



ENGLISH EDITION

023

# HISPA BRICK MAGAZINE®





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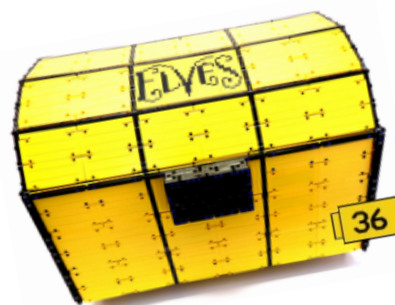


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Front cover by: Michał Kaźmierczak (migalart)  
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# Editorial

By A. Bellón (Legotron)

HispaBrick Magazine® 023 is here! Probably the issue that has cost the most effort to release so far...

Over the last months, after the release of the previous issue we have seen the new summer sets: City, Star Wars, Creator, Minecraft, Friends... There have also been new themes, like the renewed pirates. There have even been some surprises, like the 70751 Ninjago Temple of Airjitzu, which we review in this issue, or the 21303 Wall-E. And already there are rumours of the sets we will see in 2016, and they sound very promising!

However, the biggest change is the one the HispaBrick Magazine team has undergone. Preparing every issue is exhausting and our work and personal life cannot be limited by this responsibility. For this reason, some of those participating in the magazine needed a break, to disconnect for a while - after all, this is something we do for fun, in our spare time. That has meant that the rest of the team needed to step up and take over the tasks carried out by others, and since we are already very much near the limit of our capacity we have had to reduce the number of pages in this issue, to ensure the magazine continues and doesn't disappear. Now we have really seen the enormity of the work done by Carlos these last 5 years, and we hope we have "learned" enough to keep our dream of publishing a free magazine by AFOLs for AFOLs alive. This reorganisation has been a complex process as each of us has taken on responsibilities we had never before carried out, while at the same time continuing with those we already used to take care of. We hope you will forgive any mistakes we may have made in putting together this issue.

In order to continue with HispaBrick Magazine® we have tried to maintain the same format and have included articles about construction, and interesting techniques, about great builders and LUGs from around the world as well as events we have participated in. In addition there are the usual sections with reviews, interviews, tutorials and, of course, Desmontados.

We are also busy planning our annual event which will take place on December 5 and 6 in Terrassa (Barcelona), the details of which we will announce on our website.

We hope our efforts to publish this new issue will prove to be worth it and that you will enjoy it.

Happy reading!

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# LEGOphotography

By Steffen Tegtbüring (Bricks4Grownups)



One year ago I rediscovered my passion for LEGO®. Within half a year this passion had turned into a lovely addiction and an idea started to grow – I wanted to combine my two most beloved hobbies: LEGO and photography. The following lines will take you by the hand and let you see the last half year through my eyes.

It started with just looking up the word “LEGOphotography” on the internet and what shall I say, I was incredibly overwhelmed. There is such a great variety of outstanding artistic photos taken in a LEGO-themed world. The range of different fields extends over nearly every theme that LEGO ever published. The most famous LEGOphotos focus on Star Wars and on humorous little stories told through the creative use of LEGO minifigures. It became clear to me that I had to take part in that awesome thing called LEGOphotography.





My first step was creating an Instagram account. On a whim I called it “Bricks4Grownups” and started off. What happened over the next few weeks was just indescribable. My new hobby connected me to so many lovely and kind people from all over the world! I even made new friends in Europe, in the US, in Australia, and in Asia. Trying to put my experience into simple words I just want to say one thing – awesome! For example seeing great movie scenes from Star Wars recreated in awesome LEGO® MOCs and photographed with highly professional equipment makes my heart beat faster. But no matter how simple your photos are taken, you’ll get lots of kind regards, great comments and loving assistance out there.



Hopefully I brought you a taste of LEGOPhotography so that you'll have a look at it and maybe even try it out yourself.

Thank you for taking part in my journey..  
#



--> <https://instagram.com/bricks4grownups/>

# Fairy Bricks – Cruces University Hospital donation (I)

By Legotron (A. Bellón)

Fairy Bricks[1] is a charity organization headquartered in the U.K. that raises money to buy new LEGO® sets which are donated to hospitals and hospices around the world with the goal of helping children during their recovery.

After the article we did with Kev Gascoine in issue number 20 of HispaBrick Magazine, Fairy Bricks got in touch with us about setting up a donation to a children's hospital of our choice. It was a new and interesting experience, so we agreed and got to work. Once you realize that what it is you are working on can help kids to forget about their problems, you go about it in a different way. It is definitely something that is worth participating in.

After a search for possible candidates, the center chosen was Cruces University Hospital, located in



Northern Spain, close to the city of Bilbao. We got in touch with the Hospital and after a few meetings they mentioned to us the possibility of doing a more elaborate donation. Their idea was to use the parts in the sets to make a series of permanent dioramas for the rehabilitation rooms, with the goal of making the





their families, rather than for just those who were there at the time the donation was done. After discussing it with Fairy Bricks, it seemed like a good idea and they got to work. With the idea of making some small City and Medieval dioramas, they selected the most appropriate sets to complete the task. We had a little mishap with the shipment, but thanks to the efforts of Fairy Bricks and Kim Thomsen Ellekjær, LEGO®'s CEE community support, we were able to receive all the material necessary to begin the building of the dioramas.

The Hospital had prepared a series of vitrines in which the dioramas would be placed, and we were to take care of building the dioramas themselves. Thanks to the collaborative efforts of some of HispaBrick Magazine's volunteering members, we had the team ready to begin the task. The truth is that it may seem simple, but it is not. We had to make the dioramas using only the pieces we had in the sets at our disposal, all the while adjusting them to fit the measurements of the cases. Of course, we had to build everything, which takes time, and even though it is fun (it's building with LEGO), it can become stressful when you know that you have a deadline and it must be met. All the sets that were not to be used (new and unopened) were to be put into a normal donation, we could not dedicate the time to open up boxes like lunatics in search of pieces. We were only able to open those that were necessary, knowing that only the pieces in those sets would serve the purpose.

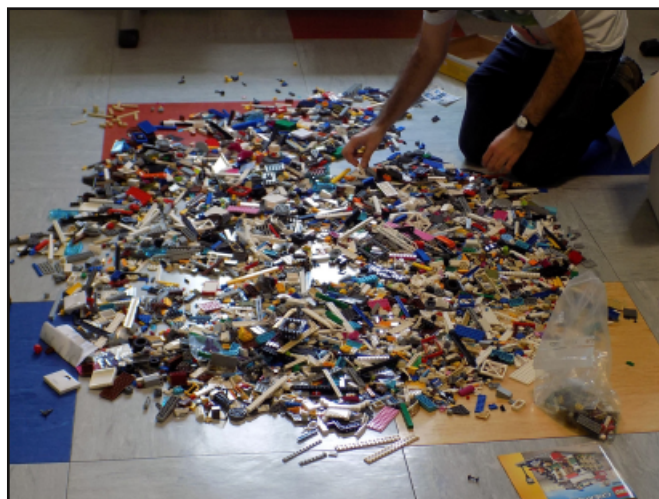


The construction of the buildings for the City displays.



Some of the finished buildings before been placed in the displays.

It was a very interesting activity while at the same time arduous. We even go to using the method of dumping the pieces on the floor in an attempt to find the necessary pieces to add the last little bit of detail. The rooms were full and we did the building on days where the rooms were closed to avoid disturbing the Hospitals normal operations. Many of the buildings and elements of the dioramas were those that came from the set, but others were improvised to fill in the gaps or to simply use all of the last pieces. Anybody that saw us in the last stages would not believe what they saw, a group of AFOLS searching like lunatics for the last pieces necessary to finish the diorama. Even those who have never done a collaborative LEGO diorama were left surprised by how much work goes into putting together a diorama.



Parts on the floor for easy sorting.



By the time this issue is released, the dioramas will be done and in their place and they will have been formally handed over to the hospital, but that is something we'll leave for the next issue ...

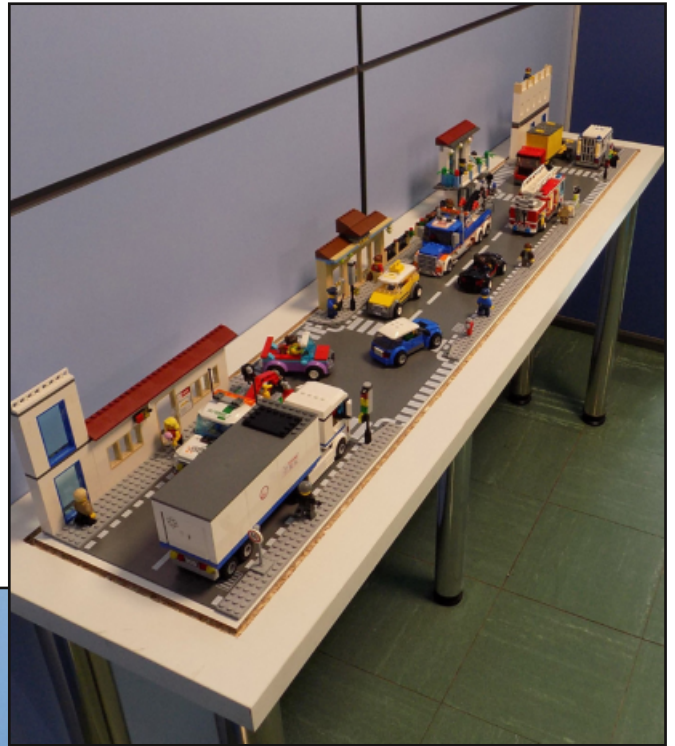
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[1] Fairy Bricks: <http://fairybricks.org/>

Picture of the Castle display.



Picture of the small City display.



Picture of the bigger City display.





# "Spider Dress" meets "SPID3R TOP"

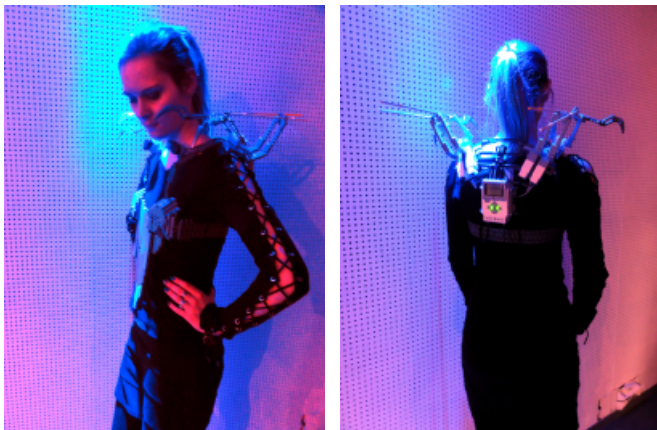
A short story about fashion, artificial intelligence and LEGO wearables

By Mike Brandl



I like to build robots ... LEGO® Mindstorms robots ... and not only the usual kind of robot, those with four wheels and nothing more, I like to build the unusual!

