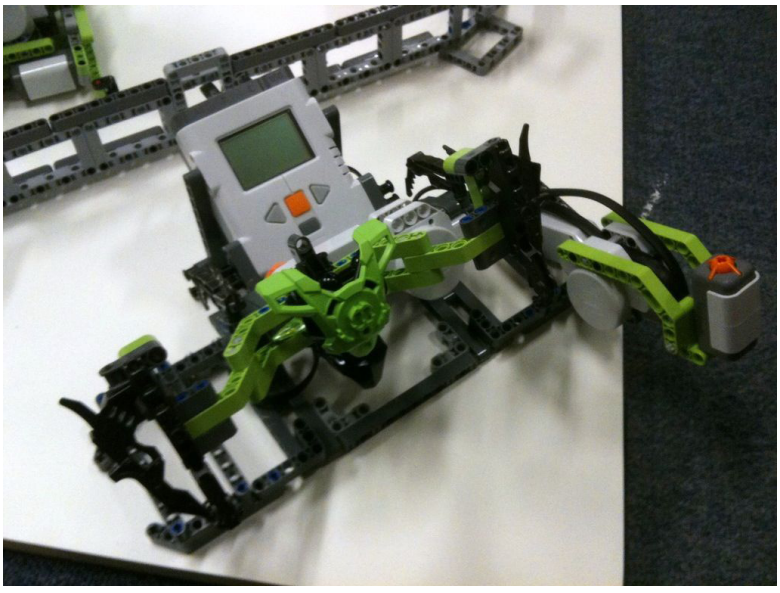
So how to build a robot that can be hit by a ball, and know that its been hit? I had a couple of goals with the robot. First that it



would be functional as a dodgeball playing robot and that it be simple enough to duplicate, not just by me, but maybe a child who might want to build it. The robot had to be able to detect touches or hits from the ball, so an array of touch sensors were definitely needed. Two in the front and one in the back, both as low as possible so the ball can strike from rolling on the ground. Each sensor also had to get a surface area big enough that could be struck and trigger a response.
The rear one was just a little easier than the front two. Those needed a spring type mechanism to bring the double bent beam triggers back to place. A rubber band solution fixed that. Getting the puncher in the right place needed an interesting solution as well. The effector had to take the same place as the touch sensors but not interfere with them. I had to build it wide enough to be able to hit a ball with strategically placed gaps for the touch sensors. Eventually I added a color sensor so that the user could easily see how many 'lives' the robot had left.

The controllers were based on a steering wheel I designed a few years ago. A single lever controlled throttle while the wheel did steering functions. A touch sensor was added as a trigger for the puncher of the robot. On this version of the controller, I had the NXT screen visible to show some status of the robot while its running. Ideally it should show the number of lives you had left at the very least, and maybe show which sensor was hit as well. The original controller had two additional touch sensors for 'paddle shifting' speed of the target robot, as well as a light indicator which indicated speed by how bright the light was. I tried my best to have some sort of controller that was visually appealing as well as functional and comfortable to use. Though the steering wheel is mainly used with one hand, it's more like a racing steering wheel that's used for two. The grip of the wheel should be comfortable to most kids, but not so comfortable that they'd want to stay on it for hours on end. I used some Hero Factory parts to give the wheel some styling and to get the right shapes. The HF chest part was just perfect and came in all the right colors for the best finish. There are some clever tricks in getting that chest in the right place, but I think it came out alright. Wiring was the trickiest part in building the controllers, as its pretty tight and you have to be able to keep all the moving parts as loose as possible.





My initial prototypes were built in dark grey, that way I knew I had most of the available parts. The goal was also to have this robot be accessible to those who had the MINDSTORMS Education set 9797 and the Resource set 9648 or 9695. I believe its still possible, but there might be some adjustments. For the full set, each robot and controller were done in four colors. Now, every color doesn't have every part, especially lime green. Making the right color substitutions would make an impact on the look of robots. For the controllers, only the joystick and the steering wheel were colored and this gave just the right effect. It also made building that much faster.

Programming wasn't so bad for the robot itself. The meat of it all was the idea that all three touch sensors had to react and lead to the same common end result- that the robot was hit! While doing this in language programming is easy, it just looks complicated in NXTG. By using a series of logic blocks in the OR function, each sensor was easily daisy chained to the others.

Controlling robots via Bluetooth had been so many times before, so that was pretty much already written for me. The fun part here was to connect the robots automatically and also have a clever way of having the robots 'die' when their lives were up. I used a counter to count down lives when a touch sensor was struck and as the lives went down to certain thresholds, the color sensor would display a different color. Green for starters, Blue in the mid

range of lives and red as you were about to die. The robot would flash red for five seconds before completely stopping. This allowed the driver to get the robot back to himself to reset the robot manually. In the end each controller had to have its own program as each had to have a unique ID to the robot, however, each robot could have the same program.

In a perfect world, RoboGaga would play just the same as the real thing. You would punch the ball and try to hit everyone else where they are vulnerable, and if they ran out of lives they would leave the game. Clear winners could be established that way and you can have tournaments. This isnt always the case. At BEEP, ROBOGaga made its debut, I found that teaching rules to casual onlookers was just too difficult, and this was on top of a language barrier as well. Patrons barely understood the concept of driving around and hitting the balls. It was hard to explain rules in a crowd and the best I could do was to teach onlookers how to drive the robots. Though the game didn't play as expected, it was still great fun for the spectators and even more fun for those who played. One day though, I hope to run a real game.

The next stop for RoboGAGA will be at LEGOWorld Copenhagen. Lets see how those kids do with the game
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Overcoming structural difficulties in LEGO® Technic

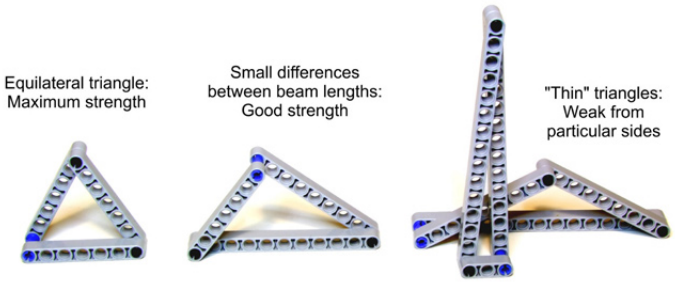
By Oton Ribic

Continuing in the direction we have set in the previous article “Efficient LEGO® structures”, this time we will take a look at several practical yet simple ways for Technic beginners to overcome the structural limits imposed by the LEGO parts, particularly the beams.

One of the basic principles of strong, light constructions is to take advantage of the fact that the beams offer excellent strength lengthwise (if pulled or compressed), while their resistance to sideways force (bending) is not as high. More precisely said, tendency to bend depends widely on the beam length, type, orientation and direction of the sideways force, but it will always give more than if exposed to lengthwise stress. Hence, any structure for which strength is paramount should be built to expose its beams as much to lengthwise forces as possible, while avoiding bending. This principle is by no means limited to LEGO constructions — it is, in fact, one of the core premises of mechanical engineering.

The basic element that follows this principle is — you have probably guessed — a triangle. It is not difficult to see why: applying force to any of its corners (i.e. joints) stresses its sides more or less lengthwise, which makes it inherently strong yet it remains very light as it requires only three beams. Therefore, constructions that rely on triangles with common sides as main structural forms (trusses) tend to be very rigid. For a vivid demonstration, try building a pictured structure. Admittedly, it is a somewhat extreme example and typical LEGO constructions do not need to go that far, but it nevertheless proves the point: used as a crane arm, it lifts several kilograms of load without the slightest sign of discomfort.

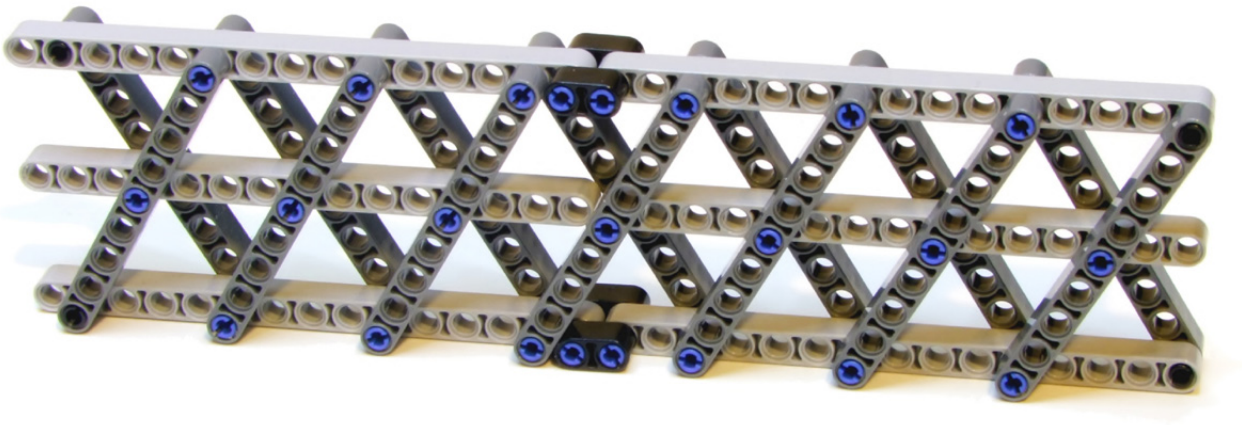
It should not be overlooked, however, that the strength of triangular structures depends on the ratios of the length their side. These triangles should ideally be equilateral, such as those in the example, and as long as their sides are at least of approximately similar lenghts, they will still provide good strength. On the other hand, very “elongated” triangles are significantly weaker and should be avoided.



Despite their lightweight construction and high rigidity, triangular structures bring one practical difficulty: their frame dimensions are often difficult to work with and adapt to other components. For instance, the span between the edges of the two outer beams in the aforementioned example is 7.93 studs — perhaps close enough for some to be declared 8 studs long and uncomfortably vertically braced, but any serious builder would strictly avoid such blatant usage of brute force.

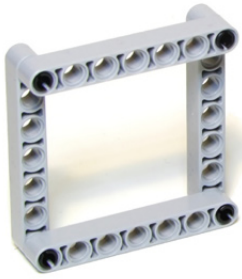
A more practical alternative is to rely on square, or more generally, rectangular structures which have been a mainstay of Technic construction since its beginnings. Studless rectangular structures offer good strength if compressed or pulled, but are usually sensitive to shearing (stress under which the sides remain constant but their angles change, i.e. square that deforms towards a rhombus), which is rather common in LEGO constructions. The solution is to reinforce their corners using parts that contain a right angle. One reinforced corner should suffice in theory, but in practice, the more the better. Technic frames, various L-beams, triangular plates, and many other parts can help.

However, rectangular structures built from studded beams do not suffer from this drawback, since their studs — if properly connected together with the plates — significantly resist

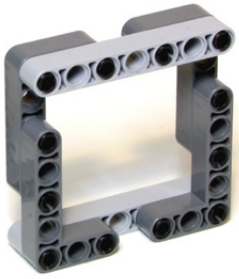


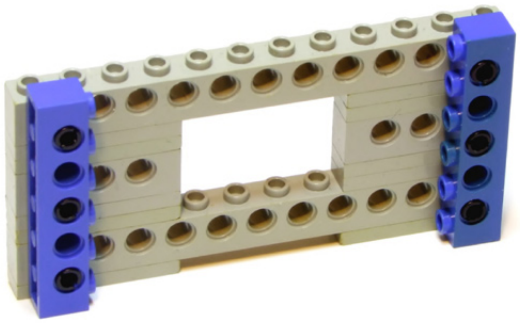
shearing. The price is paid in larger overall weight, and the choice between the two depends on the requirements of the model being built, as does the choice between the triangular and rectangular approach in the first place.

Basic restangular structure: Stron against direct side forces, but weak against shearing



Having corners reinforced, its resistance to shearing is greatly increased





A specific type of construction that rectangular structures are particularly suitable for are three-dimensional arms: their non-standard angles and diagonal lengths are usually impossible or at least impractical to reinforce using triangular structures. Instead, they can be easily built using cascaded Technic frames from all four sides with occasional additional reinforcing beams to prevent the frames from separating under strain, such as the one shown on the photo. Besides being simple and resistent against all types of deforming forces, it offers a useful feature: a 3 x 5 studs “tunnel” in its interior through which control axles, pneumatic hoses and other systems can be easily led.

Finally, on the topic of various Technic structures, one should always be aware of the risk of over-reinforcing. It is tempting to build extremely strong if possible, but a well-engineered construction should be reinforced only as much as necessary — and where necessary — to function as intended. Excessive reinforcements increase weight, complexity and reduce space that could perhaps be used for extra functionality. For example: a tower crane arm primarily needs to resist bending, while its vertical shaft is mostly subjected to compression (if the crane is balanced with a counterweight), and they do not need particularly heavy reinforcements against other types of deformations. There are, of course, constructions that need to resist all kinds of forces, such as car chassis or an aircraft hull, but while building even them, one needs to remain sensible as it is important to find a good balance between strength and lightness.

Stay tuned for the article in the next edition, where we will move on to dynamic structures and observe the behaviour of LEGO® parts that move!
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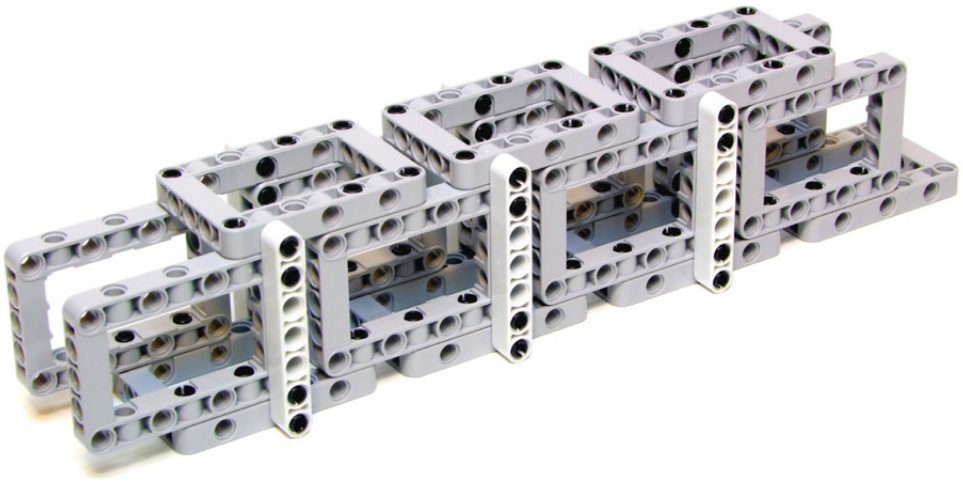
http://legoism.blogspot.com/

Conclusions: Technic Construction Quick Facts

- Good constructions should expose its beams to compression and tension primarily, as the beams are strongest when subjected to those forces.
- A simple and common method to achieve that is a truss, i.e. a structure consisting of beams in triangular forms that mostly share sides.
- To avoid impractical lengths and angles often encountered in trusses, rectangular structures are a good alternative, but for maximum strength they either need to be built from studded beams with separating plates in between, or have their corners additionally reinforced.
- Beware of over-reinforcements which imply unneeded weight and complexity. Try to estimate the forces that will be present in your construction, and reinforce primarily against them — only as much as necessary.

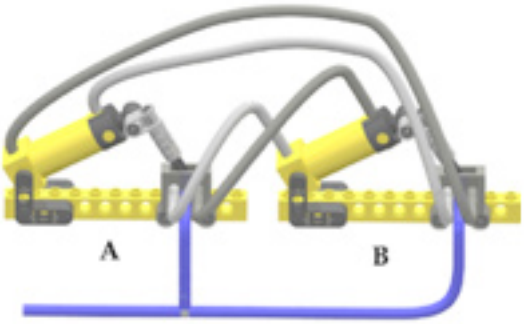


Tutorial: Pneumatic Sequencing (I)

This article describes how to create pneumatic circuits that, over time, create repeated sequences of expansion and contraction.

By Kevin Clague
Edited by Jetro de Château

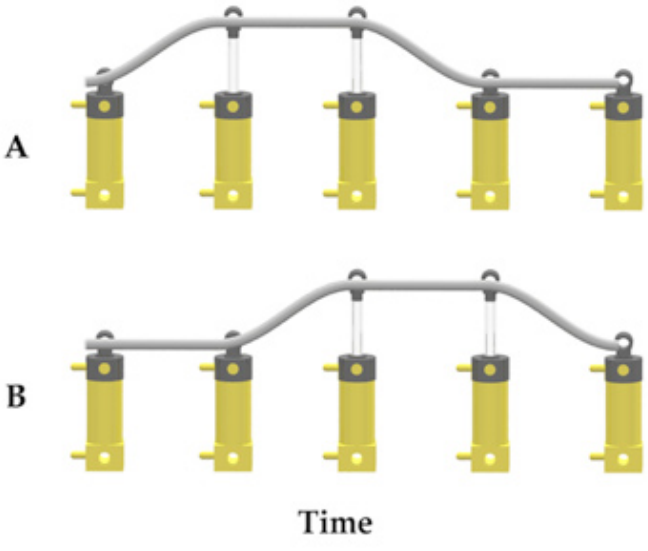
The simplest pneumatic sequencer contains two pistons and two switches hooked together.



Piston A controls switch A. Piston B controls switch B. Piston B is controlled by switch A. Piston A is controlled by switch B. So, piston A controls piston B (via switch A), and piston B controls piston A (via switch B). Switch A makes piston B mimic what piston A is doing, and Switch B makes piston A do the opposite of piston B. The piston/switch pairs feed each other in a thing called a feedback loop. Switch A feeds forward to piston B, and switch B feeds back to piston A. The result is that pistons A and B take turns opening and closing over and over.

As long you keep applying air pressure the pistons keep expanding and contracting in a repeating sequence. You can use this pneumatic sequencer to create your own moving LEGO® creations. If you connect the pistons to a cam mechanism, you can create a pneumatic engine. The pistons go through four distinct states: A contracted/B contracted, A expanded (caused by switch B)/B contracted, A expanded/B expanded (caused by switch A), A contracted (caused by switch B)/B expanded, and A contracted/B contracted (caused by switch A). After this the cycle just repeats.

The states of the pistons can be drawn graphically like this

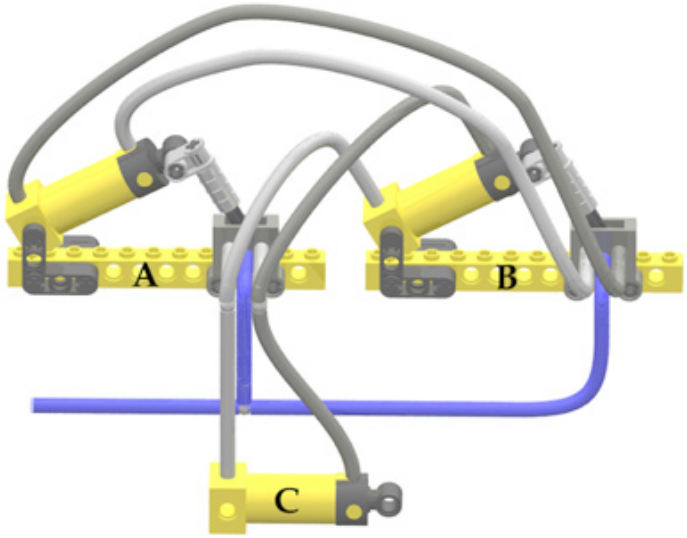


The graph shows the pistons expanded and contracted states over time. The top line of the graph shows piston A over time, and the bottom line of the graph shows piston B over time. The upwardly sloping diagonal lines represent pistons expanding. The horizontal lines represent the pistons in steady state, either expanded or contracted. The downwardly sloping lines represent pistons contracting.

When piston A completes expanding, it makes piston B start to expand. When piston B completes expanding it makes piston A start to contract. When piston A contracts completely it makes piston B start to contract. When piston B contracts completely it makes piston A start to expand, making the cycle repeat.