In the past I built anything from egg plotters to a humanoid sumo bots, tried to send my bot to the ISS space station or deep under water, shot targets at a laser shooting gallery or mixed drinks with a cocktail robot ... but I never built a dress out of LEGO!



A dress? Out of LEGO? Why that, you will ask! It's all Anouk Wipprecht's fault! And again, you will ask, Who is Anouk Wipprecht? Let me tell you about her, with her own words:

*"What does fashion lack? "Microcontrollers" according to Dutch based fashiontech designer and innovator Anouk Wipprecht. As she is working in the emerging field of "fashion-tech"; a rare combination of fashion design combined with engineering, science and interaction/user experience design, she created an*

*impressive body of tech-enhanced designs bringing together fashion and technology in an unusual way. She creates technological couture; with systems around the body that tend towards artificial intelligence; projected as 'host' systems on the human body, her designs move, breath, and react to the environment around them."*

One of the best known projects of Anouk is her Spider Dress! I have always been a fan of that dress ... so why not build something like that with LEGO bricks?



The original Spider Dress is a 3D printed "mechatronic dress with an Intel Edison chip that uses biosignals and learned threat detection to defend the wearer's personal space".

In other words, when the wearer of the dress feels stressed or someone comes too near, the attached spider legs will attack!

So ... I started this project asking Isabella, a young member of my LUG (LGOe, LEGO® Gemeinschaft Österreichs) if she was willing to wear that dress in public at our annual spring exhibition in Vienna, Austria ... and she was interested and thrilled ... thanks again, Isabella!

The next step was to build the top of the dress out of LEGO Technic beams ... boy, that was hard!

You have to know about me, I'm a hard core technician, give me any technical goal and I will build your dream machine ... but organic shapes, with LEGO bricks ... me? Never ever!

So it took some time to realize, that this is impossible for me to build out of thin air. Help arrived in the shape of a dress form, donated by my daughter Teresa.

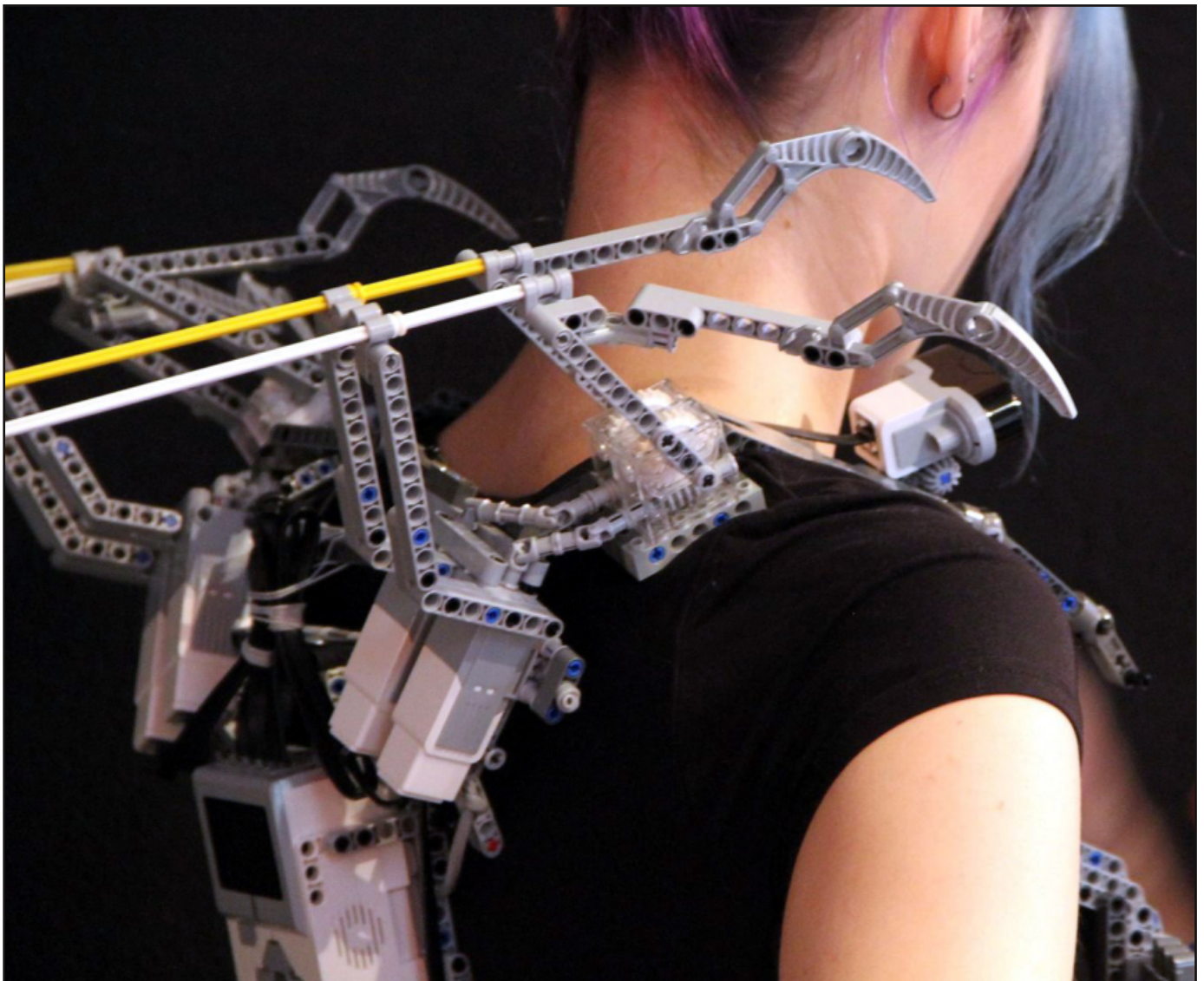
Now it was a bit easier modeling those gentle hills with those edged beams.

As a distraction during the assembling of the dress I quickly built the mechanical part ... an EV3 brain is attached to the back of the dress, together with four small EV3 motors and four worm gear boxes. The output axles of these gears boxes are connected to four spider legs. Each leg consists of leg tips from the old NXT kit, Technic beams and one 32 long axle, which guarantees a smooth movement of the leg.

On the front two infrared distance sensors are attached, those react to the "intruders".

The program (EV3-G) is simple!

- If no one is nearer than 100 cm then nothing happens ... easy!
- If someone enters the space in front of the dress/the wearer from 100 cm to 20 cm then the legs on the shoulder starts moving ... gentle movements ... just be careful!
- But if someone comes closer than 20 cm, the spider legs attack ... without warning!





On the starting day of our exhibition Isabella and me met for the first dress rehearsal ... and it was a tight fit, Isabella and the dress looked amazing ... and the legs worked as planned.

The audience was surprised and interested, a local television station even made a report about that dress!

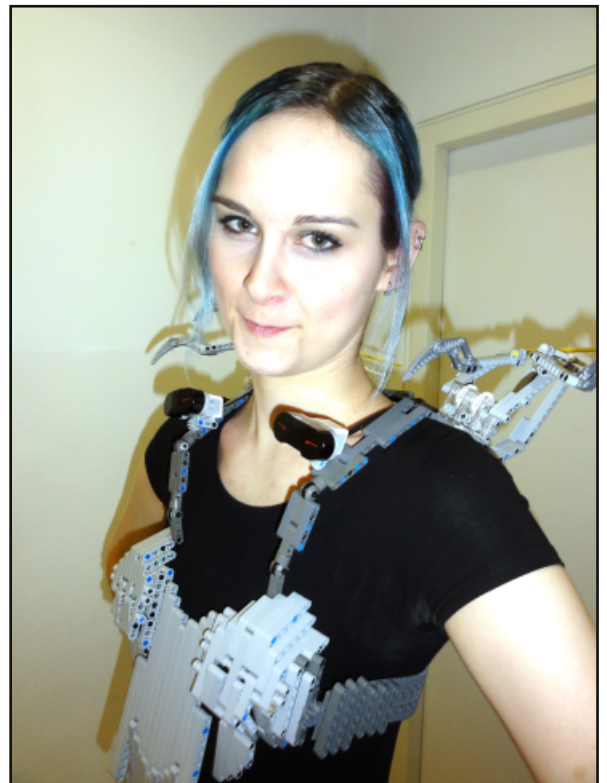
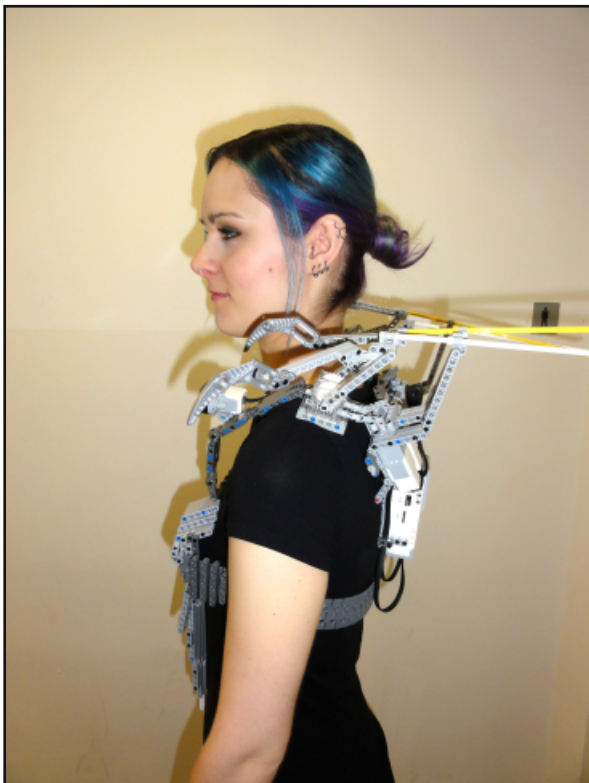
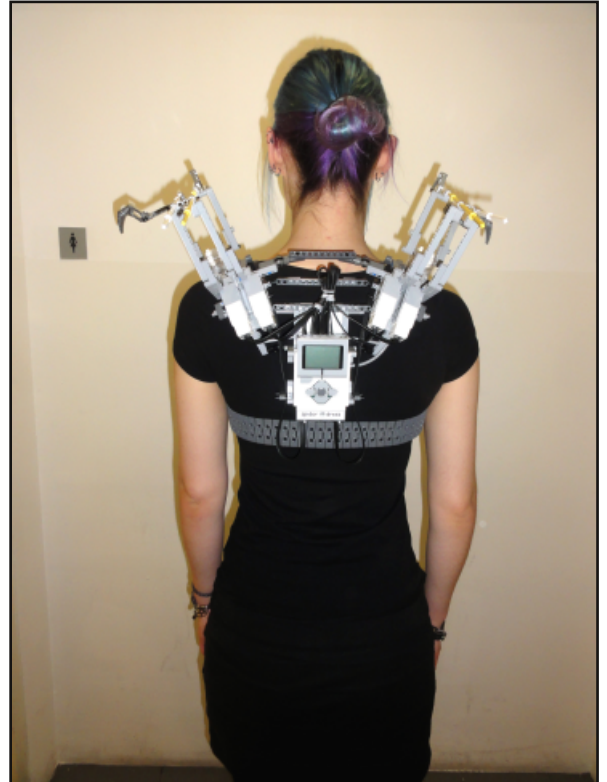
I named my dress "SPID3R TOP", because I did not have enough grey Technic beams to build the whole dress, but methinks, that doesn't matter at all! ;)

#

--> <http://lego.brandls.info/>

--> <https://www.youtube.com/user/brandlsinfo>

--> <http://anoukwipprecht.nl/>



## Trial Truck Construction Tips



Floating axles, while requiring more engineering and reinforcements, offer lot of wheel travel: as much as ten studs, as seen on the 9398 4X4 Crawler.