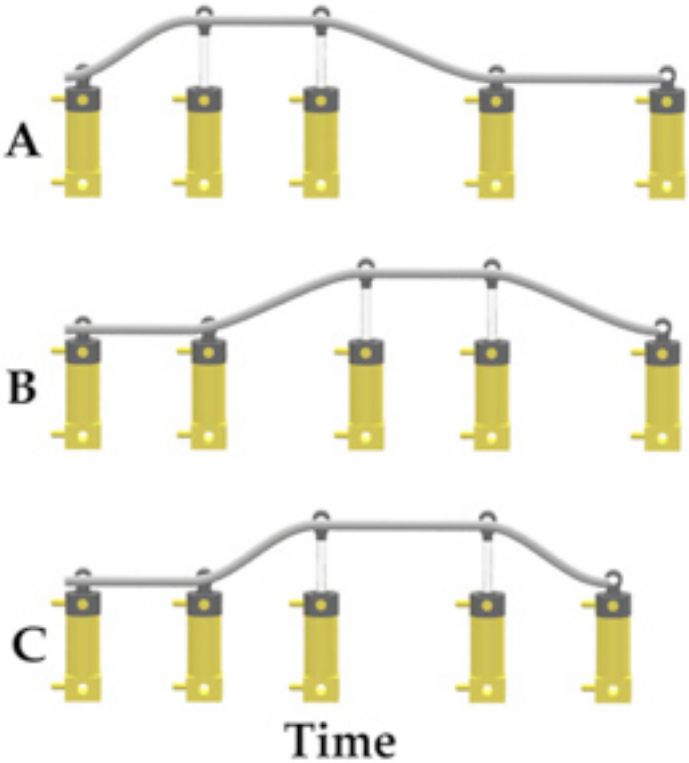
Adding another piston

Let's say we want a second piston that does the same thing as piston B. Using pneumatic T's and more hoses, we can hook up piston C the same way that piston B is hooked up.



If you do it this way, you can see that piston B and piston C don't expand at the same rate. This is because piston B has the load of switch B which slows down the expansion and contraction. Even if we put a switch onto piston C so it has a similar load, piston B and piston C probably wouldn't expand at exactly the same rate due to minor manufacturing differences in the pistons, switches T's and hoses.

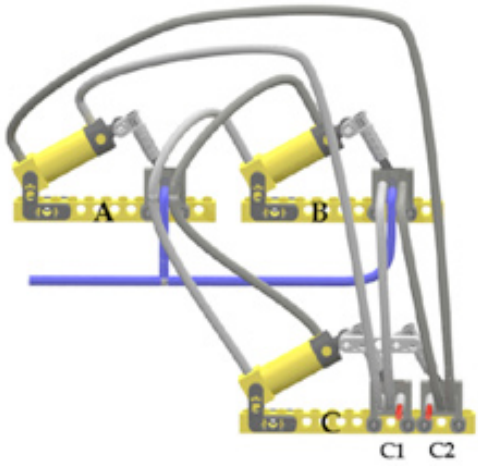
Figure shows the timing diagram for circuit 2.



Notice that piston C does not behave exactly the same as piston B. If we're trying to use piston B and piston C in a LEGO® model, the two parts controlled by pistons B and C won't behave exactly the same. Clearly adding more pistons to the circuit this way will not have piston B and C behave exactly the same.

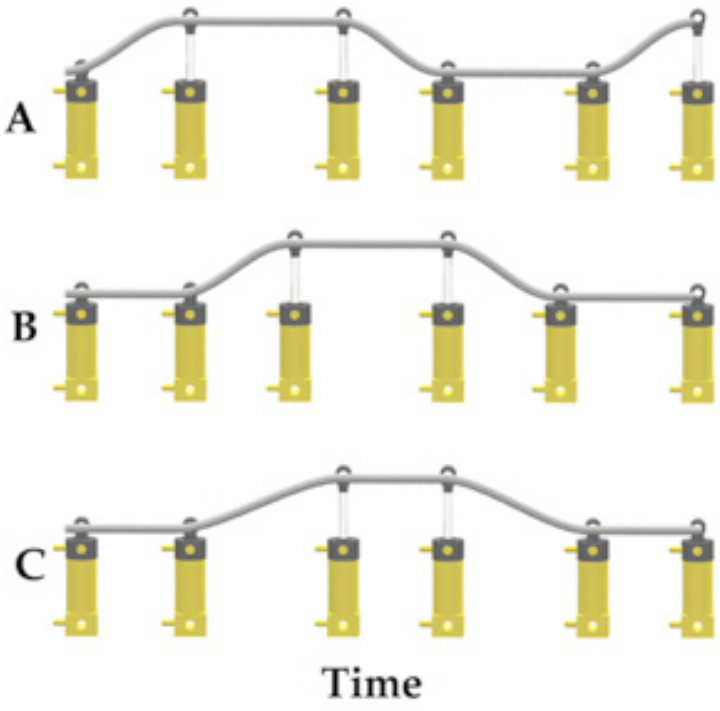
Synchronizing Two Pistons

We cannot make the two pistons expand or contract at exactly the same rate, but we can make sure that both pistons B and C expand completely and contract completely every time through the four step cycle. We do this by adding two switches to piston C as shown in the following circuit.



In circuit 3, we make piston C stay synchronized with piston B by running the each of the outputs of switch B into a switch controlled by piston C (switch C1 and switch C2). The pressure out of switch B's left port (makes piston A contract) goes into switch C1's center port, and then out C1's left port which is hooked to piston A's contract port. Pressure cannot make it through switch B and switch C1 unless piston B and piston C are expanded. Similarly the right port of switch B is hooked to the center port on switch C2, and the right port of switch C2 is hooked to piston A's expand port. In this case pressure cannot make it to piston A's expand port unless both piston B and piston C are contracted. We've now made piston B and C behave the same way, even if they expand or contract at different rates. They are synchronized. Notice that the unused ports of switches C1 and C2 are plugged by small pieces of hose with mini-fig light sabers stuck in them. If we don't plug them, pressure will leak out these ports when pistons B and C are not both expanded or not both contracted.

As you can see from this movie, every time piston B expands completely, so does piston C. Every time piston B contracts completely, so does piston C. Pistons B and C are synchronized.

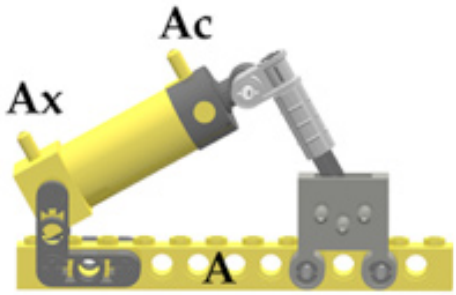


Boolean Algebra

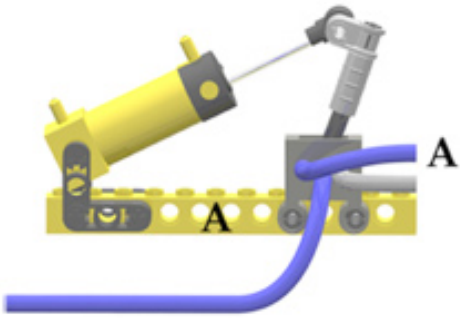
In 1854, a mathematician named George Boole published a paper called “An investigation into the Laws of Thought, on Which are founded the Mathematical Theories of Logic and Probabilities” that described a mathematical way of describing logical statements. Boole’s algebra used variables that have value of true and false. He also introduced three new mathematical operators: and, or and not. Over a hundred years later his algebra became the mathematical cornerstone of the digital computer era, using electronic versions of his algebraic functions called gates.

Pneumatic pistons are Boolean devices in that they only have two stable states: expanded or contracted. I equate expanded piston as a Boolean true, and contracted piston a Boolean false. The remainder of this description always has a piston controlling a switch. The piston switch pair is typically given a simple name like A, B or C. Some pistons control two switches, and the switch names are the piston name and a single digit suffix (like switch C1 or switch C2).

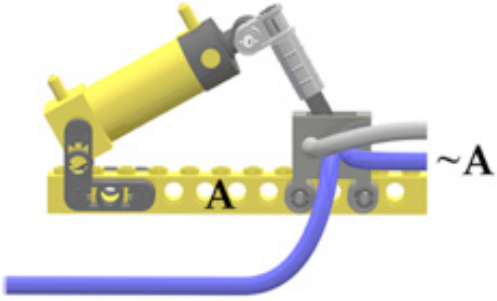
The piston’s pressure ports are inputs from some switch. The expand pressure port of a piston is referred to its piston name followed by a lower case x, for expand. For example piston A’s expand port is referred to as Ax. The contract pressure port of a piston uses a similar suffix with the value of c, for contract. Piston A’s contract port is referred to as Ac.



It is equally important that we have names for the ports of the switch. When the switch handle is flipped to the right, pressure coming in the center port goes out the left port. In all these examples this happens when the controlling piston is expanded. For our examples the port closest to the piston is simply named the piston name. In this example the piston is called A, so the port closest to the piston is also called A.



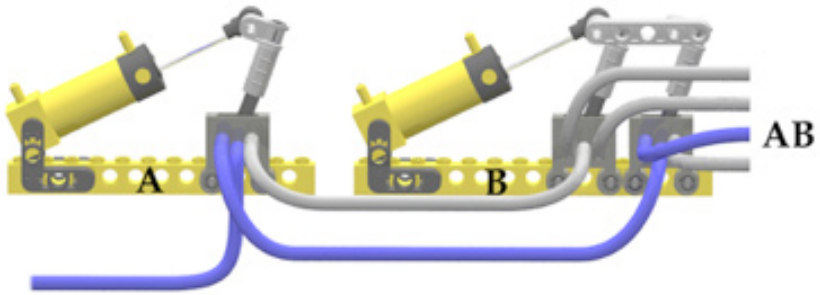
When the switch handle is flipped to the left, pressure going into the center port goes out the right port. In all these examples this happens when the controlling piston is contracted. For our examples the port furthest from the piston is indicated by a tilde (~) followed by the piston name. You can use the word “not” when reading ~. For the example below, the piston is contracted, so pressure is coming out the “not A” port.



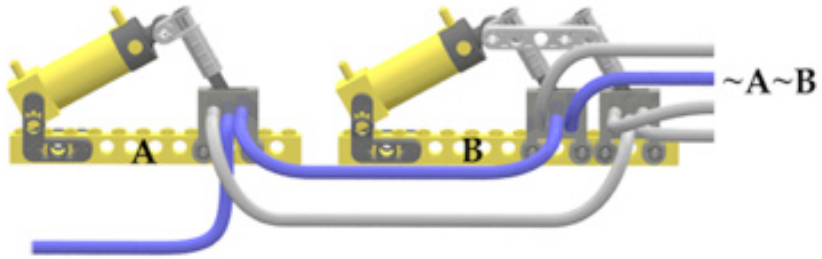
In normal algebra multiplication is very common and variable names are typically single letters. Multiplication is so common that the multiplication operation can be implied by placing two variable names next to each other. So the expression “a x b” can simply be rewritten “ab”. In Boolean logic the and function is so common that it can be implied, so “a and b” is often written simply “ab”.

In the example below we combine piston/switch A and piston/switch B to create Boolean and gates. Between the two pistons and the three switches, we get four possible and combinations. When both pistons are expanded, pressure comes the blue hose. Tracing the pressurized ports shows that port A and port B are both pressurized resulting in output pressure AB.

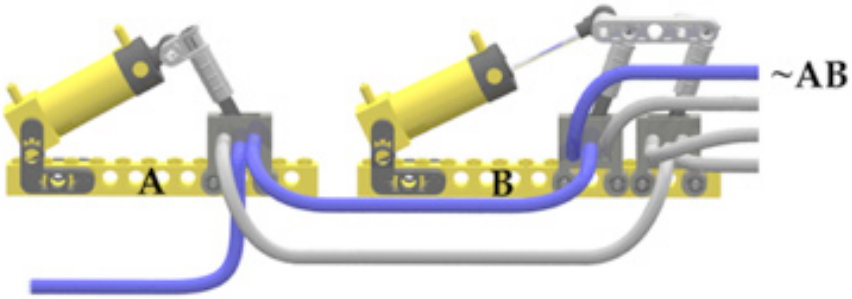
If we contract both pistons, the pressure comes out right hand ports resulting in ~A~B (not A and not B).

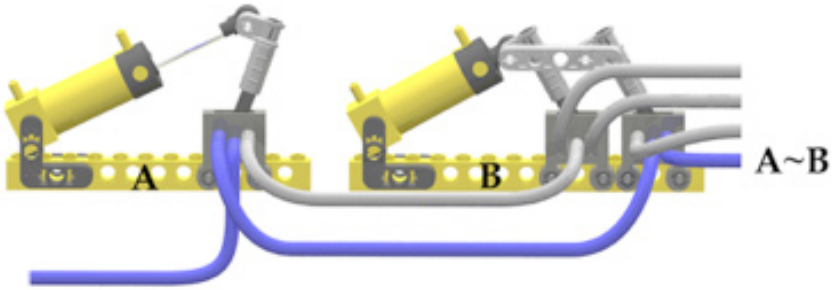


This leaves two combinations of one piston expanded and the other contracted.



and





Mathematical Description of Circuits

One of the best things about mathematics is it provides a very concise and succinct way of describing the relationships between things (one of the worst parts of mathematics is that its conciseness and succinctness make it hard to understand :^) We will use

the names we just defined to describe our pneumatic circuits.
Our language needs to describe how switch ports are hooked to pistons. First we'll use an equals sign (=) to mean switch port connected to piston port.

For circuit 1, we can describe the connections from piston/switch A to piston B as:

Bx = A;
Bc = ~A;

The connections between piston/switch B to piston A are backwards so:

Ax = ~B;
Ac = B;

This terse format for circuit description will really help when describing complicated circuits. We can describe circuit 3 like this:

Ax = ~B & ~C;
Ac = B & C;
Bx = A;
Bc = ~A;
Cx = A;
Cc = ~A;

The description is short and sweet, but easier to write than read for the uninitiated.

Circuit 4

What if we want to have piston C do the opposite as piston B, but at the same time as piston B? Piston B's description remains unchanged:

Bx = A;
Bc = ~A;

Piston C's connections are described:

Cx = ~A;
Cc = A;

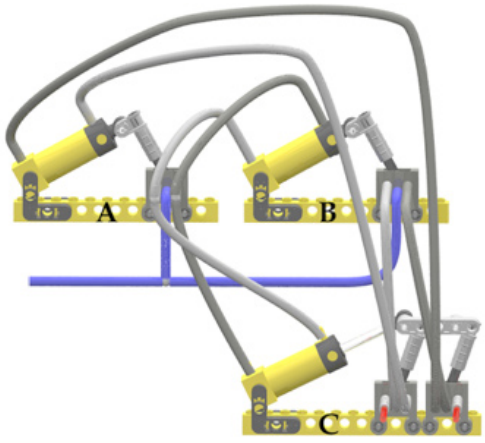
Piston A's connections are different as well. Piston A expands when piston B is contracted and piston C is expanded.

Ax = ~BC;

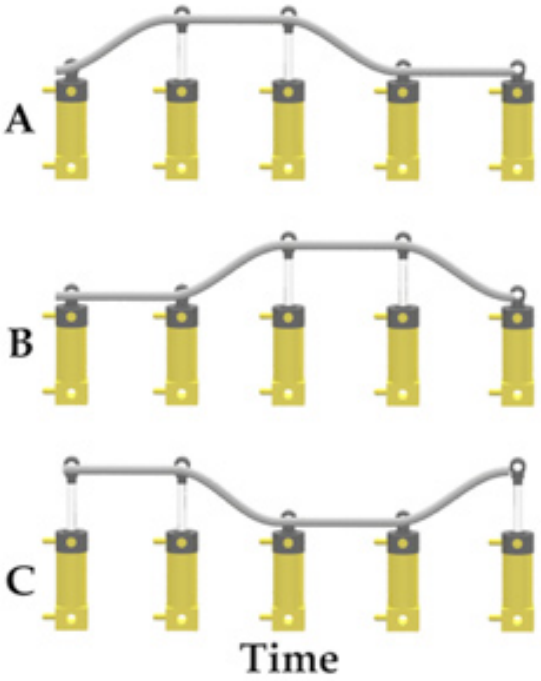
Piston A contracts when B is expanded and C is contracted.

Ac = B~C;

Here is an image of circuit 4.



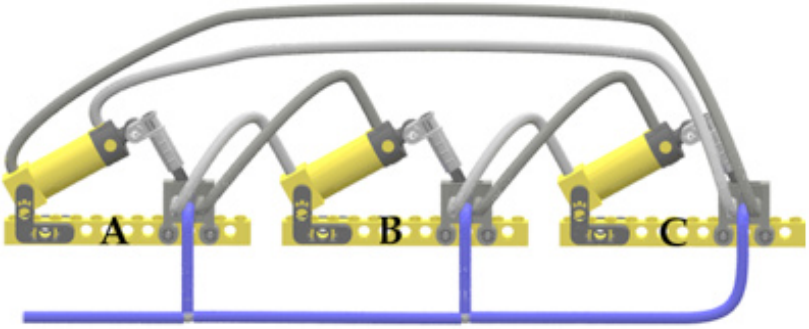
Here is graph of circuit 4's behavior over time.



Circuits 1, 2 3 and 4 all have four steps in their repeating sequence. With three pistons, we can make longer sequences.

Three Pistons Three Switches

With three pistons and three switches, we can make a six step sequencer:

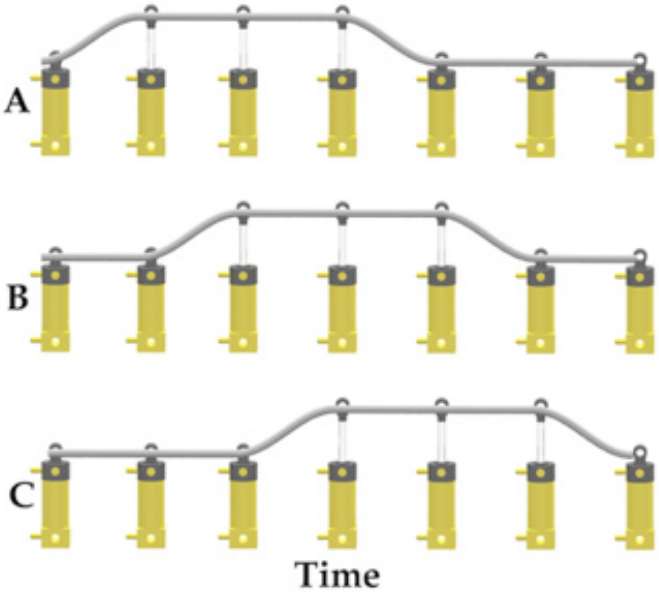


Its mathematical description is:

Ax = ~C
Ac = C
Bx = A
Bc = ~A
Cx = B
Cc = ~B

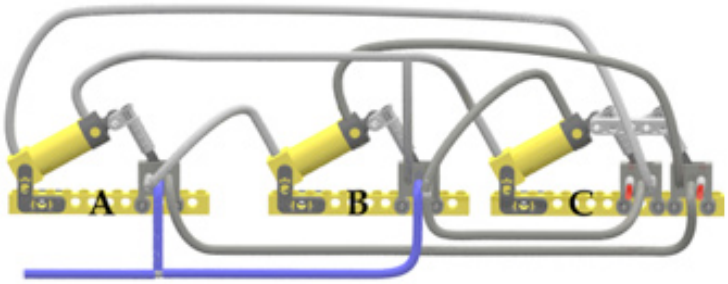
Figure its behavior over time:

This circuit has a total of 6 steps. This circuit would be good for a three piston pneumatic engine.



Three Pistons Four Switches

With three pistons and four switches, we can make a sequencer that has five steps:



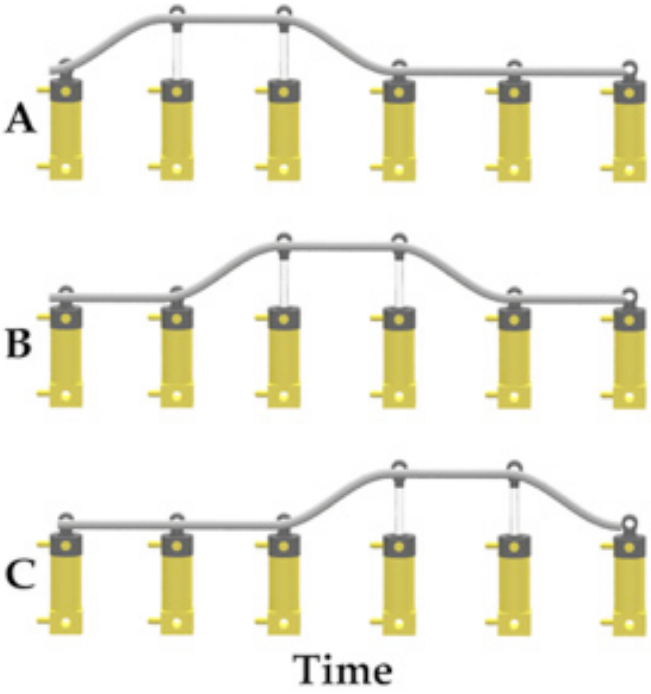
The formulas describing circuit 6 are:

Ax = ~B~C
Ac = B

Bx = A
Bc = ~AC

Cx = B
Cc = ~B

The waveform:



This waveform looks a lot like the waveform for circuit 5, but circuit 5 has the pistons expanded half the time. In circuit 6, the pistons are expanded two of the five steps in the cycle.