By Oton Ribic, LUG Kockice, [www.kockice.hr](http://www.kockice.hr)

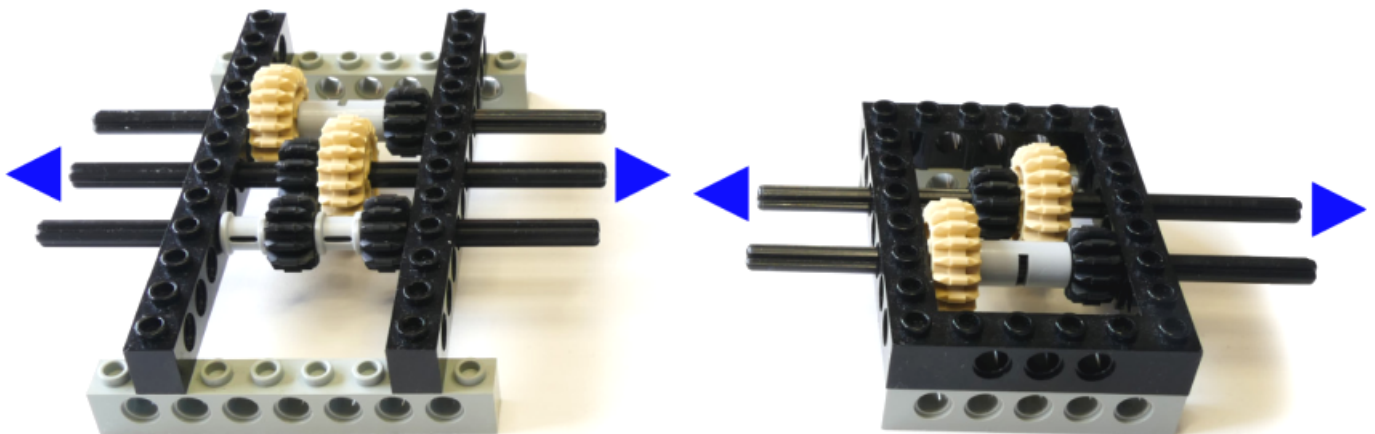


In recent years, truck trials have become increasingly popular among the Technic communities around the world. The combination of various skills and knowledge required for a good trial truck are an interesting challenge for many Technic builders. Of course, there is no single method for building an ideal trial truck, but the majority of successful trucks follow several rules. While the experienced competitors know these rules well already, in this article we will present them to the newcomers. Unsurprisingly, these rules are largely similar to those that real-world off road vehicles need to obey in order to perform well.

## Drivetrain

Let us begin with the drivetrain. The more wheels are driven, the better (preferably all!); however, a common beginner's mistake is to exaggerate the drive power by using too many motors. While it may seem like a good idea, remember that it is a trial truck, not a race car. Unless the rules specify the number of motors or a minimum weight, overdoing it with the motors makes the chassis too heavy, complex, and fragile. It is much wiser to go with, for example, two XL motors and let the gearbox provide the pulling torque. Monsters with six (or even eight!) XL motors usually provide more force than LEGO® parts can transfer reliably anyway.

Although some can be done using a fixed motor-to-wheel ratio, many trials with varying terrain slopes require a gearbox. While it is tempting to build an advanced gearbox with plenty of speeds, in truck trial practice, reliability and sturdiness should always have a priority over features. Though that may seem poor by Technic standards, a gearbox with two speeds, both with lots of reduction, often does the job perfectly well. The actual challenge is in making the gearbox capable of transferring the torque reliably and without the gear skipping, rather than introducing many speeds. This means that the fragile 8-tooth gears should preferably be avoided, not only in the gearbox, but also along the entire drivetrain if possible.



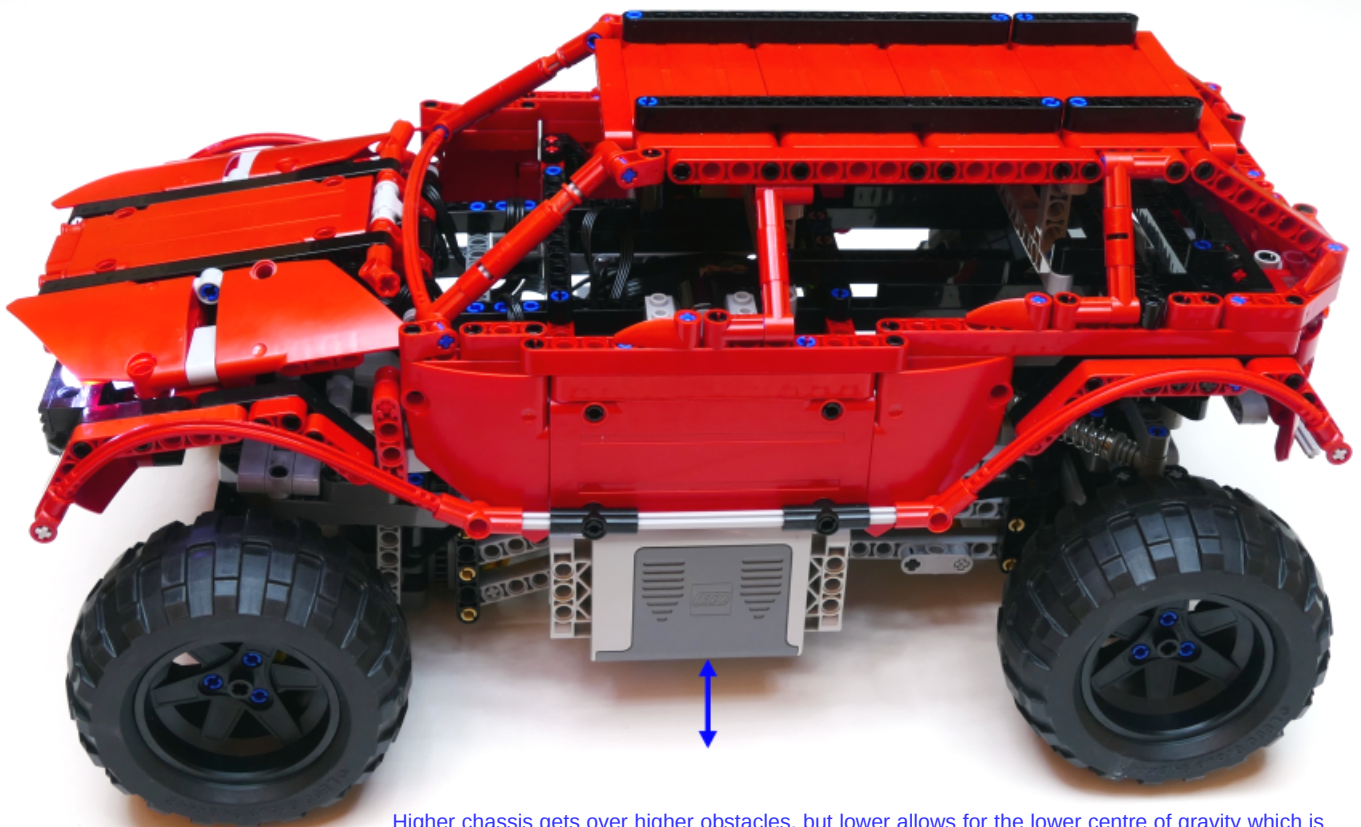
Two examples of very simple, but sturdy and reliable gearboxes. Truck trials rarely need more than two speeds.

Furthermore, the "classic" car-building experience tells us to use differentials, but the trial trucks usually perform just as well without them, i.e. with direct drive to the wheels. True, some wheel slippage may occur while turning, but the available torque should be high enough to overpower it easily anyway. Introducing a differential makes the chassis more complex, and more importantly, should any of the wheels get off the ground, the driving torque is lost. This may seem like cutting too many corners, but truck trial experiments repeatedly show that sturdiness and reliability regularly beat features and complexity, so if you want to use differentials anyway, make sure they are braced well. In theory, remotely lockable differentials would be the best solution, although they introduce too many mechanical compromises.

## Chassis design

The chassis is just as important as the drivetrain, while suspension is arguably its most critical component. Successful trial trucks vary among many different suspension designs, so there is no winning design, but rather a well-judged compromise which wins trials.

Floating-axle suspension, as seen on the official 9398 Crawler set and other vehicles, is a pretty good choice. It allows a rather long wheel travel, ensuring the truck has grip on all tires as often as possible. However, it may be slightly fragile unless perfectly reinforced and is not easily controlled during the shocks (for example, driving off ledges). Pendular axles, where they are free to rotate only around a fixed axis, are noticeably more stable, reliable, and sturdy; however, they offer less travel and work only on trucks with four wheels.

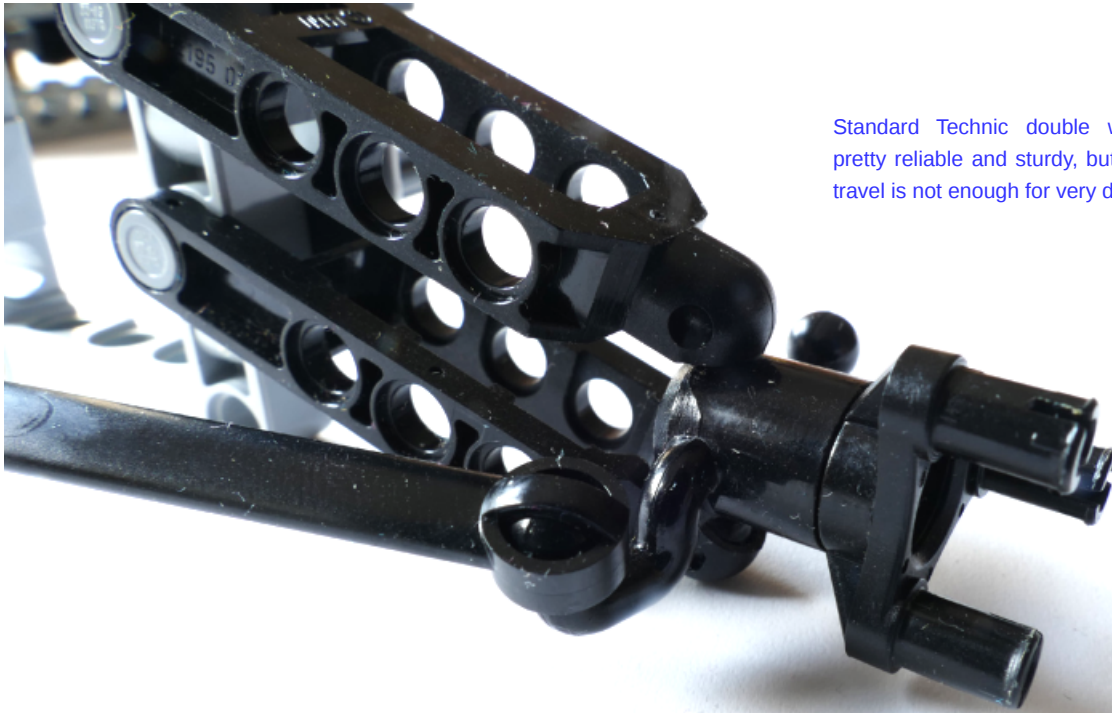


Higher chassis gets over higher obstacles, but lower allows for the lower centre of gravity which is important for stability (note the battery packs as the heaviest elements mounted near the bottom). This crawler is rather low, more suitable for flattish, grassy courses.