Practical applications

So far we have seen some theory and maybe you have rebuilt the circuits to see their behavior for yourself. But what is their practical application? I will show you a practical application in the second part of this tutorial, but in the meantime you can have a look at the inchworm (especially 1 and 4) in my Brickshelf gallery which use the principle explained in this part of the tutorial.

Kevin Clague on Brickshelf: http://www.brickshelf.com/cgi-bin/gallery.cgi?m=kclague
Inchworm 1: http://www.brickshelf.com/cgi-bin/gallery.cgi?f=48796
Inchworm 4: http://www.brickshelf.com/cgi-bin/gallery.cgi?f=291660
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Tutorial: Custom Battery Power for the Power Functions System

By T.J. Avery

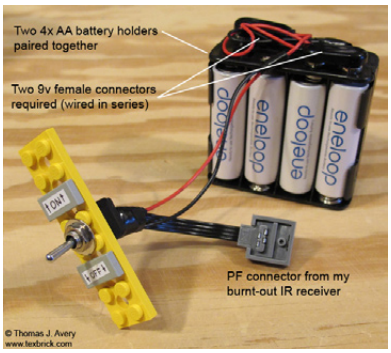
There has always been a trick to getting a custom battery box to work with PF (power functions) components. The issue is basically that there are 4 wires used in the PF cables, and depending on where you are in the circuit, the outer set or the inner set can be used (but not at the same time).

The system is mapped out in detail here: www.philohome.com/pf/diagram.gif. Many, many thanks to Philo for this diagram.

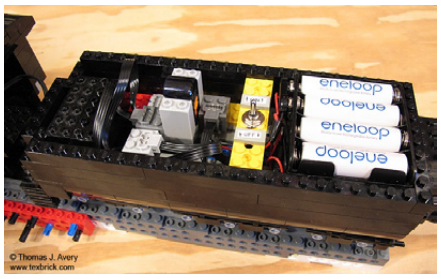
Implementing this information to make a custom PF battery box is what I've figured out recently. I wanted to make a custom (non-LEGO®) battery holder that would take 8x rechargeable AA batteries. That would give me a total of 9.6 volts (rechargeable AA batteries are typically 1.2 V per cell as compared to traditional alkaline batteries that are 1.5 V each) and essentially more and longer lasting power for my models (in comparison to using a standard LEGO battery holder that only takes 6x AA batteries).

Below is a schematic showing the set-up for a custom battery box.

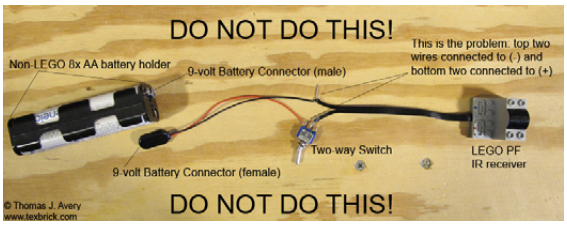
You can find off the shelf non-LEGO battery holders in a variety of sizes and capacities. For AA batteries, I've found holders that take 4 each and also 8. In my example below, I've used two 4x AA holders and wired them together in series.



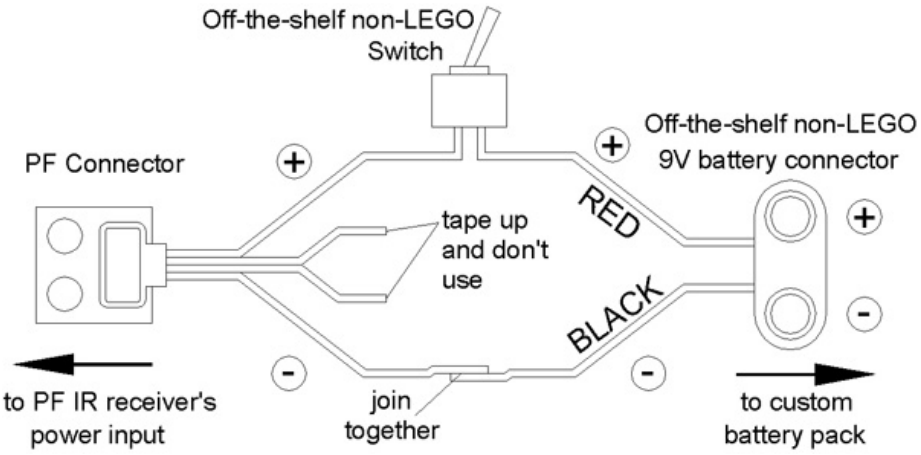
This is for my UP 844 MOC. The 4xAA holders fit snugly into a space that is 8-studs wide.



When I first started to play around with this, I somehow misinterpreted the information and ended up wiring the batteries up like this:



DO NOT DO THIS! This will make smoke come out of the PF IR receiver box.
My PF receiver is now a pristine example of what a PF receiver should look like from the outside. Inside, it's toast.
#



An introduction to Robotics with LEGO® MINDSTORMS (X)

Interview with the designer of the competition table of the FLL

By Koldo Olaskoaga

The FLL is a program of Science, Technology and Innovation which, among other things, uses a component that arouses interest and motivation of young people: building and programming a robot to be confronted with a series of challenges on its own.

Every year in early September the challenge of the robot is released, ie the missions that robots will face and under what conditions they have to do it are released. It is the starting point for thousands of youth teams of 10 to 16-years-olds from more than 60 countries to start thinking and unleash their creativity (10 to 14 years in the United States and Canada).
The design of the competition table includes the development of a series of models of mission and rules that define how you can score points. Since the beginning of the FLL, table design is the responsibility of Scott Evans, and we wanted to approach him to see what the process of creation and game design of the robot is, once the central theme underlying the challenge has been decided. The interview was conducted via email in December 2011 and by then, Scott already had the table with the mat and the missions of the **Senior Solutions** challenge that will be released in September 2012 in his office.

Getting Started

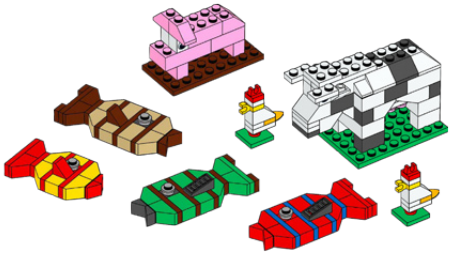
Once the issue the challenge will deal with is decided, in May of the year before the challenge, there is a meeting with a large panel of experts in the field of study that comes from government, business and universities. Besides them, FLL staff, implementing partners of the state, referees, coaches, former team members, LEGO® staff and Scott also participate in this meeting .
The purpose of this meeting is to generate ideas, and around 60 basic ideas that will be taken as a starting point for the design of the missions come out of the meeting. Once the scientific elements are clear, work begins on the precise requirements of the robotic game and how to assign the corresponding score. This is a task that is carried out with the help of a small group of enthusiasts to contrast the ideas and develop them further.

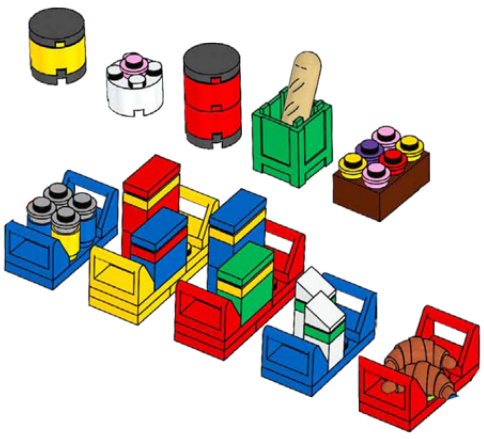
Development of prototypes

When the ideas on which to work have been selected, Scott begins with the development of the mission prototypes and the design of the mat and then travel to Denmark. This is where he finishes the models and draws the mat.
But you can never know the suitability of the mission models and the missions before trying them, so they are subjected to an intensive testing process. Sometimes, this process leads him to realize that there is a particular mission that doesn´t work or has an unsolvable problem, so he has to find ways to eliminate it. Unfortunately by then the models are in production and cannot be modified. This is why some years there are elements that we all wonder what they are for, as the stretcher on the challenge of **Body Forward** or the farm animals in **Food Factor**. These are elements that generate numerous inquiries but have no value toward missions.

How important is the use of sensors?

When we think about the parts that a robot has, there is a very important one, its sensory system. Sensors are what allow it to receive information from the environment, and to take appropriate decisions based on that information. From the standpoint of a professional or a teacher a robot without sensors is an incomplete machine of lower technological level, whereas there are many teams that do not use sensors to solve the missions.
The **BodyForward** challenge surprised us with several missions which forced the teams to use sensors, even in one of these missions, conditions varied each time the robot went outside the base, so it was absolutely necessary to use a sensor to differentiate the malignant cells (black as opposed to non-damaged white). It seemed that they wanted to force





teams to use the sensors but it is something that has not been continued this year. When I put this question to Scott he replied:
"As you can see when looking at the mat from almost any year, and by the use of solid border walls every year, the use of light and touch sensors is always encouraged. But it is rare for me to design a mission that is impossible to do without sensors, because

- I do want all teams to be able to complete any particular mission if they decide to work at it
- In real engineering you are not told how you must solve a problem
- There is some value in being able to do something with a simple robot

That said, I reserve the right to put in a mission that STRONGLY encourages sensor use, but I purposefully don't want to establish any pattern with the inclusion of such missions. The teams and especially the veterans need to be kept guessing."

Difficulty of the missions

One of the first tasks the team faces is to understand the missions thoroughly and assess the level of difficulty. This way they can categorize and define their work strategies. This is where the first comments arises: this year it is harder than the past, some are easier but there are some very complicated missions... But how do you determine that the missions are not too difficult to complete in two and a half minutes?
"One can only guess. But personally, I've been playing with LEGO since 1969, I've been doing this job for some 13 years, I've attended about 60 tournaments, I've run the direct communication team support for the United States and Canada all this time, and I do a lot of stopwatch testing. Outside of that I have a mini test camp, and I have LEGO® Company MINDSTORMS division engineers make robots for questionable areas. That said, it does still come out wrong here and there. A little too hard one year, a little too easy another. But it's always in the ballpark, and it's always still a fun technical challenge at its heart."
While in previous years many teams completed the maximum number of points, this year it must be stressed that the maximum score has become mission impossible. At the end of the season we will see what the highest attainable score was.

The work of the referees

One question that always worries referees and the organization is the control of mission elements on the table and the process of relocating all to its initial conditions in the

shortest time possible. This year the number of elements of mission that could change places at the table is about 100 which caused some uncertainty. However the problems have been fewer than with the table of the **Body Forward** challenge where rebuilding a damaged brain required a long time. Do you take into account the task that is presented to the referees to define models of mission?

"I have to honestly say that there are many design concerns that have to be met as priorities to that one. I think about it, but if I need realism, or difficulty/easiness, or strength, or reliability, or ease of construction, etc., those concerns will be served first. Unfortunately often, realism, or ease-of-construction, or cost can sort of force me to end up with a compromise model that's weaker or more hard to deal with than I would like."

The challenge is released in September

The challenge will be released in September and thousands of teams around the world (in 2010 they were 16,762) will begin to analyze, interpret ... missions. And having more than 150 000 young people working on it brings out questions, problems ... that had not been detected in advance. Scott maintains an open line of communication for these matters and when an issue is identified that needs public clarification or modification or exceptions in the missions or regulation he publishes it on the official website of the FLL in "Robot Game Updates" paragraph. In the challenge that is developing during this course there have been 37 updates and it is very important that teams follow them as they have more value than even the rules.

We hope this article clarifies some of the questions that arise every year, but we will not close without mentioning a comment with which Scott ended the answer to our questions.

"I want to remind the readers what the purpose of all this is… It's to give kids a positive association (FUN) with SOLVING technical problems instead of just USING technical solutions. If you ask modern kids if they like technology, most will think of the last time they used their smart-phone, and say YES! What we're showing them is that the process that led to the production of that phone was not only a lot more fun than using it, but that process involved deep interdependence between people on a TEAM."

#

Modular Integrated Landscaping System (I)

One of the goals of the HispaBrick Magazine® community is to build large dioramas about different LEGO® themes. In order to be able to make those dioramas all together, in an organised way, we decided to establish a set of rules. Those rules are going to be described here and in the next issues of the HispaBrick Magazine.

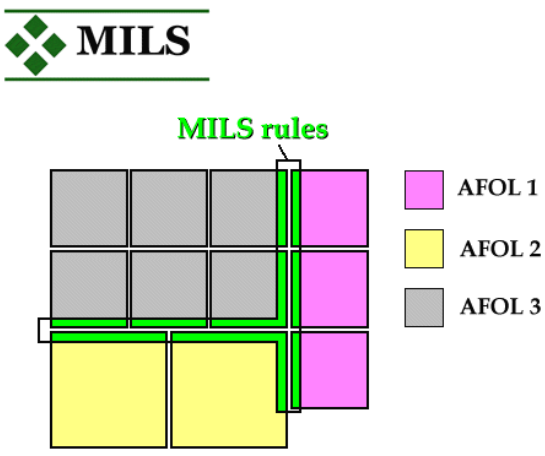
By Legotron (A. Bellón)

The development of this set of rules has been called **MILS**, acronym for Modular Integrated Landscapes System. As the name suggests it is based on a group of modules that are integrated to build a common diorama. The **MILS** rules specify the way we want to carry out this integration and the elements that are expected to be built by everyone who wants to collaborate with us.
Among the objectives of the **MILS** rules the most important is to establish a way to integrate the elements of different builders in a proper way, by using only a handful of rules. These rules must be very easy to carry out and explain. Another important task is to integrate the elements that are not under these rules with the ones that are covered by **MILS** rules. This is a important guideline in order to allow non **MILS** elements to stay in our dioramas without any kind of modification.

To sum up, when all our thoughts were mixed in order to build up the **MILS** rules to carry out our dioramas, the next premises were taken in account:

- It should be modular and flexible.
- The basic terrain unit should have known measures in order to plan the dioramas.
- The system should be compatible with other elements that are not under the criteria of the rules we want to define.
-It should be as simple as possible.

Moreover, we want to make a real demonstration of our rules.



So we, the members of the HispaBrick Magazine team, are going to prepare all the needed elements to build our modules and use them in our dioramas. That is a nice way to check the efficiency of the **MILS** rules. We will try to show this progress in the next issues of the magazine.

Basic rules.

+ Modular System: **MILS** rules are based on modules. These modules will be in different categories that will be reviewed later.

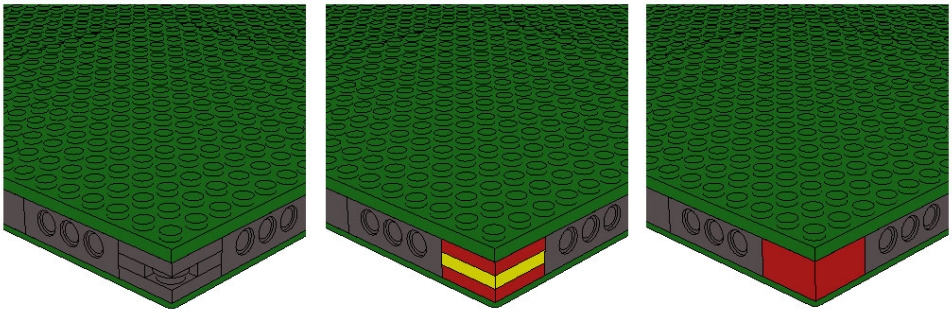
+ Flexibility and simplicity: in order to simplify the rules the **MILS** modules will have very few limitations. **MILS** rules aren't about the content, quantity or quality of the MOCs built on these modules. They are written to describe the ways to get a proper connection between the different elements of a diorama, and to ease the planning of that diorama..

+ The basic size of the **MILS** modules: In concordance with the above mentioned premises, we have to define the basic size of a **MILS** module. This size will be 32x32 studs. All the modules under the **MILS** rules must have this measure. This 32x32 sized modules will be called BTU (Basic Terrain Unit) in order to simplify concepts.

It is very important to highlight that this idea doesn't mean that modules of other measures than 32x32 are going to be banned of our dioramas. This just states that the elements that anyone wants to integrate in our dioramas must have some way to connect its sides to our 32x32 modules. And this doesn't apply to all the non **MILS** elements, just to those that will be in contact with our **MILS** modules. Furthermore, there is no need for all the elements of the diorama to be 32x32 or multiples of this measure. This restriction is applied only on the sides where the elements of different builders are connected.

+ Concept of applicability: Every diorama built under **MILS** rules can be composed of **MILS** modules and non **MILS** modules. The minimum requirement under these rules are that any elements that will serve to connect modules from different builders should follow the **MILS** rules, in order to ensure the proper connection of the different parts. Elements that are not going to be in contact with those of other builders can be built according to the criteria of each participant.

MILS Identificadores / Corner identifiers



Legotron HispaBrick Magazine Jetro

The next step in the description of **MILS** rules is about the definition of the specific elements that are in agreement with the **MILS** rules:

● BTU modules (Basic Terrain Unit), with a fixed size of 32x32 studs.

○ BTM (Basic Terrain Module). These are 32x32 modules with all 4 sides compatible with the **MILS** rules system, so that they can be oriented in any direction in the same place without breaking the continuity of the adjacent elements or modules. For example, a green module inside a meadow, or a water module in the middle of the sea. They are not intended to be a mere plain modules, they can have many constructions on them, unless those features require a counterpart in the other side of an adjacent module, like a road or railway.

○ CTM modules (compatible terrain module). These are 32x32 modules that are built with at least one of their sides compatible with **MILS** rules. They cannot be freely oriented because they affect the coherence of adjacent modules or they contain a feature that surpasses the size of the module. For example, a module with a seashore, a mountain that is larger than 32x32 studs, a road or a railway

● TTU modules (Transition Terrain Unit): of variable size.

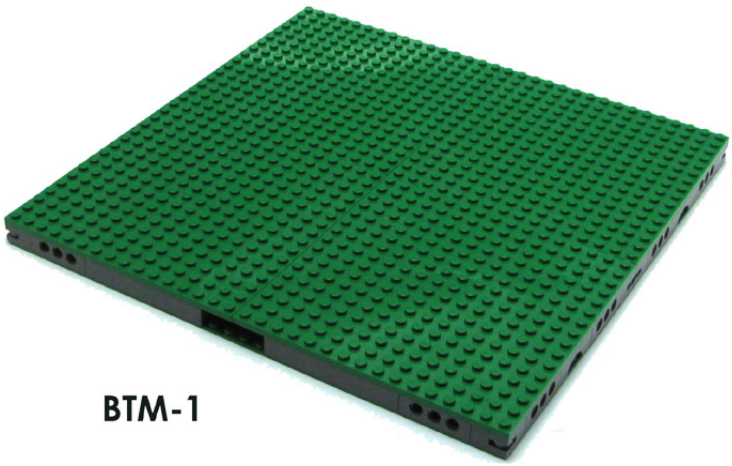
○ The TTMs (Transition Terrain Module) are modules of different sizes that can be used to connect BTM modules with other modules that do not follow MILS rules. For example, you can use 6 16x8 baseplates to connect 3 **MILS** modules with 2 48x48 baseplates of 4 bricks height.

In this first instalment of the articles about MILS rules we will focus on defining the BTM module. All the other **MILS** modules will be reviewed in later articles that will appear in future issues of HispaBrick Magazine®.