Fully independent double wishbone suspensions are easy to build using dedicated standard Technic parts and are also reliable for that reason. Their main drawback is a noticeably smaller allowed wheel travel, and even when ensuring the full suspension range is available calls for some pretty clever design. This is, however, somewhat compensated for by its stability and excellent performance on less demanding courses. If your planned trials include lots of terrain with only a few obstacles, keep this option in mind.

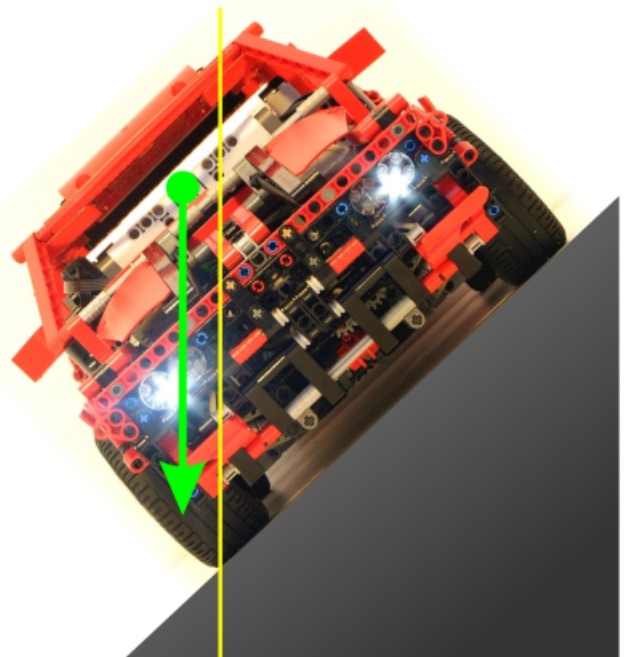
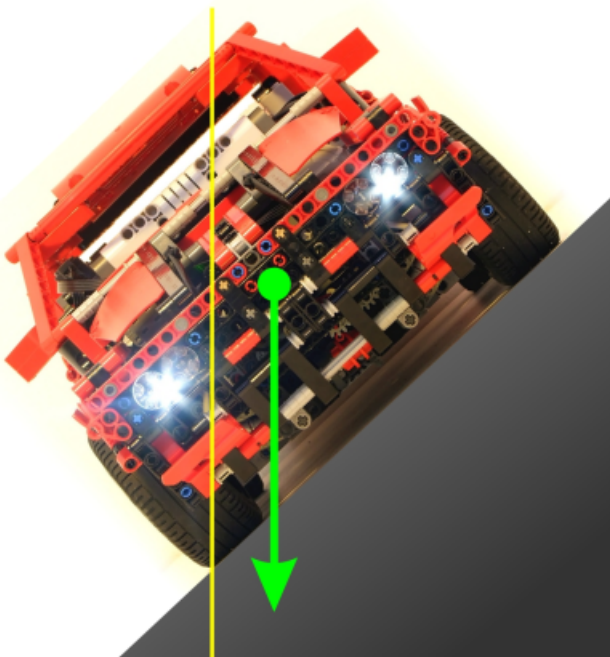
Whichever suspension you choose, make sure its suspension springs are not fully extended or retracted while the truck is static. A common mistake is building such a stiff suspension that it works only on very heavy obstacles. If the springs are pushed between one quarter and one half when static, you are on the right path. Sometimes during building it is impossible to predict how much the final truck will weigh. Therefore, it is clever to keep the springs easily accessible or even leave some space for the extra ones to have the option of tuning it accurately once the truck is complete.





Standard Technic double wishbone suspension is pretty reliable and sturdy, but maximum vertical wheel travel is not enough for very demanding courses.

Another important aspect of a chassis is its ground clearance, i.e. its nominal height above the surface. Clearly, the higher the better, as it allows the taller obstacles to be driven over. In the recent years, Technic has introduced parts specifically made for building portal axles which increase the ground clearance, although they alone are seldom enough.



The lower the center of gravity, the less prone is the truck to tipping over on inclines.

This requirement needs to be counterbalanced with another conflicting one which is actually just as important. Namely, the center of gravity should always be as low as practically possible for a trial truck (and indeed for any vehicle, in LEGO® or real life). If it is high, the truck's distribution of weight will be very unbalanced on tilted surfaces — whereas the requirement of successful offroading always has as much of a similar load on each wheel as possible. Furthermore, a high center of gravity makes the vehicle prone to tipping over on even more serious tilts. In order to lower it, the most effective approach is to try mounting the heaviest parts — the battery packs and probably the motors — as low as possible while keeping the bodywork light and without any unnecessary reinforcements. For

the very same reason of wheel loading, the center of gravity should also be near the longitudinal center of the wheel span.

### Other considerations

Whereas a good understanding of drivetrains and chassis plays a huge factor in designing successful trial trucks, there are other details worth keeping in mind, all of which play their additional roles once the truck hits the (off)road.

One of them is, obviously, the choice of tires. Of course, they need to be large and preferably have a prominent tread, but even with these constraints, there is a range of possibilities. The 54120 are used quite frequently — they are easy to obtain, sturdy, their rims can be mounted both on axles and triangular hubs, and they seem to work well in many off road environments, making them an obvious universal choice. On the other hand, some builders have enjoyed success with 3740, the "old" 24x43 large Technic tires. Although their rims allow mounting on axles only and tend to slip inside the tires, which requires fixing with a piece of double-adhesive tape or a spot of glue, they seem to perform well on dense gravel or softer, slightly muddy grounds. A 92912 (first seen on the Unimog) is similarly effective without the drawbacks, though it is unfortunately more difficult to obtain as it has appeared on the market in a relatively smaller quantity.



From left: the 54120 tyres are rather popular and are universally fine. The 3740 occasionally behaves better on difficult, muddy, gravelly terrains. Flatter, slicker tyres such as 2997 are seldom used, though they are fine on tarmac and "clean" trials.

Then there is the question of steering. Steering arms controlled by ball joint links are convenient and compatible with most Technic hubs, but are more prone to detaching under strain than standard Technic arms and beams. If the expected course features many difficult corners, it may also be interesting to look into the option of implementing all wheel steering. Despite the complexity and weight, it reduces the minimum turning radius by half, in turn making the truck significantly more maneuverable.

Unless predetermined by the rules, the scale of the truck needs to be judged thoughtfully. Longer wheelspan and wider axles increase the overall stability and decrease agility through difficult, narrow trial gates. Width should not be more than about three quarters that of the gates unless specified by the rules.

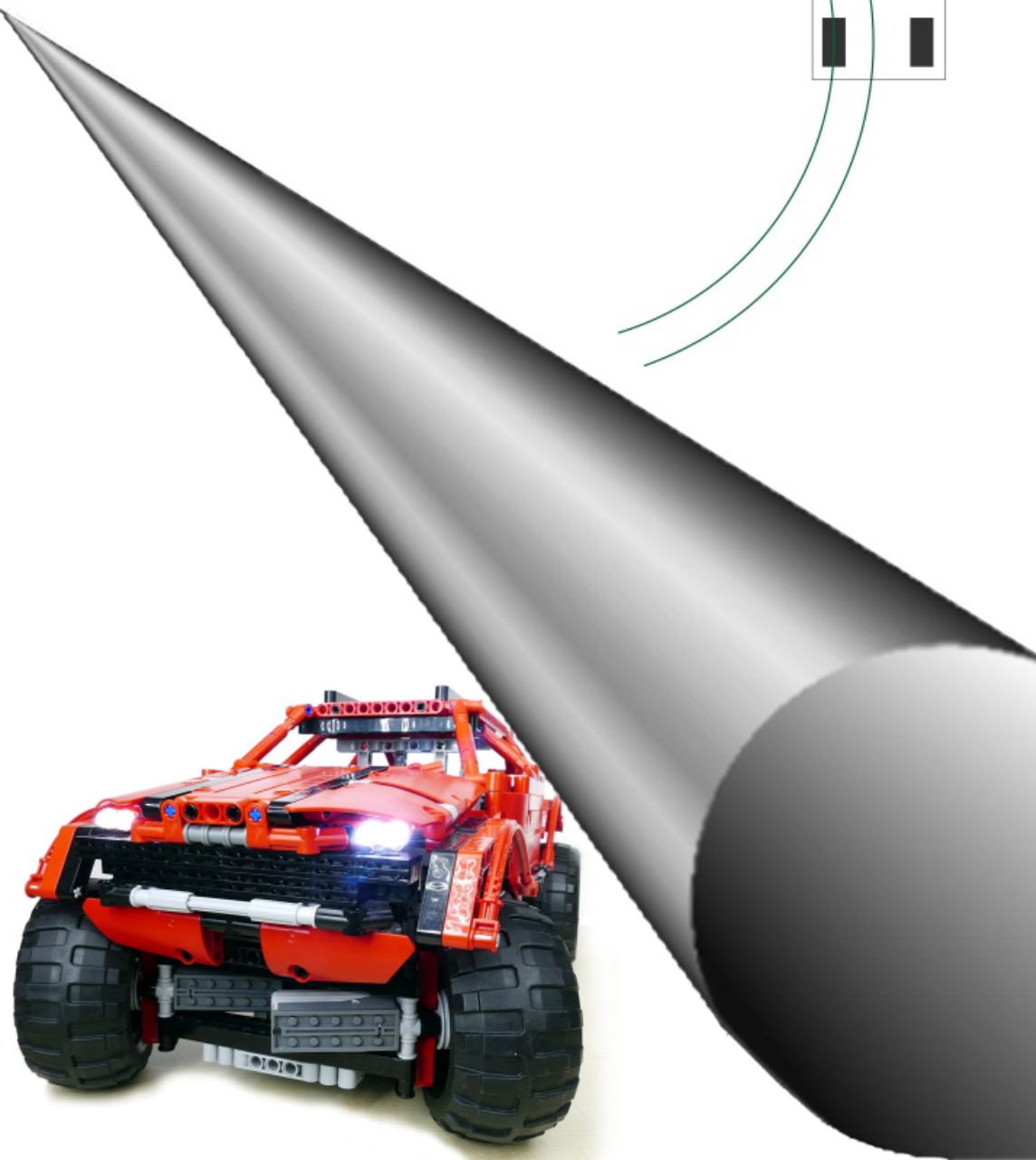
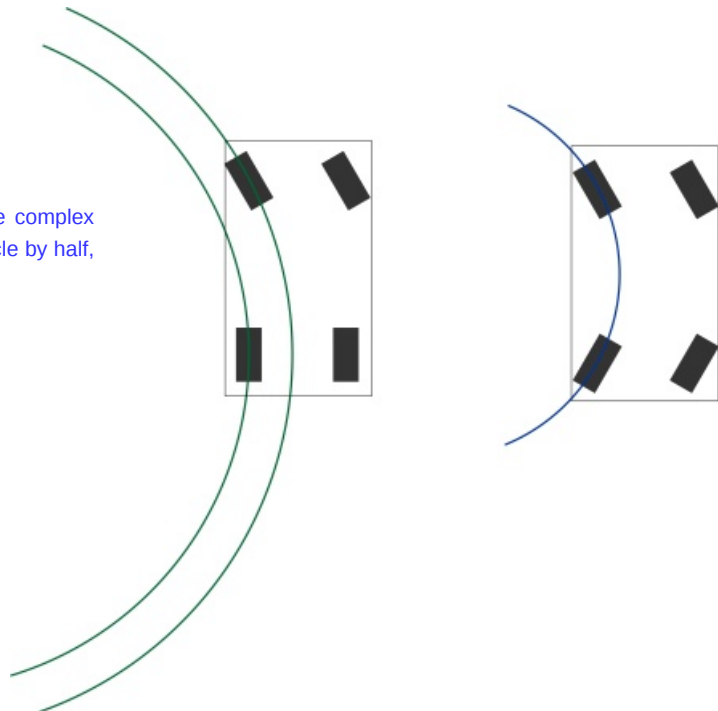