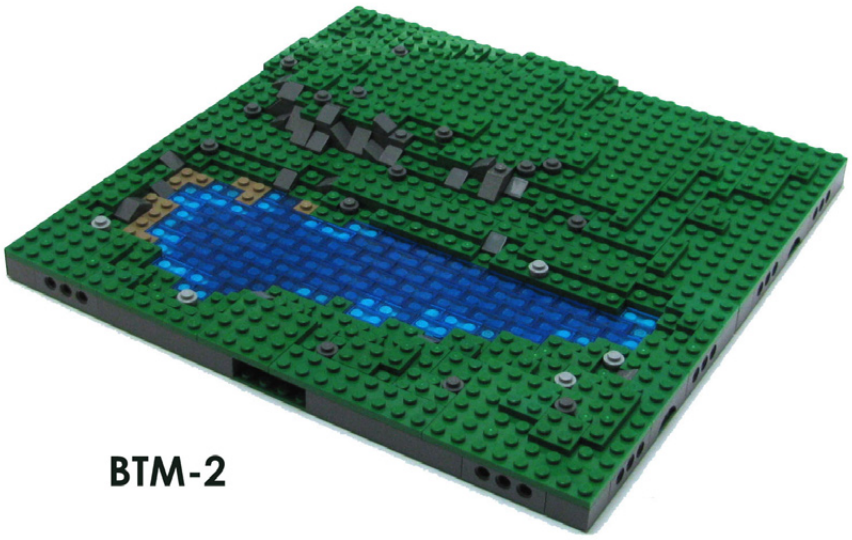
The BTM module (Basic Terrain Module).

As has been commented above, the size of a BTM module is 32x32 studs and all its 4 sides are compatible with the **MILS** rules. The BTM is built on baseplates and has a height of 4 plates. To achieve the 32x32 studs size any combination of baseplates can be used, for example one 32x32 baseplate, two 16x32 baseplates or eight 16x8 baseplates. The 4 outer sides of the BTM can be made of any combination of bricks, but each corner is required to have 2 studs free on each side to put a piece, and next to this a 1x4 technic brick on either side. The rest of the side can be completed as the builder wants. One of the reasons why this part is used in the corner is to identify the owner of the BTM, so its design and colours can identify the owner in a simple way. The technic bricks can be used to connect all the modules with adjacent MILS sides, to prevent shifting. The remaining elements of the side of a BTM module can be built as the builder wants. To cover all these parts it is recommended to use big plates, as that is the buildable surface of the BTM module. The height of a simple BTM is of one baseplate plus 4 plates, and this will be the reference height on the sides of the module. However **MILS** rules allow for any unevenness on a side that is within the range of one plate height. Hence, any element of the diorama that is positioned on just a baseplate may be raised to the height of the BTM simply by placing it over a group of pieces that have a height of 3 plates plus 1 tile.

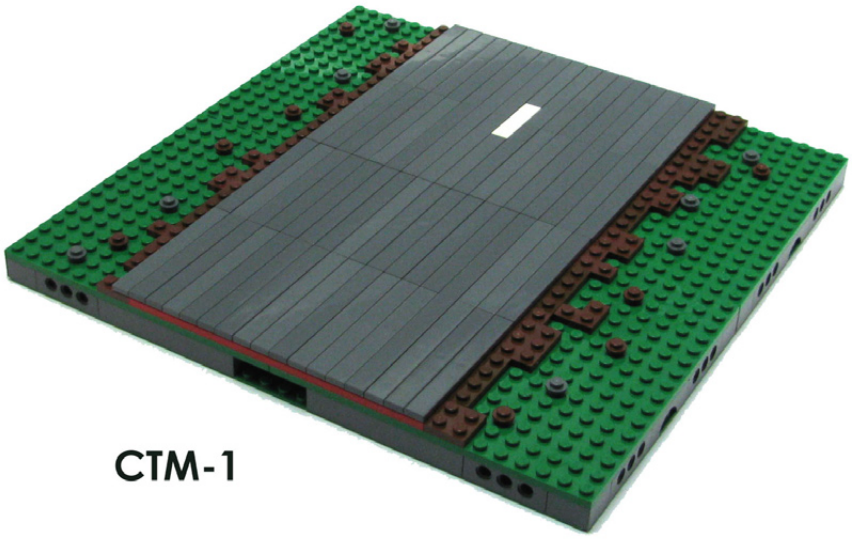
The BTM module is a very simple element without any kind of construction on its surface. It can be built with many features as any other module, but it has always to be kept in mind that a BTM module must be able to be oriented in any direction without affecting other adjacent modules. We assume that in the previous planning of any diorama the permanent elements of the terrain, like valleys, hills, rivers, roads, mountains, shore and so on will be taken into account. Other features such as trees, fences, minifgs, vegetation, etc. that can be added after



BTM-1



BTM-2



CTM-1

the planning are not considered part of the BTM. As was said before, any permanent feature built on the BTM module must be made in a way that it will never constrain the free orientation of the module or exceed the size of the module. For example, a stretch of river isn't suitable to be part of a BTM module, because the river needs some kind of continuity in both sides of the river extreme on each module. A BTM module can be as simple as a plain surface, built with plates. But it can also be a BTM with small lagoons, buildings, rocks, a trench or whatever that can fit on a 32x32 surface.

As you can see, a BTM can be used as joining elements between modules or elements of different builders, but another of the important functions of BTM modules is to provide builders of the diorama with some extra elements, in order to be used under exceptional circumstances to cover empty gaps or replace forgotten elements. Evidently BTM modules are not expected to be part of large features like mountains or cliffs, those will be covered by the CTM modules. But they can be used to be placed in the gap between mountains, or to build great plains. The way to use a BTM in a diorama depends on the skill of the builder. A talented builder will be able to build a very nice BTM module and have a perfect compliance with the **MILS** rules at the same time. Although we are talking about "green" elements, everything stated before can be applied to desert terrains, artic lands or city dioramas. Although a BTM may sound like a simple element and, apparently devoid of any construction, it can be as complicated as any other element. The only limitation is that it should be possible to place it in any of its four orientations without disrupting the continuity of the display.

With a few BTM modules we have a good starting point to move on to CTMs, but that is a matter for the next issue.
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LDraw Tutorial Part 12

Managing MILS with BlueBrick

by Jetro

In HispaBrick Magazine® 005 I presented BlueBrick, a visual management application for layouts and displays that can be very useful for teamwork on displays for events. Since the collaborative concept of MILS has been presented in this issue I will dedicate this part of the LDraw tutorial to show you how to use BlueBrick to organise collaborative displays with MILS.

Why BlueBrick?

The concept of MILS serves two purposes:

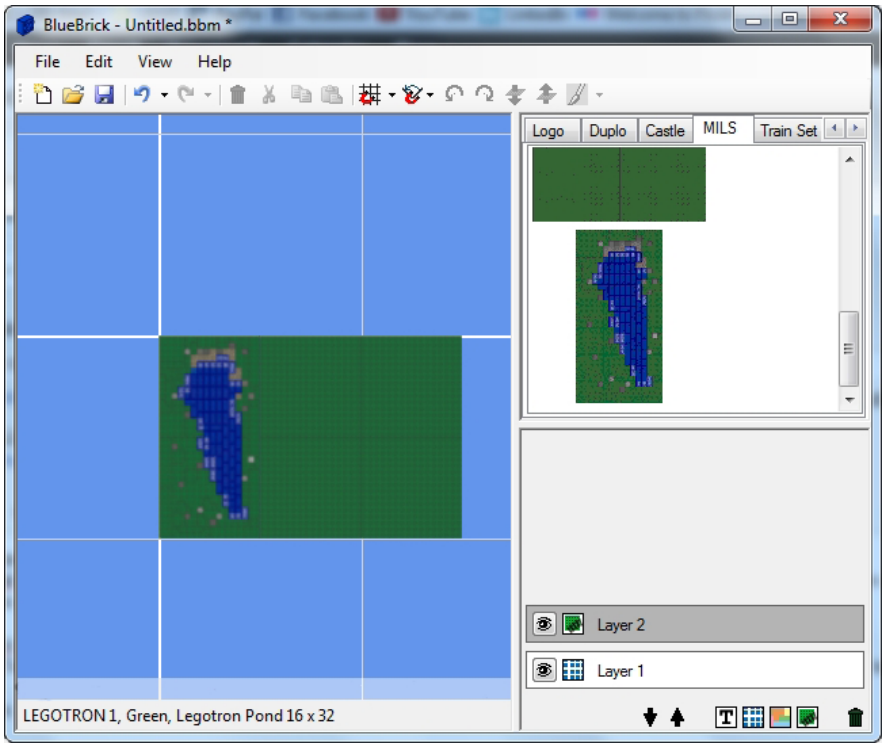
1) it is modular, which means it can be built in different sizes and configurations
2) it makes collaborating easier; otherwise there would be no need for a common standard.

This means that a display created with the aid of MILS can be easily adapted to the available space and allows for the collaboration of several people in a single display. Using BlueBrick, this collaboration can be planned easily, without the need of a physical meeting of everyone involved.

Creating MILS for BlueBrick

Let's start with the simplest module: a flat BTM[1] Since the top view of a BTM is identical to a 32x32 baseplate we can use the existing image from BlueBrick to create our first BTM.

If you don't have the program installed you can download it from the BlueBrick website[2] The program doesn't require any installation as it runs from the same folder you extract it in [3]. To simplify matters, in this tutorial all file locations will be indicated starting from the "BlueBrick" folder.
The elements contained in the BlueBrick parts library are located under \BlueBrick\parts. You will see there are a number of folders inside this folder for each type of element (for example \BlueBrick\parts\Baseplate). These folders determine the names and number of tabs that appear in the BlueBrick parts panel in the top right corner of the BlueBrick window. Since in this tutorial we will be creating a new type of element we should start by creating a new folder called MILS (\BlueBrick\parts\MILS - the folder will show up as a tab the next time you start BlueBrick). From the folder \BlueBrick\parts\Baseplate we will copy the files 3811.2.gif and 3811.2.xml and paste them into the folder \BlueBrick\parts\MILS you created previously. Since the file will be used for a Basic Terrain Module, we will rename them to BTM.2.gif and BTM.2.xml respectively[4].
Next we will modify the XML file that is associated with the image. In order to modify the XML file you need to open it in a text editor like Notepad (in windows you can do so by right clicking on the file and choosing one of the programs from the "open with" entry in the contextual menu that appears). You will notice the file contains the name of the element/module. Between the tags <Description></Description> there are two



pairs of language tags. For now only the tags <en> for English and <fr> for French are available. If you wish to prepare your file for possible future translations you can add a language pair, e.g. <es></es> for Spanish. The text between these tags is the name that is shown in the bottom bar of BlueBrick when you place the cursor over the miniature of the element in the MILS tab of BlueBrick. Change the text between both pairs of tags to BTM.
The information that appears further down in the XML file is specific to remapping the file for Track Designer (TD). Since TD does not have and BTUs, but the shape and colour of this one is identical to a 32x32 baseplate we can leave the information as is for better compatibility.

Creating a personalised module

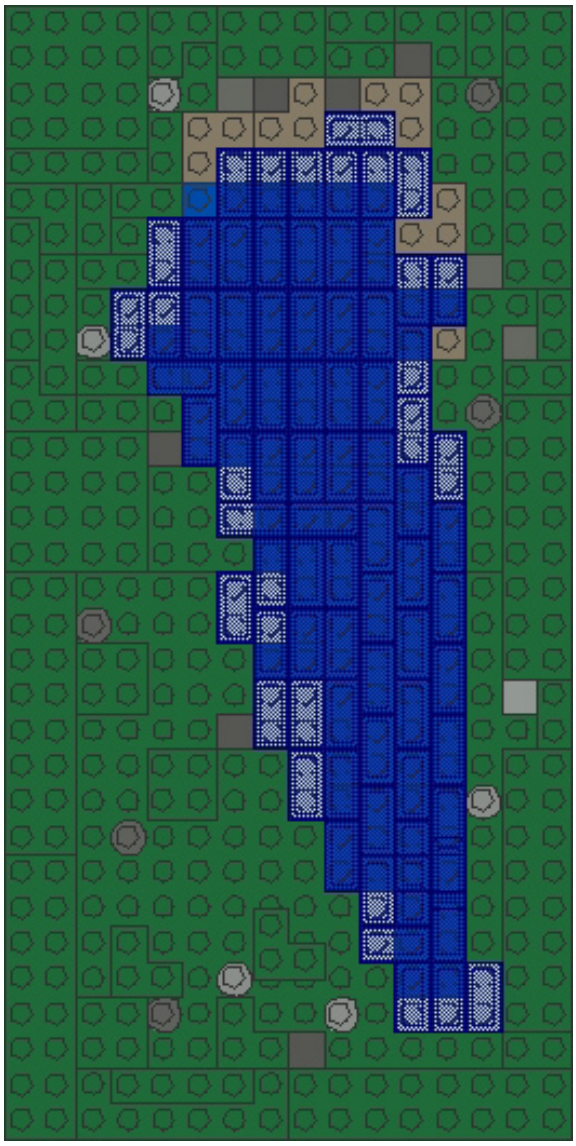
The next step is to create a representation of one of your own modules. Among the images shown in the MILS article there is one with a pond. How can we make this module available in BlueBrick? There are different ways of doing this and for this tutorial I will describe only one that has given me good results.
The first step is to recreate a top view of the module in an LDraw editor (MLCad, LeoCAD,LDCad, Bricksmith...). For this tutorial I recreated the module in MLCad. Since we need a top view with minimal distortion and neutral lighting, a simple method of obtaining one is to make a screen capture of the top view directly from MLCad. To this end, maximize the MLCad window and make the top view take up the biggest area you can. Next open the context menu (right click) and select the zoom level “fit” to see the module as big as possible in this windows size.
Pressing the “Prnt Scr” button you take a screen capture from which you will have to cut out the module. To this end I have used the free image editor GIMP which has a GNU license. Open a new file in GIMP with a size that is equal or bigger than your screen resolution. Now paste the screen capture you made into the file (Ctrl+V or Edit > Paste). Next choose the rectangle select tool (top left in the left floating panel) and roughly select the module, making sure there is only white around it. Under the menu “Image” you will find three very useful tools we will use now. The first one is “Crop to selection” which will leave only the area you selected previously. Now that you only have white borders around the image you can use the option “Autocrop Image” which will automatically eliminate this white border. Finally you will need to adjust the size of the image to the size BlueBrick needs: the image should be 8 pixels for each stud in width or length. In the case of a 32x32 baseplate the image size should be (8x32) 256x256. You can do this with the option “Scale image...”. Now you need to change the image to GIF format. You can do this from File > Save as and selecting the file type you need.
What’s left is creating the corresponding XML file. Just like we did for the BTM above, it is convenient to look for an existing element that is as similar in size as possible and use a copy for the module we have just created. After that you need to follow the same steps as for the BTM described above. In order to make it easier to work as a group it would be convenient to use a module name that identifies its author as a first element of that name. Since BlueBrick shows elements in alphabetical order, this way you make sure that all modules from the same author are grouped together.
This is as far as the MILS article went and so this is where I finish this part of the LDraw tutorial. In the next issue I will continue explaining how to adapt what is explained in the MILS article to managing modules with BlueBrick.

[1] The following example is a simple way to create a BTM from an existing element. You can download a BTM specifically created for the MILS group (image and XML file) from the HispaBrick Magazine® website.

[2] http://bluebrick.lswproject.com/

[3] The most recent version of BlueBrick at the time of writing this article is 1.7.1. This version includes some changes with respect to earlier versions to make it fully compatible with Mono and so be able to use the program under Linux as well as Windows. If you have an earlier version it is highly recommended to update to the latest version to make sure all elements are fully compatible.

[4] BlueBrick extracts information about an element from different places. The colour of the element is indicated in the name of the file. A 32x32 baseplate (BL code 3811) has an element name plus a suffix to indicate its colour (both in the GIF and the XML). In this way a blue 32x32 baseplate would be named 3811.1, a green one 3811.2 and a tan one 3811.19. The colour code corresponds to the LDraw colour numbering. To distinguish a green BTM (for a field) from a white one (for snow) this suffix can also be used in the names for these elements.
#



LEGOWORLD Copenhagen 2012

A different event

By Otum

From February 16 to 19, LEGOWorld was held in Copenhagen, Denmark, and HispaBrick Magazine® was represented by yours truly. As the title indicates, this is a different event from the perspective of an AFOL.

The event took place in the Bella centre, a kind of convention centre in the outskirts of Copenhagen, during a holiday week for much of Denmark, so there were lots of visitors. As I mentioned earlier, this is a different event to what I am used to visiting and seeing. LEGOWorld is dedicated 90% to children, the visitors, unlike most events an AFOL may visit. There is an AFOL area, where they can display their creations and which I will mention later on, but first let's have a look at what other things you can find at LEGOWorld.

The first thing to draw my attention is the size of the event - the convention centre where it takes place is completely filled up and divided into different areas, like an enormous LEGO® Store situated near the entrance, a clear example of the success LEGO has in Northern European countries.

It should be said that the purpose of the event is to show the different existing LEGO themes to kids and what better way than to do so with games and activities they can participate in. The space is divided with this idea in mind and so the first thing to comment on is the DULPO area, where parent can leave their children surrounded by DUPLO blocks so they can play and build as they like, the dream of any AFOL... Next to the DUPLO area two things stand out: a small area with display cases showing visitors a bit of the history of LEGO by means of an exhibition of sets that show how the toy has changed over the decades, and next to those something impossible to overlook, the mythical 8880 in real life size!!!!!!! Simply incredible. In this area there are two stands for kids who don't

play with DUPLO, a train on a small oval track for kids to ride and see official sets displayed along the ride and another more interactive activity, boxes full of white 2x4 bricks in which 3 Gold bricks were hidden - the finder was eligible for a prize.

Continuing towards the main exhibition area there were stands with creations from kids who are members of the LEGO® Club, followed by a construction of a zoo with animals in show cases - tigers, monkeys, snakes etc. - made with bricks as well as a central area where kids could play with bricks and let their imagination go wild.

The main exhibition area, filling most of the hall, was dedicated to interactive play, except for a small area destined to showing how bricks are made and where with the help of a small moulding machine the injection process was shown explained. Another area that was more informative than interactive was the one dedicated to the LEGOLAND parks, where the new attraction of LEGOLAND Billund was shown, a polar area with a roller-coaster and an aquarium with polar animals among other things. The stand had a track with cars to give the little ones a taste of what the LEGOLAND park is like.

Along the hall there were different areas to display the creations of the kids who built something with the ever present bricks. Special mention should be made of the area dedicated to the new Friends theme, which was full of people and would confirm the current success of the theme. Another outstanding area was the so called Intel area, dedicated to technologies that interact with LEGO without being MINDSTORMS which was the next stand. The Intel area had things like activities where kids could interact with digital characters or a screen that showed a 3D image of a set if you simply held the corresponding box in front of it. As I said, next was the MINDSTORMS area, full of tables with circuits for bots to complete their tasks on, including a small ring for robot fights which were the delight of many.

The Star Wars™ area had a small stage where anyone brave enough could fight a Jedi with a light sabre. Children could also build any spaceship they liked and display it for others to enjoy. Especially attractive were the Maxifigs of Star Wars™ characters built with LEGO bricks.

The Ninjago area made up of small combat areas where visitors could participate in a tournament while enjoying the official sets displayed in cases. The same went for the LEGO Games section. Between these two areas there was a space for the little ones who wanted to dress up as a princess and show off their dresses on the catwalk. In the Technic area there were large reproductions of two well-known LEGO sets, one of them the 7249 crane and the other a life sized model of the Ferrari 8674 for kids to get their picture taken in. Next to Technic an area dedicated to the new Dino theme, showing the new sets in this range.

I've left the City area for last on purpose as, to me, it contained the largest number of interesting things. It was made up of two sections, one for presenting the new sets for the first half of this year, mainly the forest theme, but the real treasure was hidden in a small display that contained City sets from the last couple of years as well as some surprises, like the new hospital (4429) which is expected to be released this summer. Another treasure trove was the mining scene that showed more sets for the second half of 2012, but more interesting still, the display contained what in all likelihood will be the new parking (4207)!!!!

I'd like to mention a few more things before concluding the part dedicated more to the visitors than to the exhibitors. In the first place there was a spectacular reproduction of a fire truck, almost life-sized, that the kids had to disassemble, and finally the presence of the LEGO Charity programme, which has activities in many places all over the globe. And finally... we can have a look at the Fan hall, the area dedicated to AFOLs.

The Fan zone was located in a hall next to the main hall and contained a central display with several other displays surrounding it. The central display was contained mainly City

elements, with the always spectacular hanging bridge that has been displayed in several events and many small scenes from other themes that were integrated in the main display, giving the whole an added interest.
The constructions around the central display were very diverse, starting with a series of constructions dedicated to Star Wars™, an excellent Naboo battle scene, as well as the entire palace buildings with hangars and flying ships included. Next to that was a reproduction of Westminster Abbey with interiors and lots and lots of minifigs. Then of course there was the LEGOLAND scale display which showed the most famous cars from the history of cinema, like ECTO I, the A-Team van and a long list of other vehicles, as well as a train in the same LEGOLAND scale.