Reinforcements are another point where a wise compromise is required. Generally, trial trucks need a much harder, stiffer chassis than do other LEGO® vehicles, but it is just as easy to exaggerate. Slight bending of the chassis, for example a few millimeters in the center of a 48-stud long wheelspan, is acceptable; trying to reduce it to zero would probably require lots of beams, which would significantly increase weight, leading to even more reinforcements, etc.

Finally, a general advice: do not try to design everything in your head and then attempt to build a successful trial truck on the first try. Though meticulous and wise planning pays off, building trial trucks is largely a repetitive process. Test your chassis as soon as it is driveable on a few simple homemade obstacles if not in the open, observe its weaknesses, and try to correct them. Be aware that you may need to repeat this cycle a couple of times before you may have a truly competitive truck. It takes some patience, but trial trucks — as well as many other mechanically complex systems — simply depend on too many subtle variables to have them all accurately pinpointed right from the start. Good luck!

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Four wheel steering is obviously more complex than two, but it reduces the turning circle by half, increasing agility.





# Panzerbricks

## 7th Anniversary

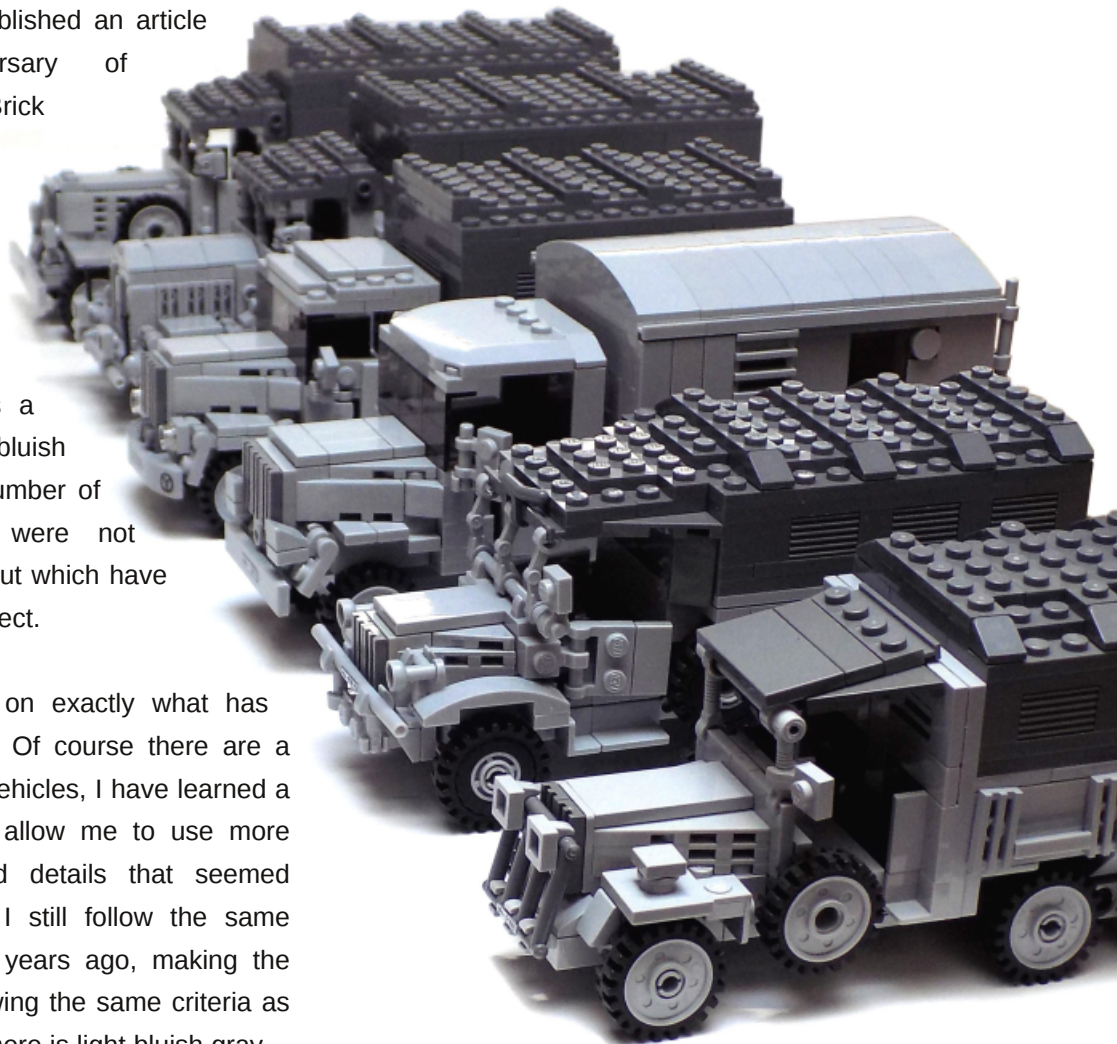




## 7 years in light bluish gray

Four years ago, when we published an article about the 3rd anniversary of Panzerbricks[1], in HispaBrick Magazine 011, I didn't think this project would last this long. Looking back, over 7 years I have built more than 115 different models and many more that didn't quite work out - which represents a considerable amount of light bluish gray pieces - as well as a number of builds and activities that were not included in the original idea, but which have been incorporated into the project.

It is hard to put my finger on exactly what has changed over these 4 years. Of course there are a considerable number of new vehicles, I have learned a lot of new things which will allow me to use more complex techniques to build details that seemed impossible in the past. But I still follow the same system as when I started 7 years ago, making the same presentations and following the same criteria as when I began. And above all there is light bluish gray... I have built most of the easier models which means that it is more and more complicated to build new models, and sometimes I fail. During the first years at most 1 out of every 10 models would never be finished, but over the last year, nearly a third of my builds have not made it into a finished model. I even have a few I have been trying to build for several years now, but a



challenge is always welcome: I just need to give it another try!

One of the things very few people know are the implications and complications related to such a long-lasting project. They are taking up an ever larger part of the time I dedicate to the project, and they are more and more necessary to be able to keep building:

- Cataloguing. It might appear to be something of little importance, but it is not just a couple of MOCS, there are more than 100, which are all carefully stored. It is taking me a real effort to remember the names of each one of them. So I designed a program to save important information for each model, whether finished or under construction, including pictures, where it is stored and the parts it is made up of. This has been very useful when I have been forced to cannibalise

some models for parts! At least now I know which models are finished or under construction and exactly where they are.

- Logistics. Another problem that is starting to become serious. Each model, whether original or duplicate, needs to be stored. There are more and more as time goes by, requiring space and new boxes to store them. When I go to an event I need to know where each model is and how many boxes I need to transport them. The boxes need to be big enough to be able to safely carry the finished models and I need to keep count so I don't take any duplicates along or forget a certain model.

- Cost. As they are part of a collection I keep all the models built. Obviously, each new model implies buying new parts, so financial planning to reduce shipping costs is essential.

- Props. This is one of the areas in which things have changed a lot in the last 4 years. The need to have a landscape or terrain elements, on which to take pictures of the finished models or to do big displays with many vehicles made me focus on a modular landscaping system: the MILS system we have discussed at length in this magazine (HBM 013, 014, 015, 016 and 017). And it would not exist if it weren't for Panzerbricks. I have also designed my first train, a steam engine with several wagons - I didn't even have a single piece of track before, but there it is. Not to mention the minifigs and their corresponding complements. It is hard to resist the temptation to get more and more! In the end it all sums up to more and more parts ...



On the other hand, I tend to update my models when new parts become available that allow improvements in certain characteristics or the overall look of a vehicle. In the last couple of years a large number of new parts have come out and many of them are very interesting and useful. If I decide to make an update it affects all the vehicles of the same family and, in some cases, that can mean rebuilding 5, 10 or more vehicles. That in turn means new photo shoots with all that entails.







Panzerbricks



Panzerbricks

One of the areas I have tried to be involved in as well, even though I can spend little time on it is participating in communities of fans of military constructions. It can be very interesting to exchange different points of view with so many AFOLs/TFOLs. The level of their constructions is really incredible and it is amazing to see so many different interpretations of the same vehicle.



The questions I get most frequently are related to the techniques I use for building. Basically they are the same I have used from the start. I gather the necessary information about the model I want to build and look for reference images. Based on those I attempt to build a model to my taste.

I also get questions about scale. I tend to choose the size depending on the wheels and more or less in comparison with the models I have already built. But comparing them with some of the Tamiya kits I have, my models are quite close to 1/35 scale. Evidently they are bigger than they ought to be in comparison with the minifigs, but this way I can add functional elements to my builds or allow them to fit inside. After all, minifigs don't have the same proportions as real people; if you sit a minifig on a chair it is just as tall as when it stands. Or if you move their hands up they are still below

the top of their yellow heads... But rather than discussing what scale is better I believe each one builds the way they like best, just like that. After all, we build for fun.