Another two displays were dedicated to Power Functions, the first of which represented a harbour with cranes for loading and unloading ships in a size somewhat bigger than the typical minifig scale and with lots of moving functions. The second display showed a space shuttle that could be controlled by means of a joystick and make any manoeuvre short of actually flying. Since we are talking about movement, I shouldn't fail to mention a curious display that contained 9V rails on two levels on which a continuous flow of 9V and RC trains from official LEGO® sets circulated. Of course there was also a GBC display, addictive and hypnotising as ever and with a significant and interesting variation. In order to have a longer circuit and to make better use of the available space, the designers chose to make mini circuits inside the main loop so each stretch of display was made up of a zig zag of different modules.

The central mega display consisted of two areas that were connected by the bridge I already mentioned. The first linear area, split into two parallel blocks with a central corridor for the exhibitors. Starting with the exterior one, the display started off with a Far West scene with an enormous mountain that housed an Indian village. It was followed by a typical Far West village, including dancers in Can-cans. After that there was a hotel complex with pool with moving water!!! that connected to

a reproduction of the harbour of Copenhagen with a beautiful three-master. The block was finished by a display containing a train station with a very detailed interior.

Looking at the first part of the central display, but in the interior, the first thing you come across is a Pirates fortress, Treasure Island and Jack Sparrow included. On the coast of this display there was a typical port city of the time. From here it went on to an area representing the Danish countryside and a typical coastal village. Finally, and before arriving at the bridge there

were modular houses, including the Town Hall, in a City display that ended in a building the shape of two consecutive waves and a waste recycling plant.

After crossing the bridge there is a mountainous area which on the interior side shows typical mountain scene, with cabins and ... a hidden alien base!! On the exterior side there is another typical mountain scene with a ski station and ski lift. Following the exterior and bordering the mountain you reach an incredible scene of the square of a city with constructions that look like modular buildings and a little tramway that travels around the square. This beautiful square gives way to an apartment building that connects to a display that represents an East Asian rural area. To finish off, this part has a medieval display, consisting in a walled city under siege with a coastal scene and Rapunzel and her hair waiting for prince charming.

Following the block in the interior, after the mountains topped by a beautiful castle the first thing you see is a small village followed by a group of houses that again remind you of the modular buildings, but with less height and a railway platform. On the outskirts of the houses there is a semi-futuristic police station, which is followed by a fun area. In this part there are a number of attractions, like bumper cars with movement, but what really draws attention is the mega concert reproduced in bricks with a large camping site for the festival goers, a shopping area, music and a large and interesting curved stage. This beautiful creation gives way to the last reproduction, the Viking museum in Copenhagen, including reproductions of several ships.

Finally a few more things from the AFOL area. First off there was the interior of a two floor house with furniture and electrical appliances all made of bricks, as well as small reproductions of a minifig head, C3-PO and

R2-D2. There was also a presentation of the new LEGO® CUUSOO MineCraft set, and a fun activity, namely a contest in which you had to align the largest possible number of green minifigs in a limited time and then make them fall like dominoes - the winner was the one getting the longest domino effect.

In short, a different event, more geared towards children than what AFOLs are used to, but nevertheless highly recommendable if you have the chance to visit.
#

Mobile World Congress

SOCIAL WEB OF THINGS

Collaboration with Ericsson and LEGO® System A/S

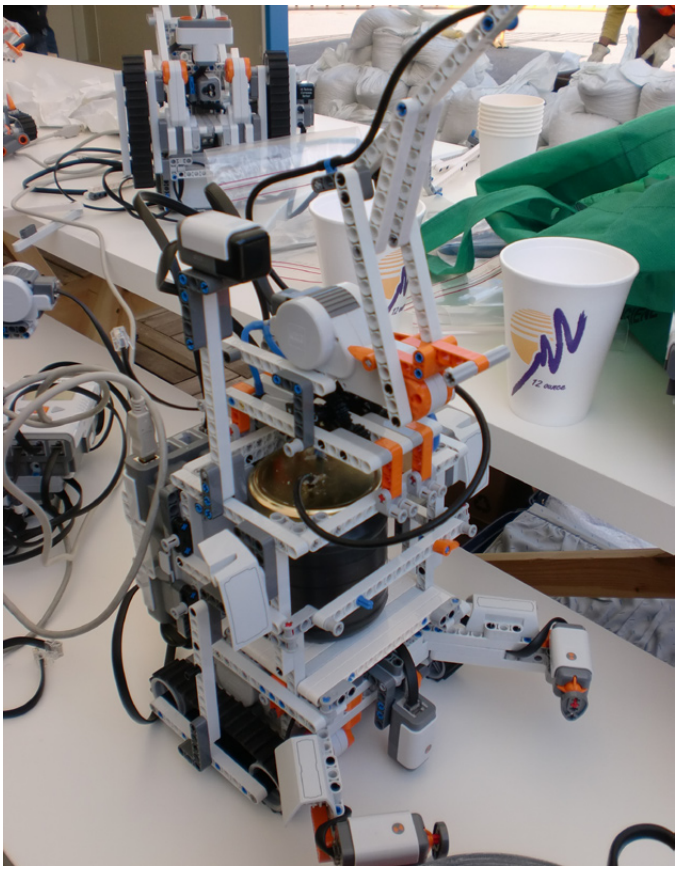
By lluisgib

In the near future everything that benefits from being connected will be connected. This is Ericsson's vision of the Networked Society.
The SOCIAL WEB OF THINGS *is like a social network where our connected products and services meet, talk and collaborate. By intuitively interacting with us and each other they provide context and meaning to a 'network of everything' and make life simpler, more practical and fun for us humans. Ericsson and LEGO® MINDSTORMS® have partnered up to show a few examples to tickle your imagination. Enjoy!*

From February 27 till March 1 the Mobile World Congress, the most important congress concerning mobile phone technology and connectivity in the world, took place in Barcelona. HispaBrick Magazine® was invited to collaborate in an activity named SOCIAL WEB OF THINGS.

In December I received a rather cryptic email message requesting collaboration for the Mobile World Congress in Barcelona. It mentioned building "something" and LEGO® needed a local LUG to help build it up. No further information was given. After consulting my fellow club members we decided to accept the proposal, disregarding the doubts we might have.

Until January 10 we didn't start to receive any information about what was going on. There would be a collaboration with a large telecommunications company involving a display with LEGO robots and decoration. I started looking for AFOLs who were interested in participating, both during the weekend for set-up and during the week for maintenance and supervision.



A few days later it became apparent that it wasn't feasible to build the decoration with LEGO® elements. Initially the idea was to build a cabin, trees, pots, and other elements with LEGO bricks, but it was going to be difficult to get so many pieces and we wouldn't have enough time to build all these elements so the idea was discarded.

On the other hand there were the robots and with little more than a month to go we knew next to nothing about what needed to be built. Until one day we got an email from Marcus and Borbála, from Ericsson, who put us up to speed about what they wanted to do. We needed to design 4 robots to carry out specific tasks in order to show the concept of the SOCIAL WEB OF THINGS:

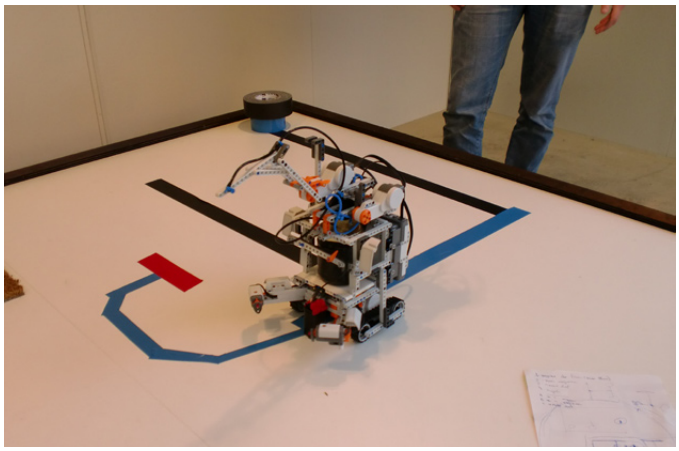
- A coffee cup collecting robot
- A robot to water plants
- A robot to pick up a newspaper
- A robot to sort dirty laundry

These robots not only had to carry out the above mentioned tasks but maintain a Bluetooth connection for interaction. They needed to be able to receive information for their next action and relay information about their status in order to show how robots can help us in our daily life.

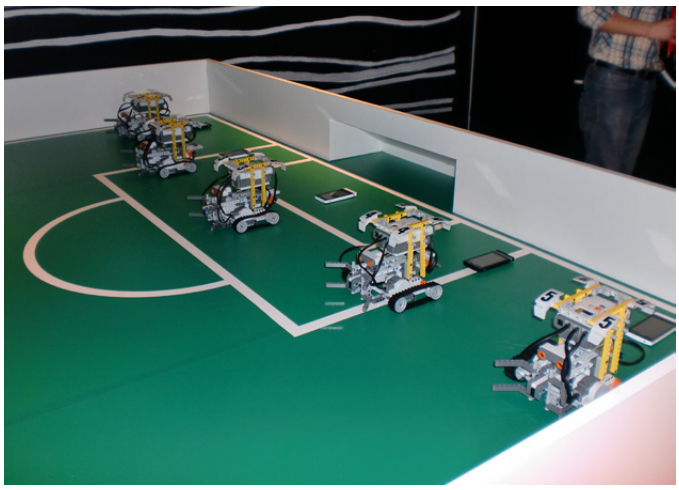
In addition to these robots we needed to design another 10 (identical) robots for the social event that would take place on the night of Tuesday 28 at the Ericsson stand where employees and guests of Ericsson were to have an entertaining night. These robots should allow them to play a game of soccer, controlling them with mobile phones.

At this point we knew what had to be done and had to assign the work. Jetro and Koldo took care of the 4 robots that carried out domestic activities. I took care of the soccer bots. Of course the whole project had to be kept a secret, so we had to keep it in a small circle to make as little "noise " as possible.

Jetro and Koldo developed the robots starting from the Snatcher bot created by Laurens Valk, although the only element that was not altered was the mechanism of the pick-up arm and the tread construction as the rest was modified to add one or two colour sensors and make some other changes that required quite a bit of trial and error. It would have been difficult to make such a spectacular looking robot without using Laurens' robot as a starting point (by kind permission), but even so it took the better part of three weeks to develop four versions for the different tasks.



The soccer bots were rather easier to make. The main problem in this case was my (very) limited experience with MINDSTORMS. I started with a base Koldo designed and added a mechanism that allowed the robot to kick the ball. But after some modifications I wasn't satisfied. I took it apart and started again. This time I started with the mechanism for kicking the ball and built the robot around it. When I reached a version I was happy with I improved the 'kicking' mechanism and was ready (although Koldo had to reinforce the base during the event as it turned out to be a little weak. It goes with the territory...). Once I had the model I could start building 'clones'. Since my goal was to build the robot with the parts contained in a single NXT set, I only needed to gather the required parts from the remaining 11 NXT sets and build the robots (5 robots for each team and two spares). It took me the better part of a Saturday to build them. I used some coloured liftarms to be able to distinguish the teams.



Having built the robots and sorted out the mechanical part, what was left was programming. In this regard, a few days before the event Marcus told us he had prepared a Java application that used Bluetooth to hook up the robots with another app on the PC Koldo had to go through his agenda and contacted with some students from La Salle Barcelona

who have participated as referees in the FIRST LEGO® League and who had experience with Java. Santi and Sergi helped out during the week leading up to the event and spent the Friday prior to opening working with Marcus on the programming.

That weekend was the time for set-up. Gemma, Jose and Vicente were added to the team together with Koldo who had arrived the previous evening and Jetro who flew in that very morning. On the Friday the LEGO team had arrived, made up of Steven Canvin, Myra Lind and Marie Kjaer Buhl from Billund and Jenn Wagner from Canada and we met up on Saturday morning at the entrance to the fair.

We were still behind on the programming. Much of that had been done in RobotC and needed to be re-done in Java so it took some time to get everything ready. A couple of Santi and Sergi's friends, also students at La Salle Barcelona, came to lend them a hand. Marti, Xavier, Eloi, Sandra and Xavier. Thanks to their dedication and the many hours of work they put in during the week-end, on Sunday night all the robots were perfectly ready to start the show. It wasn't easy. We had problems with the ambient light and the colour sensors (the display was outside). We also experienced a curious effect with the ultrasound sensors. It turned out the material the socks were made of absorbed the ultrasound and they were not detected. So we put the socks in plastic bags and partially solved the problem. In the end the robot was not 100% ready and worked in "free" mode during the rest of the week, while the rest of the robots worked perfectly all week long.

Come Monday the event started and there were some changes in the HispaBrick Magazine® team. Jetro, Jose and Vicente had to go back home for work. In exchange for them, Victor came and spent the rest of the weak with us, together with Koldo. Gemma and I also had to work, but could combine it with the event. It was very tiring but worth the effort.

During the four days of the event the robots were on 10 hours every day without any breakages or degradation of their components. The carried out their tasks perfectly and complemented the explanations Marcus gave concerning the SOCIAL WEB OF THINGS. You can see a video of the robots in action on the YouTube channel of HispaBrick Magazine (http://www.youtube.com/user/HispaBrickMagazine).

On Monday night we had the opportunity to test the soccer bots. Ericsson had built a 2.5 by 4 meter football field for matches of 5 against 5. Sony provided 10 Xperia S phones (which had not been officially presented) to serve as controllers for the bots using the MINDdroid app. Although we were in a remote corner using only half the field, the trials generated a lot of interest from the Ericsson employees who were having dinner in the same building.

On Tuesday, during Ericsson's official Social Event we officially presented the robots. 10 robots, 10 mobile phones, many guests and lots of fun. We had 4 hours of continuous matches and a couple of Sumo fights, but in a very relaxed and friendly atmosphere. Many people were surprised the robots were made with LEGO and even asked if the LEGO robotics set was available for sale. The matches were refereed by Steven and me.

In the meanwhile, Jenn and Marie were doing another activity with LEGO bricks. They were building a coloured QR code with the help of the guests. All who participated were asked to leave a business card and entered into a raffle of a MINDSTORMS NXT set.

On Thursday afternoon at 4 o'clock the Mobile World Congress ended. Marcus, Myra, Marie, Steven and me put the robots in boxes and I took them home in order to pack them very carefully and send them to the Ericsson Customer Center in Stockholm. There they will get a permanent place and continue to demonstrate the SOCIAL WEB OF THINGS. The football field will also go to Stockholm and Marcus has promised to organise some great matches with colleagues and customers, although in view of Marcus' playing style he'll start off with a cautionary yellow card... ;)

Everything I have told so far has only made reference to the event, the robots, the programming... but I'd like to highlight above all the great level of team spirit and commitment that all involved in this "special" event have shown. The relationship with the LEGO employees has been excellent and Marcus, as representative of Ericsson, has been a great partner. The students from la Salle BCN were totally committed (and on Sunday they would not leave before everything was in perfect order. They took is as a personal challenge). And although I know the members of HispaBrick Magazine, they have once again shown they can be counted on for just about anything.

It is a pity we have not been able there all at the same time for a family picture. In any case, I'd like to thank each and every one who has been involved in this project:

- Steven Canvin, Jenn Wagner, Myra Lind and Marie Kjaer Buhl of LEGO System A/S
- Marcus Gardman and Borbála Székely of Ericsson
- Eloi Garrido, Martí Salvador, Santi Ortega, Xavier Bassols, Xavi Benavides, Sandra Fernández, and Sergi Perdices of La Salle Barcelona
- Koldo Olaskoaga, Jetro de Château, Gemma Nin, Victor J. Buforn, Jose Manuel Ruiz and Vicente Lis of HispaBrick Magazine.

Thank you for making this event something special and for making things so easy when at times they seemed near impossible.
#

Japan Weekend 2012

By HispaBrick Magazine®

Once again HispaBrick Magazine has been present at the Japan Weekend held in Barcelona from 9 to 11 March. In our booth attendees were treated to the latest news from:

Star Wars™: including the latest batch of fighters, 9493 X-Wing, 9495 Y-Wing, 9492 Tie Fighter, 9494 Jedi Interceptor,...

CITY: With the 4438 Robbers' Hideout (bear included), and the latest modular building (10224 Town Hall)

Super Heroes: Batman, Superman, Wonder Woman, ...

SpongeBob: 3818 Bikini Bottom Undersea Party, 3817 The Flying Dutchman...

Friends: Presentation of the theme that will be available (in Spain) starting next May, including the live building of 3315 Olivia's House and other complementary sets.

Visitors were also able to see line-ups (from micro scale to UCS) of some of the most important Star Wars ships (Millennium Falcon, SSD, X-Wing, Y-Wing, Snow Speeder,...)

and take pictures with cartoon characters built by car_mp. They could take home, or build there, the 30024 and 30026 minisets.

The atmosphere was similar to previous years, with the presence of a large number of shops selling products of Japanese culture, various activities and the attendance of many young people dressed up as their favorite characters from Manga and Anime series. Six AFOLs from our community travelled to L'Hospitalet for the event, to share our hobby, some laughs and Japanese food ... of course.

On the right you can a see a picture that the artist Timoneda has dedicated to us (http://www.timoneda.es/)

Many thanks to LEGO® Iberia and LEGO System A/S for their assistance in this event.
#

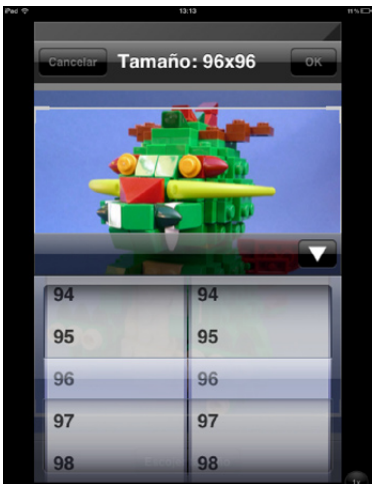
Photobricks

By car_mp

A few months ago HispaBrick Magazine® was invited to try a new software for making mosaics, available for iPhone/ iPod through the official app store. Since we have found the application to be interesting and considering that it is free, we have decided to tell you a little about it in case you are interested.

The application is called Photobricks and has been developed by Andrés González. There is a Mac version that can also be downloaded from the Apple App Store, and according to the developer it is more powerful and complete, but we will test the mobile version. Tests have been performed with V1.2 on an IPhone 4 and an iPad 2.

After downloading the application, the program offers the option of working from a photo from our library or to take a photo with the camera. After selecting the photo, we can choose the mosaic size from 10x10 to 200x200 studs. This shows that its use is limited to domestic mosaics. Large scale mosaics for events or exhibitions require the use of other programs, or if we are patient, we could divide the photo and transform it in parts.



Having chosen the size, you can select the part of the photo we want to transform in a mosaic using a frame with a grid inside that helps you to select the area of interest. Once you press OK you can see the result of the transformation.

In this new screen, you can choose from a series of tools to make changes in the mosaic. The first allows you to select again the size and the work area. The second allows you to locate the plates. Double-clicking on each piece gives you row, column, color and type of the plate that you are selecting. The third allows you to manually change the color of the plates that you deem necessary. While using these three tools you can zoom in on the mosaic with the typical finger gesture for the iPhone.

The fourth and final tool takes you to an information screen where you can see the colors the program is using and the inventory of plates required for the mosaic, along with more general information (name, date, ...). All the changes in the colors are automatically reflected in the mosaic.

Inside the inventory of plates, you can able to export the list of parts required in various formats, among which is one that is compatible with Bricklink ...

Once you are done, you return to the initial screen where your mosaic will now appear ready to be shared on social networks or exported as a photograph.

Finally we should indicate that in Settings/Photobricks, you can select the initial settings of the application, for example, the colors, sizes of plates you want to use or the mosaic size by default, etc ...

These settings are very useful if you want to limit the palette to the easiest to find, or to the colors you have available. It also allows you to limit the parts to 1x1 plates or allow larger plates, which allows you to economize on parts.

Personal opinion

The application is simple to use and configure, and the results are good considering the hardware you are working with: it is just a mobile device.

I miss a “black and white” mode. Right now you have to manually remove all the colors but white, black and different grays from the color selection to get it.

The program transforms some colors, when you are working with shades and dark tones, into colors that do not seem to correspond exactly with the original colors, but the visual result is still good.

Despite this small criticisms we must note that this is a fun and useful tool for mosaics, and a free high quality software that is free of advertising (at least so far) and we recommend it without reservation.