Tatra 57K



Adler 3GD



Steyr 1500A



SdKfz 222

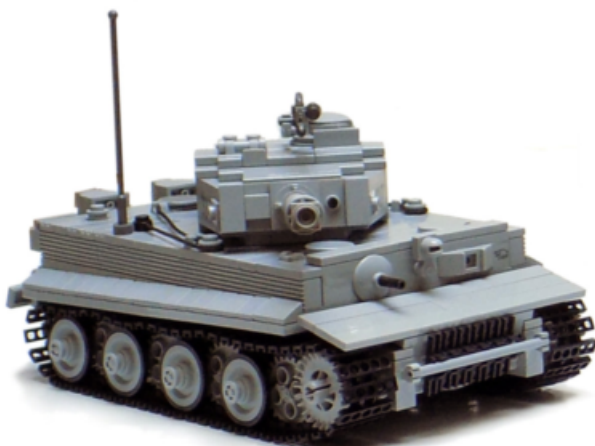
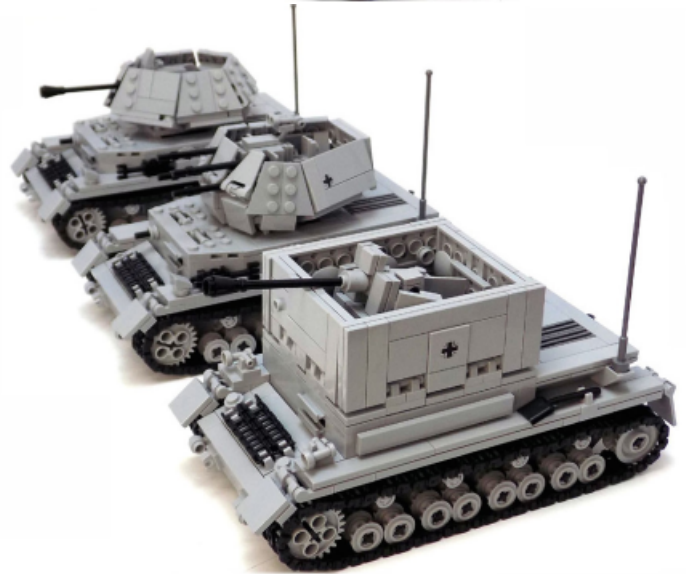




Another subject that comes up frequently is the use of non-LEGO® parts. When I play with minifigs I am not a purist and I love all the complements I have for my minifigs. They are better and better in quality and I use them often in my photographs. However, when it comes to building I use only LEGO® parts. Even so, I don't feel I should take sides for a more or less purist option - each one builds the way they like best. Anyway, from my point of view, the more purist the technique the more merit it deserves.

Going forward, I think my level of productivity will start to diminish little by little. On the one hand it is becoming harder to find models I haven't built yet and that are attractive enough to attempt a recreation. There are still some models I would like to build with LEGO though. On the other hand, the time I dedicate to our LUG and to the magazine is increasing so I don't have as much time to build as before. I suppose that will help increase my stock of light bluish gray pieces!

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[1] Panzerbricks: <http://www.abellon.net/Panzerbricks/>

## Great creators of the world: Aaron Newman (Nuju Metru)



By HispaBrick Magazine®

### Pictures by Aaron Newman

In this edition we bring to you a young builder known for his fantastic Lord of the Rings creations.

**HispaBrick Magazine:** Name?

**Aaron Newman** (a.k.a. Neju Metru).

**HBM:** Age? Nationality?

**AN:** 20. American.

**HBM:** What do you do normally?

**AN:** I'm a full-time student at the University of California, Los Angeles. I study musical theater. Most of my life revolves around school and school-related projects, but I love finding time to MOC when I'm on academic breaks!

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

**AN:** I've been stacking bricks as long as I can remember... couldn't give you an exact age when I started, but I remember making things out of DUPLO even when I was very young. It didn't take long for me to move on to real LEGO from there. The first LEGO Star Wars products in 1999 definitely contributed to

that transition. I'm a sucker for Star Wars™!

**HBM:** When did you start posting your models online?

**AN:** Let me see if I can figure this out... I've been a member of the online community ever since I joined BZPower in 2008, and I've been MOCing as long as I've been into bricks... According to my oldest-dated MOC photos, I guess I started posting creations of mine in 2009. I've been on Flickr - probably my most successful sharing site - since 2011.





**HBM:** What is the last set you have purchased?

**AN:** Not counting gifts and stuff BZPower sends me to review, I think the last thing I bought for myself was 70231 Crocodile Tribe Pack, and it made its way instantaneously into my parts bins. Most of my LEGO purchases these days are Bricklink orders.

**HBM:** What is your favorite commercial LEGO® building theme?

**AN:** Hard question. BIONICLE will always have a special place in my heart; I've been a huge fan since it began in 2001, and it was my gateway theme onto the LEGO online scene. I still have a closet full of BIONICLE sets, and love to MOC within that system. But I think the winner here for me is LEGO Lord of the Rings. I made a point of buying every single product in that line, and I actually have some of them in plastic display cases over my desk. They're (mostly) excellently designed, superbly detailed sets, and from one of my favorite Intellectual Properties. What's not to love!

**HBM:** What is your favorite theme for building?

**AN:** Medieval fantasy, hands down. Take a look at my recent work; I've now made three "waves" of an imaginary LEGO fantasy theme - "(Not) LEGO Dragon Lands" - and that all comes after having decided to try and make a complete series of LOTR LEGO sets (a project I conceived of, for the record, before TLG announced that they'd be doing the same!). Medieval fantasy has been my genre of choice for a really long time. While I also dabble in Steampunk and BIONICLE, I like to think I've developed a specialization.

**HBM:** What is your favorite LEGO® element and why?

**AN:** How can I choose! There are so many bricks I just adore, and use all the time, and wish I had more of. The first thing that comes to mind are SNOT plates, because I implement those constantly and they allow for some of my favorite shapes. But I couldn't really call those a "favorite..." There are some elements that are just gorgeous, which I consequently implement whenever I can (maybe too often). The trans-apple-green flask. Dark tan viking horns. Minifigure

broadwords. Anything olive green. Mixels joints! A current favorite is definitely the 1x4 spring launcher part, and its various, vibrant ammunition; they're so super-fun and compact that I end up including them all over the place.



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

**AN:** Nothing comes to mind immediately, actually. In the middle of building, when I hit a snafu, I'll often be like, "Grr, why doesn't this element exist! Why doesn't this part come in this color!" etc. But looking back from a detached place, I realize that the times when I want a piece to solve a particular problem, but no such piece exists in my inventory, have pushed me to innovate a more creative (and often more elegant) solution to my problem. Discovering how to get around these speed bumps is one of the most rewarding parts of building, for me, and it's why I don't ever see myself working on LDD, where no such problems can ever arise. But if I had to pick a part that I know doesn't exist that I'd really love for a potential upcoming creation, it'd be the 1x4 curved slope in dark purple. That'd be killer!



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

**AN:** When I'm at school (to my sadness!): none. When I'm back with my bricks at home, though, this absence means that I have both the energy and the self-license to really attack my MOCing table! I sit for hours, tinkering and working, and have a blast with it. I lose track of time.

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

**AN:** My family has always been supportive of my hobby, thank goodness; I mean, it makes me the easiest person ever to buy gifts for! Insofar as friends go, there was definitely a period where I closeted the hobby from my peers because we were all of the age where people don't know better than to make fun of others' interests and idiosyncrasies. But ever since I've been at college, I've been pretty open about my LEGO fandom, and people have actually responded really well to it. They think it's cool when I show them my gallery, or tell them about my LEGO Ideas project.

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

**AN:** Rarely; I prefer to let the bricks I encounter guide the design as it forms. The exception to this was my Minas Tirith model, which - since I had to make substantial Bricklink orders of white elements, and adhere to a pre existing design - I drew some rudimentary blueprints for. More often, I go in with just a basic idea of the kind of thing I'm trying to make (a harbor, a dragon, a ballista) and an idea of the scale I want to realize it in, and then I get started and see how it shapes up from there.



**HBM:** You build models at different scales, which is the more difficult for you to create at?

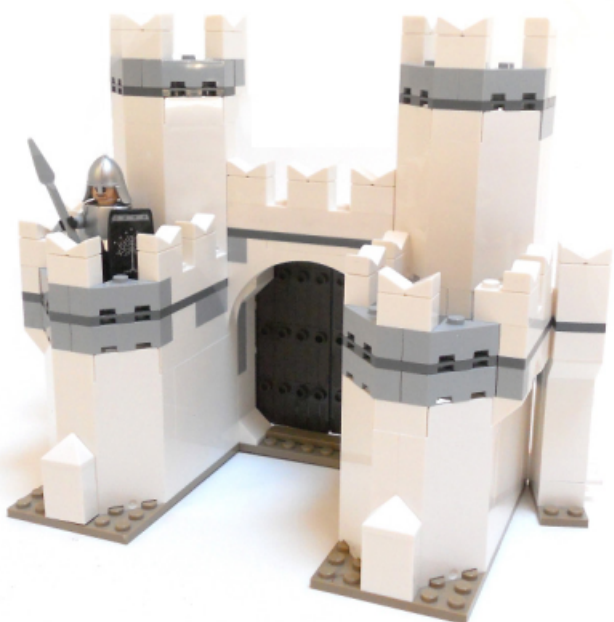
**AN:** I think it's harder for me to make something small which will satisfy me as thoroughly as a bigger creation in terms of the design. When a model's big, the sheer size of it can gloss over some of the less-than-stellar design choices, or inefficiencies. On a smaller scale, though, these kinds of flaws stand out much more, and are much harder to reconcile without losing integrity elsewhere in the build. Nothing makes me happier than when I succeed with a small design; some of my personal favorite creations have been some of my smallest.

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

**AN:** This is a toughie, too. But I think my favorite creation I've made so far would be the combination of my "(Not) LEGO Dragon Lands" sets "64018 Alchemist Workshop Defense" and "64020 Battle for Myrdoc Tower." I built these two as a single model, and only split the castle into two definite "sets" later on. The fact that they can combine with each other is what makes me proudest... these two creations are modular Gothic castles (and on that point, I'm extremely satisfied with the shapes and sculpting I achieved on these; the level of detail is exactly how I wanted it) that are wholly interchangeable and compatible with one another. Making sure that every single combination of modules was physically possible was a terrific design challenge, and it's one I successfully completed. On top of the modularity, I packed tons of play features and cool







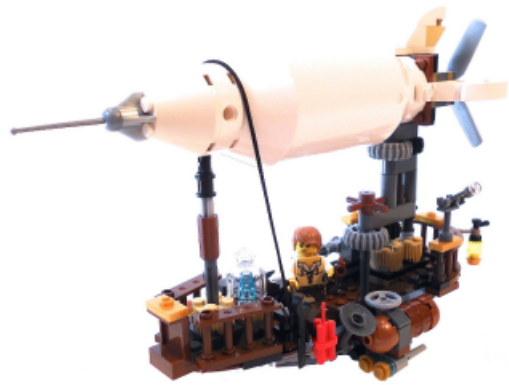
details into the build. I really can't imagine any way I could have executed closer to my vision.