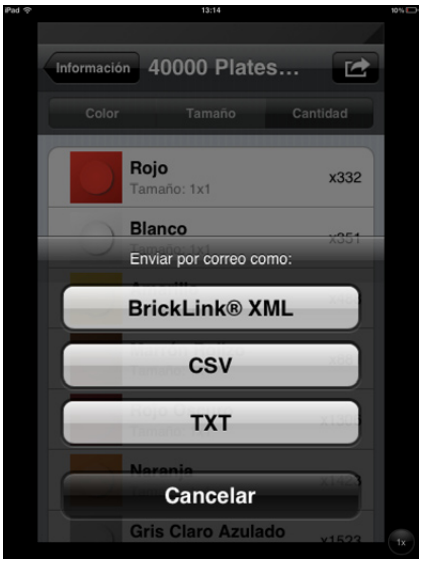
The creative team has been kind enough to answer some quick questions to give you a little more information about the application.

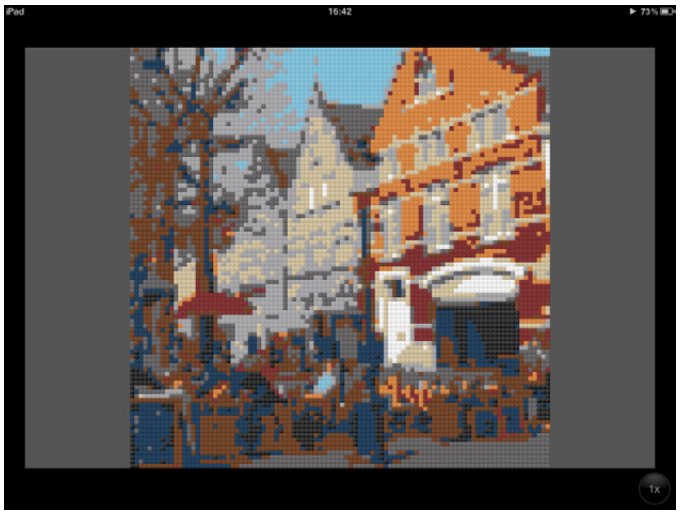
HBM: How did the idea of the application come up?

PB: The Potobricks team consists of individuals who are passionate about art and great fans of LEGO®, if we add their interest and experience in programming, Photobricks has been the natural and inevitable result of these interests.

HBM: How many people and hours have been dedicated to its development?

PB: The development of Photobricks had several stages. Initially we drew the interface with pencil and paper. Then we





made a computer version of it using illustration software. After creating the interface and discuss the logistics of it, Andrés Gonzalez was in charge of all the technical details, including doing extensive research on LEGO colors and reading up on color theory. Paula Gonzalez worked together with Andrew to create the splendid icons that fit perfectly into the Photobrick interface (both Mac OS X and iOS). Once the application was finished, we already had German and French translators, and while Jacqueline Nasser took care of the Spanish translation, Andrew did the translation into Japanese. In total, it took 9 months of part-time work, but during the last 2 months before release, Paula and Andrés both worked full time including several sleepless nights necessary to adjust the algorithms, fix unexpected bugs and to find the right tone in the colors of the icons for the interface.

HBM: Have you thought of versions for other platforms (Android, Windows, ...)?

PB: Yes, we have that in mind. We would love to reach as many people as possible. However, our current jobs and economic budget do not allow us to create new platforms for Photobricks in the near future.

HBM: In this new business of the mobile applications, why free?

PB: This is a tough one to explain and I can only say that before we started with the application we thought a lot about this issue. Ultimately, we decided that instead of possibly making some € 5000 for a period of time by charging € 1 for every download, it was better to allow access to as many people as possible to what we believe is an ideal application. This was and remains our philosophy and this thought was further strengthened when we got in touch with several of the developers at Apple’s App Store and found that the proportion of paid downloads to free download is much smaller than 1/10 for typical applications.

HBM: What improvements can we expect in future updates?

PB: We have planned many improvements, most of which were suggested by our users. In future versions, we are planning the addition of many interesting features such as support for vertical mosaics, more LEGO colors that are hard to find, synchronization between multiple devices and an improved print function with a design that shows how to create the mosaic.
#

Presentation: NINJAGO 2012

By HispaBrick Magazine®

Set: Destiny's Bounty
Set number: 9446
Number of parts: 684
Minifigs: 6
Recommended retail price in Spain: 69,95€

The 2012 NINJAGO theme presents various changes compared to 2011. The first of these, which can be appreciated at first glance, is the change of the reference colour from red to green. The most significant change we find when we take a closer look at the minifigs of the different sets. The "enemies" of the ninjagos have gone from skeletons to human serpents and other indescribable monsters.

We will present set number 9446. It consists of a Ninja boat which transforms and can fly. Like in most sets, the model is built in different stages. In this case there are 6 numbered bags.

The first of these contains the minifigs and some accessories. On the Ninja side there is Sensei Wu and 2 Ninja warriors (Kendo Zane and Kendo Jay) with new masks and armour. On the side of the bad guys there is Skales, their leader and a snake with human torso. His two warriors are Lord Garmadon (a humanoid with 4 arms and enemy of Sensei Wu) and Slitheraa, a human with a serpent head. The main complement is part of the story line of the theme and consist of a small temple with the powerful golden Hypnobrai (a golden staff with a snake and medallion).

The rest of the bags contain the parts for the ship. The hull is a bit special. The stern is similar to that of a conventional ship. The stem however, is narrower in order to leave space for the engines that allow the ship to fly. If we have a look at the elements from stern to stem, first we find a dragon head that crowns the stern of the ship. A curved slope placed upside down serves as the dragon's mouth.

At the bow there is an anchor and a mechanism to reel it in. Right behind the mast that holds the sails we find the first mechanism of the model. The ship has two sails, one on each side. The sails are folded for normal sailing and turn into wings to let the ship fly. A lever behind the mast acts on the mechanism that allows them to be opened and closed.

In the centre of the ship there is a special container to keep some diamonds and a canon to defend the ship. The stem has some interesting accessories. For starters there is an awning that covers the area of the helm and which protects the crew members from the inclemencies of the weather. By means of a kind of piston, this awning can be moved to the desired position. Also in the rear, there is an arch that has two functions. One is to prevent the awning from falling onto the deck. The other is to support some masts which in turn hold some beautiful 2 x 4 tiles with Japanese motifs that have been printed on! (contrary to the rest of the decoration which is done with stickers).

The engines are placed on either side of the stern and serve to let the ship fly. The "sailing" position is when the engines are hidden. The stylised shape leads you to think that turning them 180º they become jet motors accompanied by aerodynamic elements.

The mission of this set is described on the LEGO web site: "On a dangerous journey aboard Destiny's Bounty, an ancient

shipwreck, Sensei Wu and the ninja have located the powerful golden Hypnobrai staff deep inside of the secret snake shrine. As they land the flying ship in the water to seize the staff, Zane and Jay get a scaly surprise from Hypnobrai General Skales and his accomplice warrior, Slithraa. Sensei Wu fires the ship's cannon into the battle until his ancient enemy, Lord Garmadon, appears. Can Sensei Wu protect the Ninjago treasures onboard without the help of the ninjas? Choose your battle in an epic showdown where the fate of the Ninjago world hangs in the balance! Includes 6 minifigures: Sensei Wu, Kendo Zane, Kendo Jay, Lord Garmadon, Skales and Sli thraa; Destiny's Bounty ninja ship, snake staff shrine, golden Hypnobrai staff and 16 weapons."

The set is very colourful and includes brown, red, black and gold colours and uses interesting building techniques. The minifigs are varied and have many accessories. There are many types of weapons and some, like the daggers, are of an interesting golden colour. There is a limited use of stickers and they do not stand out over the general construction.

Although a priori the NINJAGO theme doesn't appear to be especially oriented toward the AFOLs, this set can be quite interesting for a mecha display, making some modifications. It contains some interesting elements, especially many golden parts, and the minifigs are very nice.

Acknowledgements: LEGO® SYSTEM A/S and Jan Beyer for this set and LEGO Iberia S.A., Joachim Schwidtal and Rosa Seegelken for the official images.
#

Review 9558: Training set

Preparing for combat

By Legotron (A.Bellón)

Set: TRAINING SET
Set number: 9558
Number of parts: 209
Contains: 1 minifg, one spinner and a little deck of combat cards.

This is a new set of the Ninjago line. It depicts a training field for Kai master, dressed in his Kendo gear. The set itself comes with the normal plastics bags, which contain the parts needed to built the training facilities and the minifig of Kai. The set also contains an orange decorated spinner, with a silver spinner crown for master Kai, who is represented on his own game card “Kendo Kai “(nr. 3). There is also a deck of combat cards with “Spin Circle!”(n 55), “Extinguish” (n 114), “Backflip” (n 67) and “Blinding Flash” (n 33) game cards. Yes, it is a set with all the items needed to fight in the quest of Spinjitzu power.

The building process of the training field is very easy. There are two small instruction booklets and all steps are very easy to follow. The first impression when you see all the parts together is, “what kind of disco do you want me to build?” There are tons of lime, reddish brown, light bluish grey, red, black, white, green and trans-neon pieces for such a small set. But, make no mistake, the final result is very impressive. It is very nicely done. The training field consists of a brick wall with a snake thingy attached in the middle. The tail of the snake is the activation mechanism to move 2 walls on either side of the snake, one of wooden appearance and the other more like a stone built wall. Each time the tail is hit in the correct way by the spinner, the wall moves and you will discover a nice surprise: a hidden weapon will fall from the wall section! All the weapons of the set can be attached in two small sections of the wall at the end of both sides.

The decoration of the snake is curious, as the head piece is a printed part and the rest of the body is done with stickers with the same pattern. It would be better to avoid stickers in the parts that will suffer so many hits when playing with this set.

In the path to be a great master of Spinjitzu this a great set, because it carries a grand total of 8 different weapons for Kai master. Yes, that is a great advantage to conquer your enemies!

If we have a look into the parts we can see some very interesting ones, like the 1x2 bricks with masonry pattern in dark tan color. Any AFOLs will have thousands of ideas for MOCs with this piece. I can not imagine how many walls, houses or other structures can be completed with these nice bricks. If we test the functional features of the set we can see that the mechanism to activate the walls with the tail of the snake is very ingenious, but very difficult to activate in a “legal” game. You have to throw the spinner against the tail from one side of the training field, because the minifig itself it is too light to activate this mechanism.

My final words about this set will highlight two main ideas: this is a nice set for Ninjago fans, plenty of weapons, with a sturdy construction to fight your battles in. And for the rest of the AFOL, the set is better in real life than what you might expect from a Ninjago set, with an interesting selection of pieces.

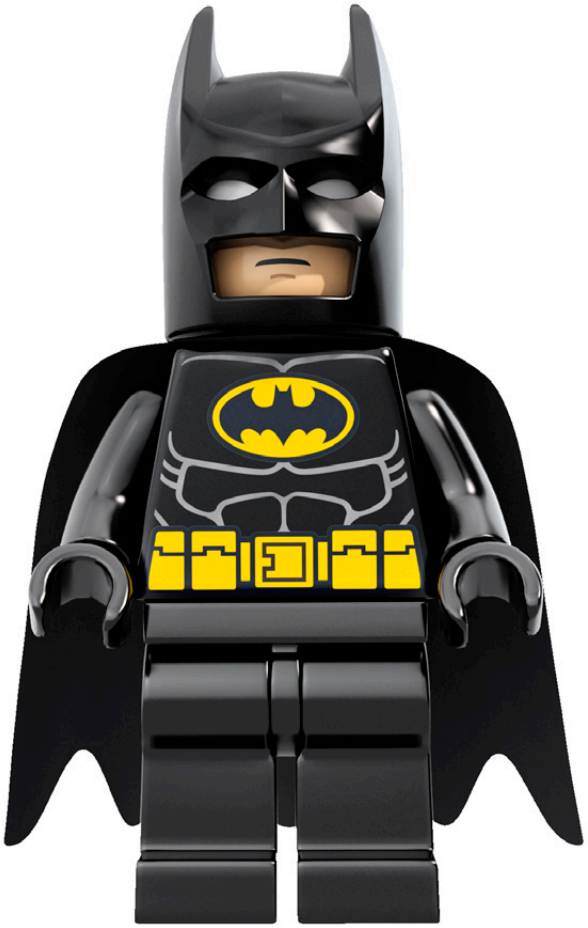
Acknowledgements: LEGO® Iberia S.A., Joachim Schwidtal and Rosa Seegelken for this set.
#

Presentation: SUPERHEROES 2012

By HispaBrick Magazine®

Set: The Batmobile and the Two-Face Chase
Set number: 6864
Number of parts: 531
Minifigs: 5
Recommended retail price in Spain: 59,95€

Towards the end of last year we received a very pleasant surprise. LEGO® announced the launch of a SuperHero theme. In addition to returning to Batman and his enemies, new superheroes from the DC Universe™ and Marvel™ were added to the LEGO world. In this first semester the outstanding novelties are Superman, Wonder Woman and Lex Luthor.



The theme is closer to the comics than to the films. This can be seen in the minifigs, the details and the colours.

It could be said that the set we are presenting is a re-edition of the 7781-1: The Batmobile: Two-Face's Escape, although that is not completely true. Both sets reproduce the Batmobile and a vehicle Two-Face uses to fight Batman. But that is where the resemblance ends.

The Batman minifig is practically the same as in the earlier set. Only the torso design changes. Two-face and his henchmen, however, are totally different. The colours are purple and orange in stead of black and white. The only element that stays the same is black and white hair. Two-face's torso is different from that of the villains as he wears a tie and a vest. The villains inly wear t-shirts. The set includes a 5th minifig. It is a policeman who tries to defend the bank Two-Face wants to rob. There isn't much to say about the policeman, except for the fact that he has no weapon to defend the bank.

The design of the Batmobile is different as it is not conditioned by the central weapon of the previous model. It is a little shorter and the shapes are not same as instead of curved slopes this version uses cheese slopes to create the basic shapes. Nevertheless, it is a proper Batmobile that will not disappoint anyone.

Two-Face's vehicle is a a rather robust all terrain convertible in orange and purple. It has a metallic grille to protect the engine and ram other vehicles. The inside has a driver seat with a missile launcher to the right and a machine gun to the left and in the front a turning crane to hold the safe these villains want to steal.

The third important element in the set is a small building that represents a bank with a safe that contains money. The inventory of the bank is quite austere, but at least it includes a counter for the clerk and a computer. Aside from these elements, behind the counter there is a safe. A small mechanism makes the front window of the bank fly out, giving the robbers access to the safe. Although the building is quite simple, the design is attractive and there are some details that alter the otherwise square shape.

The set doesn't use to many stickers, although they are necessary for to decorate the Batmobile, Two-face's vehicle, the bank and the safe. It's a pity that in a collector set like this one, with an elevated price, stickers are used instead of printed bricks. Hopefully there will be improvements in this regard in future sets.

All the Superheroes sets have a small comic inside the box. In it you will find some publicity for other sets of the same theme and the basic story op the set.

It is curious that this set contains one of the new brick separators that LEGO® has recently incorporated in its catalogue of parts. It looks like it will be included in all medium/ large size sets, so many fans will soon have collection of these.

The SuperHeroes theme is bound to be a sales success in 2012, both with kids, AFOLS and comic fans. Although some of the sets are similar to earlier ones, the designs are different and justify buying the set even if you already have an earlier version. The comic heroes have a pulling power that is hard top resist despite the elevated prices.

Acknowledgements: LEGO SYSTEM A/S and Jan Beyer for this set and LEGO Iberia S.A., Joachim Schwidtal and Rosa Seegelken for the official images.
#

Review 9391: Tracked Crane

By Manticore

Set: Tracked Crane
Set number: 9391
Number of parts: 218
Recommended retail price in Spain: 15,99€

In this article we will have a closer look at one of the new Technic sets for 2012. It is one five sets that make up the novelties for this year. Of those five sets the mini tow truck (which reminds me powerfully of the enormous Unimog) and the set I will be reviewing stand out: 9391 Mini Crane
Just 218 parts for a small set with lots of playability. The box is one of the reduced sizes and opens on one side.
Inside there are two bags, one with the parts for the tracks (66) and the other with the rest of the pieces (152).
There are two instruction booklets for building two different models; the main model (a mini crane) and the B model (a mini bulldozer).

Building the set takes little time. Well, that is of course relative; I built my first Technic set in 1979. I mention this because because it was the 856 bulldozer that used the same tracks as this mini crane. Those were the days!

The set is made up of a base on top of which the central body of the crane is mounted together with the arm and cabin. The connection is made with a new part, a small turn table of about 3 studs in diameter, which fits the size of the set and allows the top structure to turn 360 degrees.

Being used to cranes, excavators and other larger sets, the size of this set draws my attention. The large Technic turn tables have a diameter of nearly 9 studs.

Turning in this case if quite effective and is done with a 12 Tooth Double Bevel gear, just like the other functions in the set. The movement of the crane arm is done with a worm gear. Due to the small size of this set it does not have a lot of travel, but it is an easy and effective method. This way the arm is raised and lowered easily.

After building the base and the central bode what remains is to attach the arm with the wire and drum.

The arm extends manually, adding to the playability of the set.

To sum up, taking into account the price, size and difficulty of this set it is ideal for those who want to get started with Technic. I would like to warn you though: Technic sets are very addictive! That's all folks.

Acknowledgements: LEGO® Iberia S.A., Joachim Schwidtal and Rosa Seegelken for this set and the official images.
#

Review 9394: Jet Plane

Heading to the sky

By Milan Reindl (grohl)

Set: Jet Plane
Set number: 9394
Number of parts: 499
Recommended retail price in Spain: 42,99€

It has been a while since we got the last LEGO® Technic Plane. 8 long years passed between the 8434 Aircraft (2004) which is by many AFOLs, considered to be one of the worst Technic sets, and this Jet. This year LEGO introduced two flying machines and in the second half of the year they are going to launch the largest LEGO Technic helicopter ever. But back to the main focus of this review. LEGO has never released a jet plane before. All past aircrafts had propellers which makes the 9394 even more special.

If you decide to buy this set, you will have to spend $49.99 or €39.99. For this sum you receive 499 parts (99 of them are the black pins), 22 panels in red colour (extremely high number for a medium-sized set), some gears and steering gear racks. The sticker sheet offers 15 stickers with white stripes and hawk head patterns but the plane does not need them to look good. The box does not include any new parts. One thing I noticed when building my alternate model is that there are nearly no 7 and 9 studs long liftarms. On the other hand, you get plenty of the longest ones in red. Typical for the first half sets is the fact that you receive instructions for both models so you do not have to download anything.

The building of the plane is easy; the instructions do not contain mistakes and in an hour and a half or two you have the finished model measuring 46 cm in length and 44 cm in width. The plane features four functions: retractable landing gear via turning the axle connector on the left side, elevators controlled by the joystick in the cockpit, opening canopy by the worm gear mechanism hidden between the panels right behind the cockpit and finally the changing wing geometry when turning the nozzle. Three of the functions are operated using worm gear which is quite unusual. The coolest one is the last one mentioned and it has never appeared in any previous LEGO Technic sets. Some people complained about the slow speed of sweeping wings, but I do not consider it to be a problem.

The jet plane has some minor flaws. The rudder (tail fin) is in my opinion too high and its profile too narrow. I would prefer the nose a bit more covered, but this problem mainly comes from the lack of cone parts suitable for building planes. The landing gear height would cause the plane trouble especially during the take off. The legs should be longer to allow the plane higher angle without scratching the bottom. Another thing that looked weird to me were the “teeth” on the leading edge of the wings close to the fuselage. This does not necessarily mean they do not exist on the jet planes with changing wing geometry (MiG-23 Flogger for example), but I have never seen such a strange shape of them. The unusual gap on the trailing edges can be easily fixed by replacing 11L liftarms with 15L ones. I personally think that the reason for this was cutting the costs down. You can find two jutting out pins from the fuselage

between the wings and elevators. I have never noticed this in any previous Technic sets. I would personally prefer the plane in a different colour. Blue, grey or white would be fine. The red starts to bore me a bit, but what can we do? Children love it.

I made a couple of very simple modifications to the set. You can find the instructions for them here: http://www.brickshelf.com/cgi-bin/gallery.cgi?f=492318 and see the modified plane in this video: http://www.youtube.com/watch?v=tLuuRCgmaV4

I did not try to build the official B model but it looks a lot simpler. The aerobatic plane with great looks can be easily recognized. Unfortunately it offers only 2 “true” functions — working elevators and landing gear. Rotating the propeller by the 24 tooth gear attached to the same axle doesn’t seem to me like a function. Spinning wheels of a car are not highlighted on a box as a function as well.