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

**AN:** Well, I'd be a terrific hypocrite if I condemned the use of non-official parts, considering all my dragons have custom-cut cloth wings! I personally don't mind the use of non-official elements in builds, if/when there's no LEGO-made solution to the problem that they solve, and as long as they don't upstage the more legitimate brickwork. My personal preferences when building and viewing creations tend to lean more towards purist designs, but to each her/his own.

**HBM:** Many of your constructions are inspired on stories like The Lord of the Rings and The Hobbit, almost as if they could have been official sets. Do you think LEGO® could have developed those themes further?

**AN:** Like I said earlier, LEGO Lord of the Rings is my favorite commercial theme. Nothing would make me happier than to get more LOTR sets, I'd buy them all up in a heartbeat! The second wave of the theme felt intermediary, definitely; sets like the Pirate Ship felt like wasted opportunities to produce more iconic/dynamic parts of the film trilogy. I feel like even one more wave - with the right sets and characters - could be enough to give the LOTR theme the kind of closure that its second wave really didn't deliver on.



**HBM:** How do you feel about the fact your rendering of Minas Tirith wasn't selected to become a set despite the fact it got well over 10000 votes on LEGO® Ideas?

**AN:** I was very honored and somewhat baffled that my Minas Tirith made it as far as it did. I never had high hopes for it becoming a product, considering its size and TLG having already made one D2C LOTR set, so the LEGO Ideas rejection didn't come as a terrible shock or disappointment or anything like that. I'm just flattered to have been considered, and grateful to all the people who wanted to see my version of the White City become an official product.

**HBM:** What inspires you to create medieval/fantasy layouts and MOCs?

**AN:** Oftentimes I draw some inspiration from my own past work; I can look at an old creation of mine and think, "wow, I could do that so much better, now," and then I try to, and that's a fun challenge. Sometimes I feel like I'm harping on the same creation ideas for years, pushing to perfect them. The "(Not) LEGO Dragon Lands" project has been encouraging me to come up with new ideas, though. The first thing I do when beginning a new "wave" of these creations is to build a new suite of dragons and a new cast of characters. Once I've tinkered around with minifig parts and the dragons enough, I have a general idea of the characters that'll be inhabiting this wave, who the good guys and bad guys are, what colors I'll be working with, that sort of thing. I divide the figures up into interesting combinations, the "sets" they'll be in, and while playing around with different arrangements I think about what kinds of settings I want to realize. These idea seeds propel me into building the main models.

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--> <https://www.flickr.com/photos/nujumetru/>





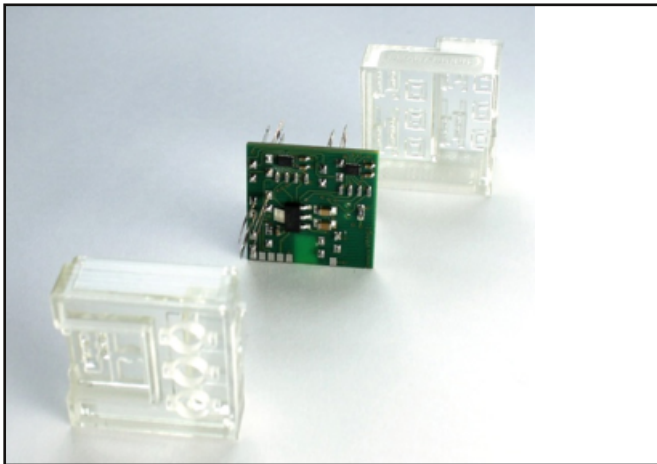
# SBrick

By HispaBrick Magazine®

## Pictures courtesy of SBrick team

Almost a year has passed since we first caught sight of the SBrick project on Kickstarter. SBrick promised to take remote controlling LEGO® creations to the next level and at a price that would be within the reach of everyone, so it was something we kept our eye on as the Kickstarter campaign easily passed its goal. We got our hands on an SBrick soon after and were impressed.

First, the SBrick is small. It feels light yet there's a lot of power under the hood. It can slot straight into your LEGO creation and can control up to four peripherals at the same time; these could be motors or LED lights. It also works over bluetooth - specifically BLE (BT4) - and boasts a range of close to 100m.. One of the highlights is that unlike the infrared remote control, with the SBrick you can control your creation outdoors and in direct sunlight. BT control is a great leap forwards when it comes to playing with LEGO and it is innovative; if any proof of this was needed there is an IP pending on the technology housed within the SBrick.



The SBrick team also got the looks of the module just right - it fits into LEGO models smoothly and has a great finish. Once you start using BT control, going back to the simple infrared remote control is a little like switching back to black-and-white TV from your large HD box... you could do it, but why would you?

With the one-year anniversary of the successful Kickstarter campaign just around the corner, we decided it would be great to check in with Vengit, the Hungarian team behind the SBrick, to learn about its story. We talked to **Lénard Pásztor**, founder and



CEO, and hardware developer **Tamás Fábíán**, in their Budapest office to find out more.

**HispaBrick Magazine:** Judging by how busy your office is, the last year has been quite an exciting one for you. But the SBrick story must have started earlier. How did it begin?

**Lénard Pásztor:** I can't remember the exact date, but I was sitting at home on a rainy Sunday evening in Budapest. It was probably late October, early November. It was getting late but I didn't want to go to bed just yet so I started rummaging around my apartment - my aim was to do a bit of tidying, boring I know. Anyway, I found a box I hadn't seen in years. I opened it up and saw hundreds of LEGO pieces from a set my dad had given me probably 25 years earlier. So I thought I'd put it together. I didn't have instructions, but LEGO sets are a little bit like riding a bike, you never forget how to do it. Fast forward 45 minutes and I'd finished putting the creation together and that's when the light went on in my head. Because this yellow truck was complete but it just sat there, motionless. Then for Christmas I got a 42009 MK2 Crane for a present. It took me a week to put together yet when it was complete it didn't give me enough of an impulse to start playing with it. I thought to myself, wouldn't it be much better if I could start playing with it without restrictions?

That's when the SBrick idea was born. As the Vengit team were playing around in the office with other Internet of Things (IoT) devices in our lab, we already had the first prototype ready in the middle of January.

The second prototype meanwhile was working by the middle of February, so you can say the SBrick went from an idea to something quite concrete very quickly.

The second prototype already had a case to go along with it, which you can see on our Kickstarter page.

**HBM:** But LEGO® already has a remote control kit.

**LP:** Yes it does, but I was thinking of something much better. Infrared is such an outdated technology especially when it comes to remote controls. The range is horrible, you can't use it in the sunlight. I wanted something which would really allow me to control that LEGO truck anywhere.

We live in a modern, high-tech world, where things are powerful, small, of course controlled via a smartphone because today just about everything works through your phone. And then I thought, why don't I design one with my company? And last but not least, I wanted to be able to design the user interface any way I wanted. I didn't want to be tied down to a single option but wanted a way to show off my creativity. This feature would eventually be known as the Profile Designer.

**Tamás Fábíán:** At Vengit our forte is using cloud solutions to help companies scale but the SBrick was going to be our first attempt at making a physical product you could touch and hold, all in-house. I was really excited because not only am I a huge LEGO fan, one of my main interests is radio and communication. And I saw that the SBrick would be something that would bring all of that together.

**HBM:** What were some of the key features you worked on?

**LP:** There were many, to be honest. When we started working on the SBrick, we didn't want to create

something that was "sort of okay." We wanted to put something together that was going to immediately be the best thing on the market, as well as being affordable enough for everyone to use. We also wanted an app to go along with it, so there were several pieces to this complicated puzzle. Not only did we have to design and then manufacture the hardware, we also needed to work on the housing so that it would feel as LEGO-ish as possible. The housing needed to make it simple to attach all LEGO power functions elements. The app would have to be available across all platforms, IOS, Android and Windows phone. This meant a lot of work.

**HBM:** What problems did you come across?

**LP:** We went through design after redesign of the hardware until it was just right.

**TF:** It was important... no, essential, that the SBrick draw as little power as possible, yet be powerful enough to control every peripheral.

We also wanted the SBrick to be able to be used for robotics, so the programmable firmware was something we worked hard on. We are just finishing up the user interface which will allow you to program the SBrick through the app, which is pretty amazing for a small brick that only costs 40 GBP (ed: at the current rate about €57 or US\$62). This means that the SBrick, and your LEGO creation, will be able to function autonomously. Again, this is something we're proud of. We helped to build a gondola lift model at the TOMAR BRInCKa 2015 exhibition in Portugal, and also used and programmed an SBrick to play the first few notes of the Imperial March (Darth Vader's Theme) on a LEGO motor.

The biggest problem we had was with the Android version of the app; the SBrick application works only on those devices running Android 4.3 or higher. Because there are so many hardware models running Android, it has been really hard to test our app on each smart device - this has been annoying to say the least. Luckily we've put so much work into it that the app now



works perfectly on IOS and Windows, and is almost flawless on Android as well.



**HBM:** How was the SBrick received by the LEGO® community?

**LP:** Well, let's put it this way. Without the support, help, advice, and input of the LEGO community, the SBrick would never have become a reality. Like I've said many times, I think that the SBrick is truly a collaboration between Vengit and the LEGO community. Whenever we've asked for their input, LEGO fans around the world have been gracious enough to let us know what they need. I can't tell you what a big thing this is. It has allowed the SBrick to develop incredibly quickly, because we take their advice on board and continue to try and give them just what they asked for. Just go to Youtube and search for SBrick, or look for #sbrick and you will be amazed by the videos posted online. What is amazing about these videos is that 99.9% of them are created by our users, not us. It's amazing! We were hoping it would turn out this way but plans don't always work out the way you want. But the LEGO community has been great, and we continue to have a dialogue with them through the [social.sbrick.com](http://social.sbrick.com) website, our social platform.

**HBM:** How many SBrick users are there out there at the moment?

**LP:** There are about 4500 users on our social site, which is a strong start for something we expect to continue to grow. The social site allows people to chat about the SBrick, share experiences, race each other, get notified about LEGO and SBrick events, and even buy and sell things through the market. We've learned

that people will buy the SBrick as long as they know about it, but they're even more likely to buy SBricks if they're in front of them. So we're looking for people, stores, chains and companies who are willing to act as resellers for the SBrick all around the world; with Christmas only months away this is a key focus.



**TF:** One of the really cool features of the SBrick is the Profile Designer. The Profile is what you see when you are controlling your LEGO creation using a smart device; it's basically the GUI. You can design your GUI layout any way you want - this is important because we're all different and individuality is essential through the [social.sbrick.com](http://social.sbrick.com) website. Then you can either download it to your device and just use it, or if you want you can share it with other SBrick users. This means many times there is already a Profile available for the LEGO set you're putting together. We're working on making the Profile Designer more intelligent, to make it simpler to add lighting controls

for example, or to make it possible for trains to simply coast rather than move under power.

**LP:** The SBrick team is continuously adding Profiles to the market - you can download these for free - because the SBrick is being continuously improved.