Building my own alternate model took me 3 afternoons and the final version uses nearly 90% of all available parts. From the beginning I had a rescue helicopter in mind and I am glad that I was able to make one I am satisfied with. The hardest part to create was the mechanism that would allow both spinning rotors while the main one can be tilted back and forth. Tilting the rotor is operated by a lever in the cockpit. You can make the main and tail rotors move by turning the black gear on the left and between the panels at the bottom, you turn the axle connector to retract the landing gear of the helicopter. Overall length is 50 cm and the rotor measures 44 cm in diameter.

To sum up this set enriches your red parts (especially panels) inventory, looks great, includes great functions and on top of that it is the first jet plane released ever!

You can see a video of the helicopter at http://www.youtube.com/watch?v=Hi5TaltV_UQ
Instructions for the 9394 Jet Plane alternative are available on the HispaBrick Magazine website: http://www.hispabrickmagazine.com/en/content/hbm013-instructions-9394-jet-plane-alternative

Acknowledgements: LEGO® Iberia S.A., Joachim Schwidtal and Rosa Seegelken for this set and the official images.
#

Review 10224: Town Hall

By lluisgib

Set: Town Hall
Set number: 10224
Number of parts: 2766
Minifigs: 8
Recommended retail price in Spain: 189,99€

It had been almost a year since I last took a stroll through the main street of the town where you can find the most iconic buildings and I was surprised to find a new building that was constructed in only a few months. It's the new town hall, the building where municipal business takes place as well as some especially relevant events.

The town hall has been built next to the Pet Shop and I walked over to it on my way from the Grand Emporium where I had just done some shopping before the end of the sales.
Walking along the pavement I came across this fabulous brand-new building. The first thing that draws my attention was its size. It is bigger than any of the buildings on the block. It is tall, imposing and majestic. It has a familiar air about it... looking to the right I see the Fire Brigade... The lines look similar. It looks like the design of the façade was carried out by the same team of architects. They are really not the same, but there are some similarities.

I cross the street and stand in front of it. I observe the new design closely and I like what I see. The first thing to stand out is the main door. It is big and solid. It is one of those doors that require two people to push it open. The mix between dark green and windows give it an "official" air. On either side of the door there a total of 4 columns which are topped off with a pediment in the style of the Greek Parthenon. The columns are ionic with circular elements at the top part. The triangular pediment is designed to highlight the coat of arms of the town, which is in the centre of the building. All this exterior decoration make the building a bit ostentatious, though in view of the fact that it is an official building that is hardly surprising.

On either side, near the corner of the building, there are large windows giving the rooms inside the town hall natural light. Under each window there are pots with flowers to give the building a touch of colour.




When I lift my eyes I see the building has two more floors which are rather more sober in medium orange. On the first floor there is a balcony from which the mayor can present his speeches and proclamations. The balcony is semi circular and is protected with a railing. There are 4 windows symmetrically places (2 on either side) with flower pots under each of them. Each of the windows is crowned by a small arch.

The top floor is similar to the 1st, but the windows are smaller. In this case, in stead of a balcony there is a central window with a large flower pot and 4 smaller windows in the style of the Grand Emporium a few buildings down the block.

The roof of the building is something that doesn't go unadmired. I start by looking at the cornice. It is decorated with a mix of round shapes and straight lines that are visually very attractive. In the centre there is a number that must refer to some event. 1891. The year reminds me of an important date in the history of the plastic brick, none other than the birth year the greatest architect of plastic bricks in history: Mr. Ole Kirk Kristiansen.

Right above this tribute to Mr Kristiansen there is a clock and bell tower. The face of the clock is black, grey and golden, a serious looking combination, corresponding to the purpose of the building I am admiring. It is framed in white bricks which contrast with the medium orange of the bulk of the building, centring your eyes on the clock. The bell tower, white with a black roof, is the culmination of the building and the highest point in our town.

After admiring the external beauty of the building I cross the street and enter the town hall to have a look inside. But before I do so I stop a moment to see what is happening around the building. In the main door there is a wedding, the bride and groom are coming out of the town all and a photographer is immortalizing every detail of the event. To my left there are two children next to one of the flower post. The boy is eating an ice-cream and the girl looking at the flowers through a magnifying glass. Did she maybe spot an insect? Or is she just admiring the beauty of a flower? Maybe I should ask...

After crossing the main door I am in the hall that gives access to the different parts of the ton hall. The floor is chequered with black and white tiles. To my right there is a door. I enter and find myself in the municipal tax office. There is a counter with a computer, a file and a drawer for the money that has been collected. There is a chair for the civil servant in charge of this task. I also see one of the windows that look out on the street.

I walk out and turn right. There is a large arch that provides access to the assembly room. This is an open room with lots of natural light. In the centre a lectern for the mayor with the coat of arms of the city, which looks suspiciously like that of the city of Billund, and a U-shaped stand for those in attendance. To the right of the lectern there is a door which opens on the patio.

On either side of the lectern and at some considerable height there are two forged spotlights to illuminate the room.

I go back to the hall and into the last room on this floor. It is a waiting room with a sofa. the room is decorated with a marble bust. At the back there is a door; getting closer I see it has a button which I press. Suddenly I hear a noise and see the lift has arrived to take me up a floor. I did not expect a building of this type to have a lift. But I appreciate the comfort.




I get in and decide to go to the first floor. Getting out of the lift I see the ayor's secretary. She has an office table with a lamp. And at this moment she is opening a letter. I walk to the office at the end of the hall. To my left there is a railing. When I get closer I see the assembly room which is quite tall as looking up I can also see the railing of the top floor. On my way to the office I step on a carpet. It is an attractive mix of dark green, dark blue and tan. I knock on the door, twice, and hear a voice telling me to enter. The mayor is working in his office has granted me a couple of minutes to see it. There is a large table in the centre with a golden table lamp. The mayor is seated on an office chair that appears to be very comfortable. My chair is a little less comfortable... Behind him there is a picture of a shp sailing in the moonlight. A big arch in the wall allows me to look into the assembly room.

I thank the mayor for his attention and go back to the lift to visit the top floor. When I get there I see a large room that takes up the whole width of the building. On either side there is a flower pot with a rubber plant. In the centre there is a long table. There are six chairs, three on each side. There is a kind of throne presiding the table and I suppose that's where the mayor sits when the council meets. At the back there is a globe to decorate the room. Again the railing looking down into the assemble room.

I am surprised to see a ladder on one side of the wall of the lift. I suppose this will take me to the roof. So I "disobey" common sense, which tells me not to go up, and climb the ladder to see where it will lead me. I open the hatchway and get on the roof of the building. The first thing I see are two large skylights that allow sunlight into the assembly room. These skylights are very beautiful, concave constructions, made with glass shutters like the ones used in garages. What an original idea! Turning

around I see I am not alone. The maintenance guy is repairing the clock. It turns out it didn't chime the hours correctly. I see he takes the ladder that was hidden behind the clock and goes up the bell tower. That's it! One of the pins connecting the mechanism of the bell was loose. He leaves the ladder in its place and together we go back into the building. The lift takes us to the ground floor and I have a look in the only place I haven't visited yet. The interior patio. I open the door and find... just a patio, nothing else. The door has a small light to illuminate it at night. A creeper climbs the wall that is full of windows.




I'm ready to leave the town hall, but before I do I sit down for a few minutes in the waiting room and mentally go over everything I have seen. I could sum it up saying this is a majestic building, with a classic entry and a sober unpretentious design. The interior is marvellous. It is full of details in each of the rooms as could be expected in an official building. The lift is a convenience only a building of this type could contain. The furniture is classical and matches the style of the building. The bell tower and clock are the culmination of a building that, in my opinion, has it all and lacks nothing. I think that more elements inside would have made the building over elaborate. But that's a matter of taste.

When I walk out of the building I have some doubts I want to ask the main designer of the building, Astrid Graabæk. Below you will find her answers to my questions.

Acknowledgements: LEGO® SYSTEM A/S and Jan Beyer for this set, Astrid Graabæk and Jamie Berard for answering our questions and LEGO Iberia S.A., Joachim Schwidtal and Rosa Seegelken for the official images.

Astrid Graabæk:
Senior Designer
Creator

Born in Denmark

Education: BA in Architecture and MA in Product Design

I applied for a design job at LEGO® in 2008 and got hired through a recruitment workshop. I´ve been in the Creator team for 3,5 years and the Town Hall is my first Exclusive set.

HBM: Could you give us some details about where did you get the inspiration of the Building?

AG: I have an architecture background and whenever I travel I enjoy studying buildings for inspiration. I always take many photos of buildings, streets and interesting façade details, because you never know when it will be useful. When I started the design of this Town Hall model I wanted it to be very classic and iconic so that it could fit in well with the rest of the modular buildings. I wanted to capture the iconic look of a tall municipal building with great pillars in the front and a clock on the top. To get inspiration for this building I searched on the internet for Town Hall buildings from all over the world. It was very interesting to discover that so many of the old municipal buildings in different countries all had parts of the iconic look that I was thinking of.

HBM: How did you decide the colour scheme?

AG: During my research I found that many Town Hall buildings have a reddish stone work and uses white details on the facade. It was also important to consider colors that are rare and hadn´t been used in the other modular buildings. I´m very happy with the result: the color combination of dark orange, light and dark grey and with white pillars and windows to brighten the façade.

HBM: Why did you have the chance to have some special printed parts like the clock?

AG: We usually avoid labels or printing in the modular buildings because we enjoy the challenge of brick-building everything. However, the scale of the clock proved to be quite tricky to build. That's why we decided to make a print instead. The bride torso was also printed because it added so much to the story we wanted to create for the box photo.

HBM: While building the Town Hall, I have noted that there are a lot of small details in the inside decoration. Do you think that the decoration of this building has a "woman touch" compared with the previous ones?

AG: A model of this size offers great opportunities for interior details and I enjoyed creating them, but I don´t think it has a more female touch than any of the other modular buildings. We are a mixed group of designers at LEGO and it´s always about what is best for the model. For instance, LEGO friends has a great mix of male and female designers.

HBM: I love especially the skylight on the roof. Can you explain us the design process of this part? How many attempts did you do to arrive to this solution?

AG: I tried many different versions and discussed it with my design lead. In the end we decided to use a sky light creation that he came up with. I think it looks fantastic on the roof top of this model and it´s an amazing and challenging building experience.

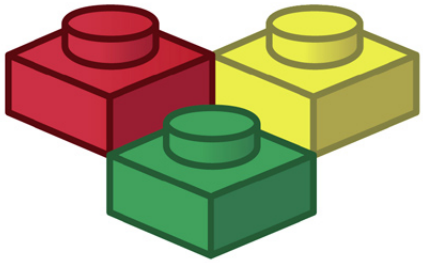
HBM: Why did you decide to add a lift instead of stairs? Once you decided to design a lift, Did you think to put a car instead of only a platform?

AG: I liked the idea of a surprise. People would probably expect a staircase, so an elevator offered something new instead. I also thought it would be an interesting detail to the building. Whenever I design a model I try to balance authenticity with play value. Sometimes I have to make sacrifices to some of the details, such as car lift, in order to create a really fun experience.
#

Pillars of the Community: Brickset

By HispaBrick Magazine®

Images by Brickset



Brickset.com

We continue our interviews with the leading online resources on LEGO® with the largest available database of sets: Brickset. We talk with Huw Millington.

HBM: How did the idea of BS come up and what was its original purpose?

BS: I started Brickset in 1997, although it wasn't called that until 2000. The original idea was to create a web page to provide information on the many promotional sets that were available in various places across the world at that time. In 1997 the online community was much smaller, of course, and most communication was done in the Usenet newsgroup rec.toys.lego. I'd collate the information from the newsgroup, add pictures and make it easy to find and read.

However, it wasn't long before I started adding normal sets and making it more comprehensive.

HBM: To what degree has that goal been fulfilled?

BS: I think it still fulfils its original purpose. It's no longer the only source of the information but I like to think it's still the best!

HBM: How many people are working on the site and how did you meet? How do you distribute the work?

BS: I originally teamed up with Grahame Reid, in New Zealand, whom I 'met' in the rec.toys.lego newsgroup. He maintained his own comprehensive set lists that became the basis of the Brickset database.

I created the code for the site and we both maintained the database. I am still the only one who works on the actual site code but, in addition to Grahame, there are now more database admins, including Ian Grieg (bluemoose).

There is now a small team that helps with the site: moderating reviews and the forum, and writing news articles. I think there are around 15 helpers in total.

HBM: A website like Brickset must cost money. How is it funded?

BS: Yes, it certainly does! It started out being hosted for free by Northstar Computer Services, who offered free hosting for LEGO websites, but as traffic increased it soon outgrew its basic hosting.

You could say that, indirectly, it's funded by Amazon, eBay and LEGO, via affiliate marketing. Every time a user clicks on a link to one of these sites and then buys something or bids on an auction, Brickset receives a small commission.

However, I have no plans to 'sell out' to advertising: I hate adverts. I think they make sites look cheap and difficult to read and use. You only have to look at some of the LEGO wiki sites around to see the negative effect they have.

HBM: Do you have your own server? Can you explain some of the technical features?

BS: The site is still hosted at Northstar, who also host BrickLink, but it now runs on a virtual Windows 2008 server and SQL Server database. I know Microsoft hosting and web technologies are not as popular as open-source alternatives, but I use them extensively at work and have built up skills in them so it obviously makes sense to use them at Brickset. So far, they have proved to be very robust and reliable, and the virtual server has coped well with the peaks in traffic over the holiday season.

HBM: What is your relationship with TLG?

BS: The only formal relationship I have with the LEGO® group is as an affiliate. However I think I am probably quite well known in the company and have been an Ambassador in the past, when the ambassador scheme first started, and I've also participated in several product development workshops.

HBM: Have you had problems with TLG due to the news leaks?

BS: Yes, you could say that! I always try to 'do the right thing' and not antagonise LEGO, as that's in nobody's interest. However, there are times when information escapes, is published on legitimate websites, which we then republish, only to have LEGO on our case asking us to remove it.

An example of this was when Amazon.com listed, with photos, the Prince of Persia sets months ahead of their official release. Brickset, along with other sites, grabbed the images and published them, only to receive sternly worded emails from LEGO lawyers a few hours later. I believe in this case the problem was that their publication was considered to be a 'spoiler' for the movie by Disney so LEGO had to act fast to get them removed from Amazon and everywhere else. I was of course only too happy to oblige in this instance, but another, more recent, example highlighted a problem where one group within LEGO didn't know what another one was doing and I was caught in the crossfire.

Last year, the Brandenburg Gate Architecture set was put out for sale in the Manchester LEGOLAND Discovery Centre a few weeks before its planned official announcement at an event in Berlin. A Brickset member bought it and posted pictures in the forum, which I then put on the home page. Someone in LEGO saw it and then asked LEGO's Community Engagement team to get it removed. I did so when asked, but after thinking more about it (and returning from a short vacation) I reinstated it on the basis that the set, and picture, were obtained legitimately and LEGO had no right to ask for its removal, just because they had wanted to keep it under wraps and were trying to close the stable door after the horse had bolted, as it were.

Since that incident, I believe LEGO's emphasis is on preventing internal problems like that happening, rather than on punishing the community after the event, which is of course the way it should be.

HBM: Which criteria do you follow to add a picture of a set to the database?

BS: We'll add any legitimately obtained images, even if it they haven't officially been released by LEGO.

Pictures of the modular Town Hall are a good example. A Hungarian toy shop listed it on its website, and started selling it some months ago, but as of the time of writing it still hasn't been officially announced.

We do, however, draw the line at scans of retailers' catalogues or any other image that has 'confidential' watermarks. It's quite clear these are not for publication, yet other less scrupulous sites still go ahead and do so.

HBM: Can you give us some interesting statistics on Brickset?

BS: I love digging through the database and coming up with interesting statistics -- with over 9,000 sets and the collections of 30,000 people in it, there are a lot to be had!

So, apart from those shown on the site's home page:

- 55,000 people have registered an account on the site, of which 36,000 have logged in since January 2009, when I started recording log-in dates.
- Brickset members own 4,665,000 minifigs, which if lined up hand-to-hand would stretch 116,000 km, or about 3 times round the world.
- The most owned minifig is the battle droid: 116,000, if all variants are taken into account.
- The site's busiest day ever was on September 23, 2011 when 48,000 people visited. The cause was later to be found to be a prominent mention at reddit.com.

HBM: What do you think attracts so many LEGO fans to have their collection in Brickset's database?

BS: I like to think it's a combination of things: the ease at which you can do so, the accuracy and currency of the database, and the feeling of being part of a worldwide community.

HBM: Where do you find the ideas of all the new features of the website?

BS: I enjoy the software development side of running the site so I probably spend more time on it than I need to, adding new features all the time! Of course I come up with ideas myself but actually the vast majority of new features are as a direct result of suggestions from users, either in response to the annual user survey I run, or received by email.

I think it's important that the site does what its users want so I am only too happy to receive comments and suggestions. After all, if it didn't, there wouldn't be any users and the site would die.

HBM: How much time do you spend to add all these features?

BS: Probably far too long -- at the moment I usually spend a couple of hours a day, either working on new features or maintaining the database and images.

HBM: How do you take the pictures of the minifigures? Do you have all of them?

BS: I wrote an article [1] explaining how I take them, using a light tent, a piece of white card and some macro flashes a while ago.

I do own all those I've photographed, except for the classic space figs. I had most of them before I started but had to resort to BrickLink to fill a few gaps here and there. There are loads more themes I want to add to the galleries: Atlantis, Alien Conquest, fantasy era Castle and, of course, Star Wars™. I have all but a few Star Wars figures so I just need to find the time to do it.

HBM: How do you see the future of Brickset?

BS: Simple: keep improving it, keep it current, increase traffic, and maintain its position as one of the most respected cornerstones of the online LEGO® community.

[1] http://www.brickset.com/miscellaneous/articles/minifigPhotography/
#

Great creators of the world: Marek Markiewicz

Who said Technic was only trucks and cranes?

By HispaBrick Magazine®

Pictures by Marek Markiewicz

HispaBrick Magazine: Name?

Marek Markiewicz

HBM: Age?

MM: 22.

HBM: Nationality?

MM: Polish.

HBM: What do you do normally?

MM: I work as an electrician in one of the KGHM´s underground mines.

HBM: When did you first start building with LEGO®?

MM: It all began when I was six years old, with the 6535 Dumper set.

HBM: And your last set?

MM: The last set I got was 8484 Lightning McQueen - a good amount of red parts and a nice design.

HBM: Your favorite commercial LEGO building theme?

MM: I like Technic, because its parts give me opportunity to make my models more realistic, and Model Team (now it will be Creator, the latest sets that include vehicles look like Model Team 2.0) because it has shown me that LEGO models can also look like real machines.

HBM: What is your favorite LEGO element and why?

MM: Cheese slope. It gives me lots of options when I build - it could be used as part of a sloped panel in minifig scale model, but it could also be used in large quantities to smooth out large edges.

HBM: Which part would you like LEGO® to produce?

MM: There are a lot of them, but I think that it would be a plate with studs at top and bottom. Other LEGO-like brands have these type of element and I can´t wait for LEGO to make their own version of it.

HBM: How many hours do you spend building with LEGO?

MM: It depends - I work in a tough environment and sometimes I´m too tired to even think about building. But when I manage to find some time, I usually spend one or two hours on it. But a few times a year I have a building marathon, usually when I am starting a new big model. I try different versions of frames, mechanisms and details which consumes lots of time. Then I find myself in the middle of the night, realize that time to go to bed passed two hours ago ;)

HBM: What do your family/friends think about this hobby?

MM: My parents were always telling me that playing with LEGO increases creative thinking. My mother still thinks that it´s a good way to spend free time. The rest of my family have neutral relation with it.

Some of my friends thought that I am too old to play with LEGO, but when I showed them some of my models they changed their minds. They look forward to seeing my new models since that time.

HBM: Do you draw or pre-designs before you start building?

MM: I never draw sketches, but I make lots of quick build sketches, to visualize how big the model could be, how much space I will have to incorporate mechanisms and if it´s even possible to make it.

HBM: It´s clear that the theme that you like the most is heavy machinery. Also in your models you typically incorporate all the functionality that the space available allows. What is your main objective, functionality or aesthetics?

MM: I can say without a doubt that both of them are important. These two are related - working Technic mechanisms makes the model more realistic, System parts are needed to hide all Technic mechanisms, and gives details and shape to the model. I have never learned how to build with panels and I think that I will never learn - I just don´t like hollow models.

HBM: Sometimes you cut the scale to minifig scale; is it more difficult to you to create at this scale?

MM: It varies. When I am making a model that doesn´t have working mechanisms, it´s easier than making bigger technic models. But when it comes to adding some functions to minifig scale, it is sometimes way more difficult.

HBM: Your models are usually fully bodied and studless, giving them an air of “Model Team” that distinguishes them from other models. Do they not become heavier than models with liftarms and Technic Panels? Is it more difficult to include mechanisms in those models?

MM: As I have mentioned above, I don´t like holes in models. Of course, more elements equals more weight, which must be reflected in the building process. Mechanisms are the most important part of the model - Model Team bodywork is matched to them. Sometimes it works against me - a few models never went public, because they were not working properly due to weight. I´m usually balancing on a thin line :)

HBM: If you had to choose one among all your creations, which one would you choose and why?

MM: Kenworth W900 Rotator tow truck. It's my most complex model to date. It took me two months to build, consumed lots of pneumatic and electric parts. That effort, however, has been rewarded with a smoothly working model.

HBM: A complaint of Technic fans is the lack of originality in the official models, especially in the main models, cranes, bulldozers, trucks,... You have shown that there are other alternatives, especially mining machinery. What do you think about it? Do you think that LEGO® should also innovate in the Technic theme?

MM: It would be nice to see more specialized machines, like drilling rigs or forestry machines (more than this year's logging truck).

I am aware that LEGO is oriented to kids, and sets must be recognizable by them. Of course, I would be happy to see a bolting rig as a Technic set, but kids will have problems even trying to name this type of machine. Anyway, I always stick to this rule: something does not appear as a set? BUILD it for yourself. I think this is how it should work.

HBM: The increase of AFOLs and lines like Star Wars™ create new possibilities not imagined before by LEGO. What do you think about the old school LEGO and the new LEGO?

MM: Each year a new batch of parts arrives with the new sets, and they allow you to build things that could not be built a few years ago. New shapes and colours help a lot, but I keep in mind that it all started with a few basic bricks and there would not be anything "new" without those "old" pieces. I like the SW universe, but when I see the third or fourth iteration of same spaceship I would like to return to those "old" sets from Classic Space. Each was unique and many of them had great features, not present in latest sets.

HBM: What do you think about the use of non-official parts (stickers, modified parts, non-LEGO elements,...)?

MM: I use stickers, and for my Kenworth W900 I ordered some custom chromed pieces, to get as close as possible to the look of the real truck. I never cut pieces, because building with LEGO is based on using a limited range of bricks to achieve the desired shape of model. Sometimes it is challenging, but I like it, and I don´t like to cut corners, so to speak.

HBM: What can you tell us about the AFOL community in Poland?

MM: Our community, LUGPol was established mid 2004. We're divided into several groups, corresponding with the hierarchy of our community. Marcin 'Szarikm' Szarek, Marcin 'Żbik' Żbikowski and Maciej 'dmac' Szymański are currently the board of LUGPol.

Our purpose is to promote the most interesting, mind developing and exclusive hobby: LEGO® model building. Through the Internet we are constantly trying to reach the adult LEGO fans, who often work alone, unaware that there is a large and strong community of equally passionate individuals in Poland (not to mention Europe and the whole world). From time to time we also proudly show off our creation at public events and it is hard to say who is more overjoyed at these meetings: the builders or the visitors (usually entire families). We are sure you have already heard about 'TruckTrial' - it is a challenge of LEGO trucks powered by 9V motors and built in 1:13 scale, according to very strict rules. It's basically an outdoors race of extremely slow and extremely powerful trucks, a race against time and against man-made obstacles. It requires both experience in LEGO Technic building and proficiency in driving. Our members have also participated in the Colossal Castle Contests, wining many prizes and honorable mentions.
#

A day in the life of: Jørgen Vig Knudstorp

By HispaBrick Magazine®

Pictures by Delia Balsells

It is likely that many of us have at some time wondered what the life of the CEO of a multinational is like. Travel, meetings, events ... In HispaBrick Magazine® we wondered the same thing a while ago and we decided to visit Mr. Jørgen Vig Knudstorp, CEO of LEGO® System A / S to tell us about his day to day. We were especially curious to know how he could reconcile his professional and personal life.

On December 8 we had an interesting chat with him in his office in Billund and he told us, among many other interesting topics, about a day in his life, what the future plans of LEGO are and how he sees the world of AFOLs. Mr. Kundstorp's responses are very interesting and show us the present and the future of the company.

HispaBrick Magazine would like thank Mr. Kundstorp for including us in his busy schedule and answering the questions so directly and honestly.

6:00 - 7.00 Wake up, go for a running and a shower
7:00 Enjoy breakfast with my wife and children
7:30 Leave home for Billund office
8:30 Misc. preparations
9:30 - 10.45 Media training in connection with press meeting and release of Annual Result 2011
11:00 - 12:00 Interview with HispaBrick Magazine

I'll start the interview with a few personal questions:

HBM: Were you a LEGO fan before you started to work for the company?

JVK: Only as a child, not as an adult

HBM: How did you come to work for LEGO?

JVK: I was hired to do something called strategy and business development and one of my first task was to see how can we improve the LEGOLAND park and how can we increase sales in Southern Europe or how can we build a chain of own LEGO Brick stores. That kind of assignment.

HBM: What does it mean on a personal level to lead the company of the toy you were a fan of?

JVK: It's not just a job but also a hobby and a passion and it's such a fascinating business because there are many different things that are needed to run this company

HBM: How many days a year do you spend travelling (for business)?

JVK: About 120 days

HBM: Is it difficult to stick to the Schedule of each day?

JVK: Yes

HBM: How do the official acts, conferences and events you need to attend affect your personal life?

JVK: It's very important to think long-term and really manage the personal life and be very clear about keeping appointments and so, because otherwise you don't have a personal life, so for instance tonight, at 6:30, my daughter is performing a show at the school and my son is the presenter so even though there is a lot coming into the calendar I will be there

HBM: Do your kids ask you for LEGO?

JVK: Oh yes, they are very big LEGO fans

HispaBrick Magazine is a magazine that is made for and by AFOLs so the following questions are dedicated to the Adult Fans of LEGO:

HBM: How do you view the AFOL phenomenon?

JVK: For me it's one of the very unique things of LEGO and I'm so glad that LEGO® is recognising it and taking it very serious. That has been very important for me when I became CEO. That is not just considered like a shadow market, but it actually the core of the LEGO experience.

HBM: When did you realise AFOLs had a significant impact on the company's accounts?

JVK: I realised that in 2003

HBM: Do you know what percentage would that represent in 2011?

JVK: No, I really don't know; maybe 5-10 percentage we cannot calculate it really, but I think also that it is not just about sales but about influence on product about how we think about things and so on. That's maybe more important.

HBM: Do you believe AFOLs sometime forget LEGO is a children's toy?

JVK: No, I don't think so and I think that maybe sometimes when we say this is something really only for adults, what we find is that it is maybe it is not so appealing for adults, but also some other sets we say it's for adults, but kids love it, so like the big sets, you could say these are only for adults, but children who are 9 years old buy sets that are supposedly 16+

HBM: What criteria do you have to create a theme for AFOLs?

JVK: I'm not very personally involved in that, but obviously it is usually something that is quite iconic, big models, a lot of building activity.

HBM: What surprises you most when you go to an AFOL event?

JVK: The level of inventiveness and creativity. The race track you brought at Skaerbaek this year (Slot cars made with LEGO bricks), the new way of looking at LEGO Architecture, presented from Portugal for instance, so all the time these new ways of using LEGO that we had never thought of. It really confirms the endless creativity that's possible with LEGO, and that's why it gives me so much energy. And often also some of the feedback I am getting in terms of the quality of the play experience, where there are things I wasn't aware of is a problem, but I learn that it is a problem from speaking to the AFOLS.

Now (as you may have supposed) we will ask some questions that affect us more locally:

HBM: Can you make any comment on the Spanish market?

JVK: This year to date, (October) we have been growing about 20% in Spain, but November was very difficult, and I think elections and also the Euro situation the debt situation is influencing the sentiment very much in those economies.

HBM: Do you believe that in a country where children grow up mainly playing in the street, it is possible to keep growing as you have in the last couple of years?

JVK: Yes, in all countries all over the world, children are playing less in the street, more indoor. The parents' attitude is changing

HBM: When did you learn about the existence of HispaBrick Magazine®?

JVK: Probably when we met the first time… about 4 years ago

HBM: What do you think about the fact that a country like Spain (in which LEGO isn't the "star" toy) has a magazine of this kind?

JVK: I think it is fantastic. I don't know how many children are reading it. You are reaching probably quite a small group, but what is great for me to experience is that even if it is a big market or a small market for LEGO, there is this fan community, which is also true in the other smaller markets around the world.

Let's talk a little bit about the company you direct:

HBM: How is The LEGO® Company affected by the economic crisis?

JVK: So far very little, but I expect that the turmoil in Europe will grow. I think we have had for three years now what has been largely a financial crisis and it will become more an economic crisis now, because the debt will have to be reduced and to reduce the debt it turns into an economic crisis and reductions. I think Europe will be less important for LEGO in the future and America and Asia will be more important for LEGO

HBM: Have you worked out different scenarios depending on

how the crisis evolves?
JVK: Yes we have. We look at different ways the crisis might evolve: what if there's no Euro in Italy or Greece. What if there's no Euro in German. What does it mean to our company in terms of systems and financial risk and also how much sales we can have.

HBM: How do the constantly changing oil prices affect the company?

JVK: It affects us a little bit less than you might think because actually resins of plastic material is not actually made from crude oil but from a particular kind of refined oil and it is not always the case that this oil price follows the price of crude oil, the oil barrel price that we see in the market. Also the next step of the production is the manufacturers of resin and for a long time they have had a very large capacity and so prices have been fairly low, but today some of the biggest producers of resin have merged and prices have increased very significantly over the last two years for plastic.

HBM: What ecological and energy saving measures is LEGO® taking?

JVK: A number of measures: both in terms of how we heat our offices and conserve energy in our offices, but the mayor source of energy saving we have come from two things: one is transportation so reducing box sizes and packing trucks better and so on to reduce transportation costs significantly and therefore energy. The other one that's the biggest source for us is that moulding machine technology is changing and becoming more energy effective. We have more 1000 moulding machines and many of them are more than 20 years old, so we are undertaking an ambitious plan of replacing our moulding machines so we can mould plastic at lower energy consumption.

HBM: What is the most important activity on the company's balance that is not related to the production of sets?

JVK: One interesting item relating to energy is that we are looking to make investments in renewable energy manufacturing, so we know that consume energy, but then we can make sure that we produce as much renewable energy as we consume, so that could be one example. Otherwise it is probably buildings that are not used for production purposes.

HBM: Why is the commercial strategy so different on both sides of the Atlantic?

JVK: We got that question with the Danish Fan community yesterday. I would probably first have to say that it is surprising how equal it is. LEGO City sells really well. There is some differences. More interest in newness all the time in the North American Market, and then the other major factor that makes for a difference is that in the US we have largely 4 customers: Amazon, Toys R Us, Target and Wall Mart. They drive an enormous volume in a very simple and super effective setup. So in terms of our cost in dealing with a retailer, the cost of working with the retailer in the US is maybe 20% of working with a retailer in especially Southern Europe, so the efficiency of this market system is extremely high.

HBM: You always have to answer questions from fans, journalists, customers or suppliers. HispaBrick Magazine® offers you the possibility to be on the other side and propose us a question that will be answered in the article containing this interview.

JVK: I do have a question and I'll explain the background: it is so with LEGO® that if I look at LEGO over 80 years of development or let's say the last 50 years, there is a perfect correlation between the more wealthy a country becomes the more product LEGO can sell. Not in one year, but if you look at 20 years, that is the truth. But there is also something else which is a difference between the Nordic culture and Latin culture. Some people say this has to do with the temperature and children playing outside, but I can for illustration tell you that if you look at Belgium, there is one set of behaviour in the northern part of Belgium and another set of behaviour in the southern part of Belgium which is French speaking, and we think it is not related to climate, but related to culture and so my question would be (this is just a background for the question): What does it take, how is LEGO not such a good fit to the Latin culture? How does LEGO become more acceptable or suitable for the Latin culture, in terms of, probably, family life? One thing I heard is that in the Nordic culture it is more normal for the parents to sit down and play with the child than in the Latin culture, so that could be one example of an answer to this question, but I would ask for other ideas.

HBM: In order to answer this question, the HispaBrick Magazine editors have done some brainstorming together with their closest collaborators. With these ideas and some additional help from we will try to answer your first question: **What does it take, how is LEGO not such a good fit to the Latin culture?**
In the first place, the Mediterranean climate allows for and encourages outside activities more. More outside activities means more team play, and LEGO is not primarily a game for several players. Construction is a more or less individual activity and not something to do outside. This fact, together with the purchasing power of countries in Southern Europe, which is usually lower, answers the question in general terms.

In the specific case of Spain, we could to the forgoing that Spain has always had a strong toy industry that produces toys that are significantly cheaper than imported products. Add to this the fact that working hours (and opening times of shops) are also much longer than in the north of Europe. Most children here finish their school day late in the afternoon, and after extracurricular activities like sports, music and languages they don't have much time to play. If in addition both their parents work, they don't have a lot of time to play with their children either. Any modern society has the same problems: lack of time and, therefore, few hours of playtime with our children.

The case of Belgium is curious (although strange) and it invalidates the theory of cultural division based on religious backgrounds. This certainly has its influence too, but while in Holland there is a clear(er) distinction between the predominantly Catholic south and Protestant north (in general terms), Belgium is predominantly Catholic in all its extension. However, while Flanders (the northern part which speaks Dutch) has a level of life that is very similar to that of Holland and other northern European countries, Wallonia (the southern part which speaks French) has a significantly lower economic level. To shed some light on this situation we contacted with the BeLUG Ambassador, Ludo, who kindly informed us there are evident cultural differences between the north and south of Belgium. In the south there are more people who do modelling (plains, scale cars, etc.) as a pastime. The south of Belgium has received many immigrants from Italy and Turkey to work in the coal mines and steel industry. Maybe this is somehow related to this difference.

Something similar happens in Italy. Marco, Ambassador for ItLUG, tells us the north of Italy has a strong influence from the neighbouring countries (Switzerland, Austria, France). The further south you travel, the more 'Latin' the customs and way of life become. Another important factor is that the purchasing power of families tends to be lower; and the climate in the north, with long cold winters, is very different from that in the south. Kids play a lot outside, and this fact, combined with the lower economic level, explains why parents invest less in toys than those with kids who spend more time indoors. The centre of the country is a mix between these two tendencies.

Another important factor, according to Marco, is the different way of life of the people in the south, which is more Latin. Although it would be wrong to generalise these matters, people in the north tend to be more rational, while the Latin character is more emotional. No matter how much we like building, LEGO cannot be classified as an emotional toy.
As a matter of fact, Marcus informs us that 80% of the ItLUG members live in the north of Italy. The events that are organised are in the northern part of the country and in the last 5 years the attendance of members from the south has been scarce.

To finish this analysis and have another opinion from a non-European source, we contacted Enrique, an AFOL in Uruguay, to give us his opinion about LEGO as a fan in his country. It may not be the best example as the population of Uruguay originates mainly from Europe. However, the vast majority come from Spain (especially from Galicia) and Italy. His vision may not be very Latin American, but certainly very Latin. Enrique tells us that most of the games children in Uruguay play are collective games. Maybe because families are more numerous (we'd have to have a closer look at the demographics) and there are more siblings to play with. It is also true that LEGO is perceived more as a boy's toy. There are few girls who make the step from DUPLO to LEGO. Another possibility is that there is less interest in educational toys in Latin cultures, but this needs to be checked against marketing studies.

As for the second question: **How does LEGO become more acceptable or suitable for the Latin culture, in terms of, probably, family life?**, we haven't found a clear answer. The most influential factors (climate and hours of daylight) can hardly be altered. And obviously, the lower purchasing power of families in the south isn't helpful either. We hope the information and opinions we provide here will help LEGO find the answer to their question.

12:15 -13.45 1:1 meeting with Bali Padda, COO
14:00 -15:00 1:1 meeting with Mads Nipper, CMO
15:00 - 16.00 Meeting with Poul Hartvig Nielsen, Legal Council, oficina de KIRKBI
16:15 - 17.15 Meeting with Jens-Peter Poulsen, SVP, Havremarken
17:30 Leave for home
18:30 Pick up the children at scouts
18:45 Dinner together with my family
20:00 Bedtime stories
21:00 - 21.45 Conference call w/US team
22:00 Misc. mails
23:45 A good night's sleep
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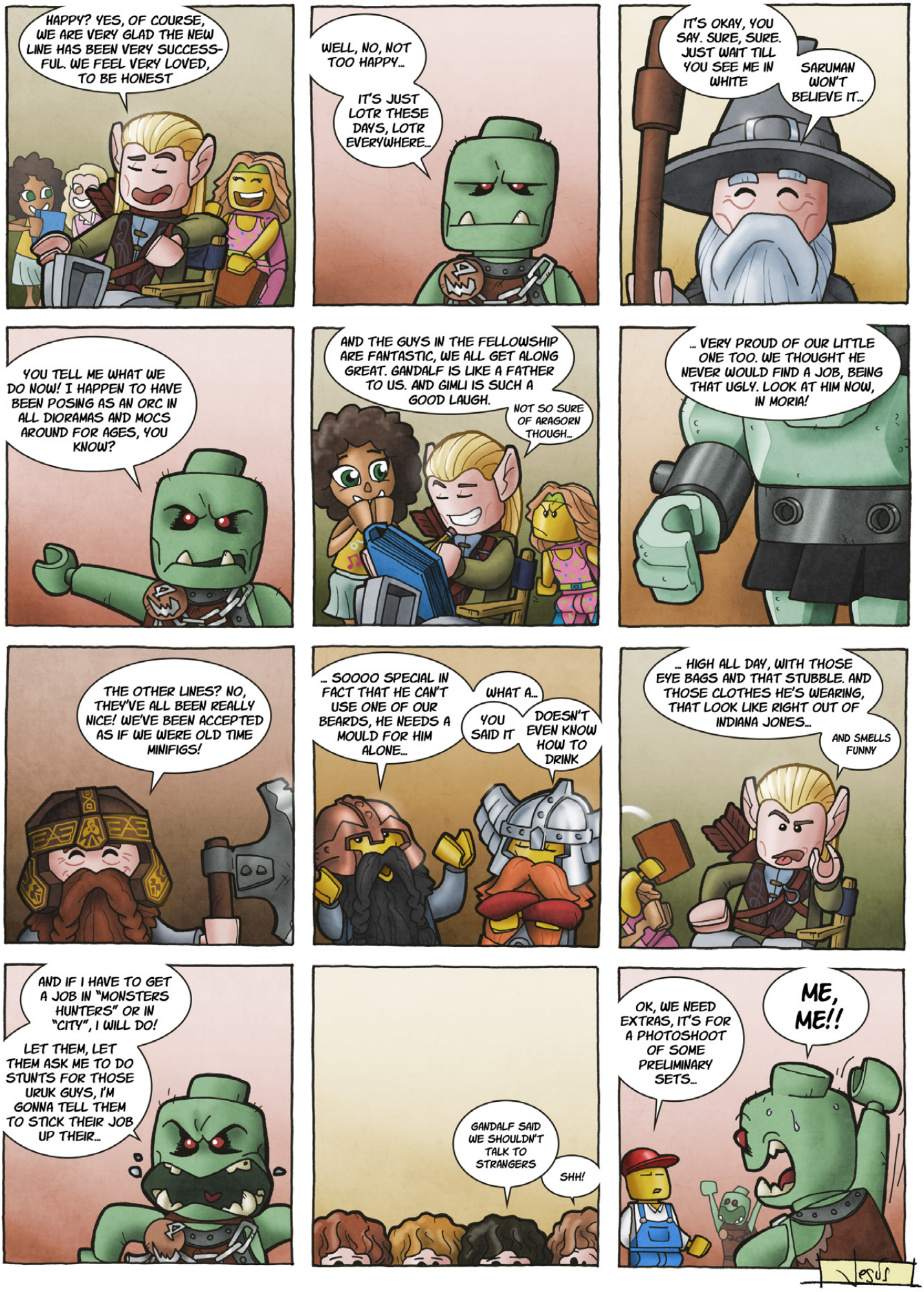

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If your native language is not Spanish or English, don´t worry, we will find a solution. Contact us now!

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