**HBM:** Besides the LEGO community, have you had any feedback from other tech people?

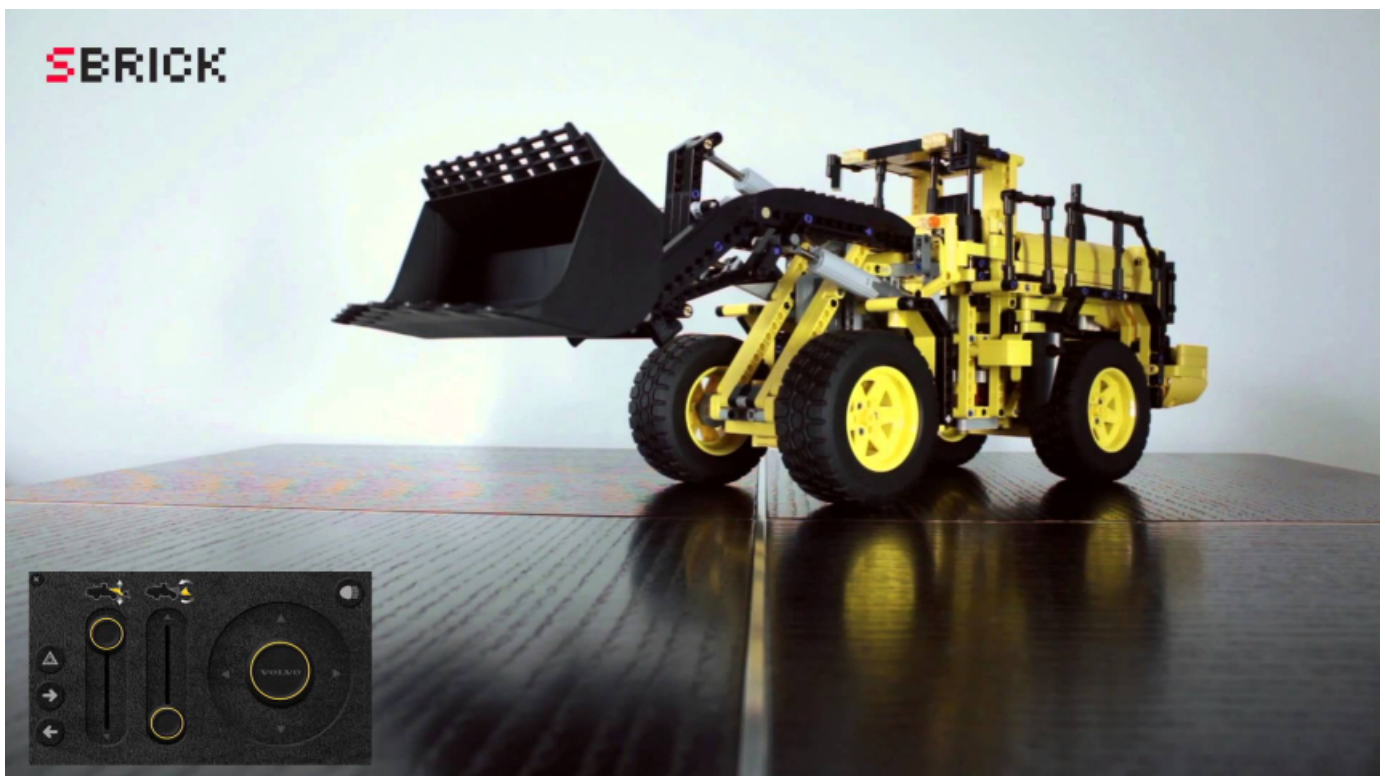
**LP:** We've been recognized in Hungary as an innovative start-up, and as a result we've been invited to quite a few places to show off the SBrick. The biggest event we've been to so far was in Austin, TX, for SXSW Interactive. We've also been to other tech conferences in Europe where we caused a bit of a buzz.

**HBM:** What did they like about it?

**LP:** As you probably know, most techies are still kids at heart, and I haven't met a kid yet that didn't like LEGO. So that was one thing they liked. What they were excited about is that the SBrick is a true Internet of Things device (IoT). IoT is a trendy word that is bandied about a lot to describe how objects are becoming connected through the internet, and the technology on which the SBrick runs is exciting for those who believe in connectedness. But what they also seemed excited about are the projects we're developing right now as we have several things in the pipeline at the moment. Of these, the biggest thing is education. That is the area we are now moving towards and where we feel the SBrick will be an incredible tool.

**HBM:** Education? What do you mean?

**LP:** The SBrick is perfectly suited to helping children, or adults, learn about programming and robotics. There is something really satisfying about seeing a child put a LEGO kit together, then adding the SBrick and then start to play with it. It always puts a smile on their faces, and on mine when I see it. But if you look at the larger picture, of teaching programming and basic



Sbrick panel for remote control in a mobile device.



robotics in schools, this is something we designed the SBrick for when it was just a tech spec on a piece of paper. It is something that it was created to do, and some people are already taking notice. In order to make the SBrick more useful for education - to allow it to accept more sensors for example, we had to redesign the control layer. Now we will be able to include the smart device's gyro sensor, or perhaps its camera. Later it will also be compatible with LEGO® Mindstorms sensors as well. At the moment the SBrick is compatible with LEGO Mindstorms motors, but only by using a special cable. We are constantly on the look out for ways to make the SBrick more useful; with education we are trying to find more and more peripherals we could connect to the SBrick, to really make something incredible.

**HBM:** So what is next for the SBrick?

**LP:** We are working now on adding to the SBrick line. We will be making sensors, peripherals, and all manner of things that you can attach to the SBrick to make it even more fun to play with. But the first thing we will be finishing is a new power supply for the SBrick. Ever since the first SBrick got into the hands of our Kickstarter supporters we have been fielding complaints about how poor the stock LEGO power supply is. So we're going to fix that problem first. The SBrick can carry 11V and 3A to pass through it, which is a lot. With a bigger and better power supply, people will be able to create really fast-moving vehicles. But we also want to produce a small power supply that will be suited for those building trains - for example as a train switch.

**HBM:** Last but not least, has LEGO shown interest in the SBrick?

**LP:** They haven't made contact with us but I am hopeful that the SBrick will eventually become part of the LEGO portfolio. They are one of the largest toy manufacturers in the world and by comparison we are very small. But our SBrick does far more for far less than what LEGO currently offers. However, at the end of the day they are a business focused on the bottom

line, so to be noticed and picked up we will have to sell more SBricks.

But we're doing well, we have a fantastic community on our SBrick social site along for the ride, and we're constantly evolving and improving. So watch this space!

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Facebook page: [facebook.com/sbrick](https://facebook.com/sbrick)  
Youtube channel: [youtube.com/sbrickofficial](https://youtube.com/sbrickofficial)



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CREATED BY **vengit**

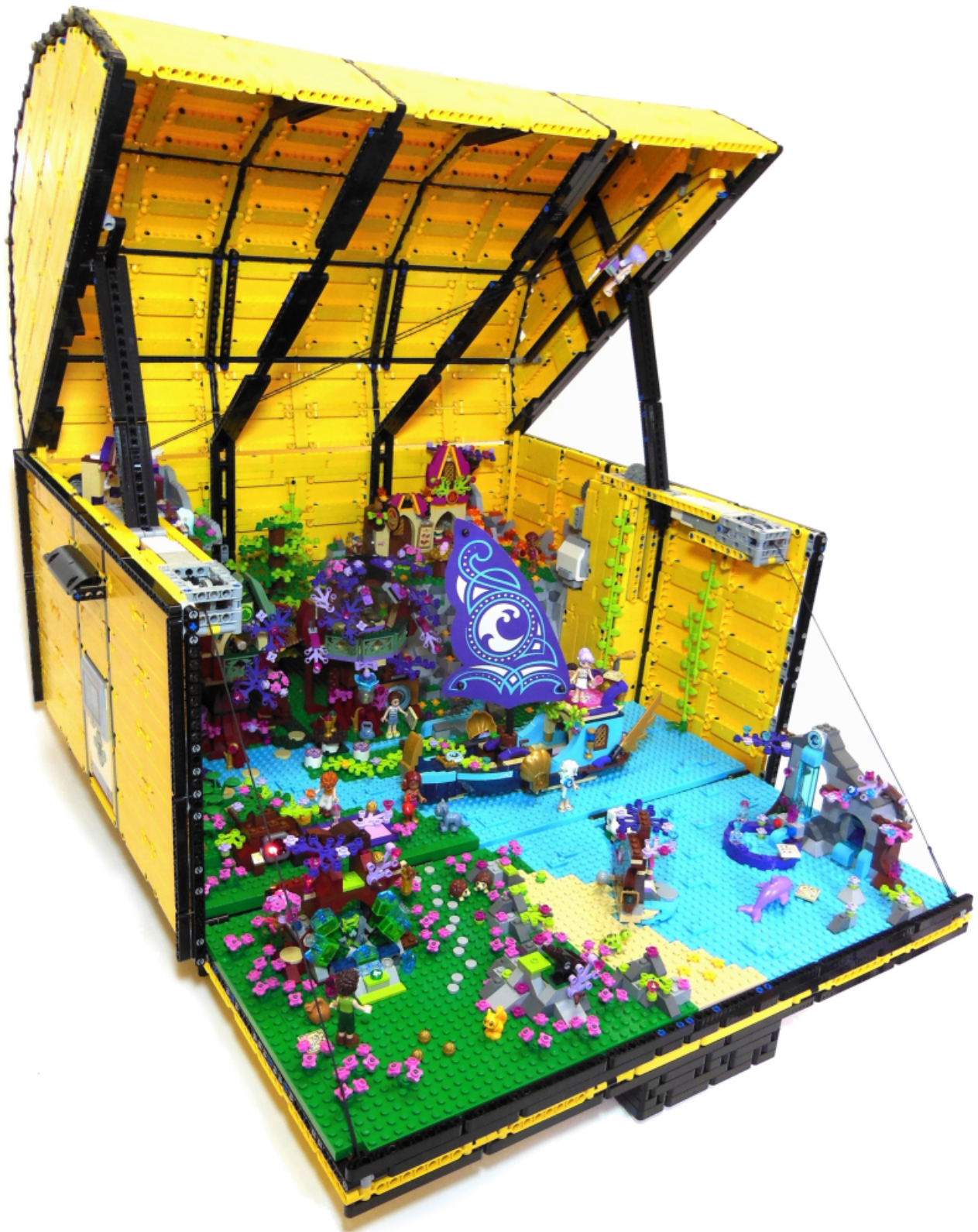
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# Discover the magic world of the Elves

By Anika Vuurzoon / Anika Brandsma



Emile Jones is a normal girl living in a normal world. When she gets her grandmother's medallion she discovers the portal to Elvendale in her grandmother's garden. Elvendale is the magic world of the Elves. In Elvendale Emily meets Azari the fire elf, Farran the earth elf, Aira the wind elf and Naida the water elf. Emily really likes Elvendale but also misses her home. Going back to the human world isn't that easy. To open the portal back to the human world Emily needs four keys that are all hidden in Elvendale. Together with her new Elves friends Emily starts a

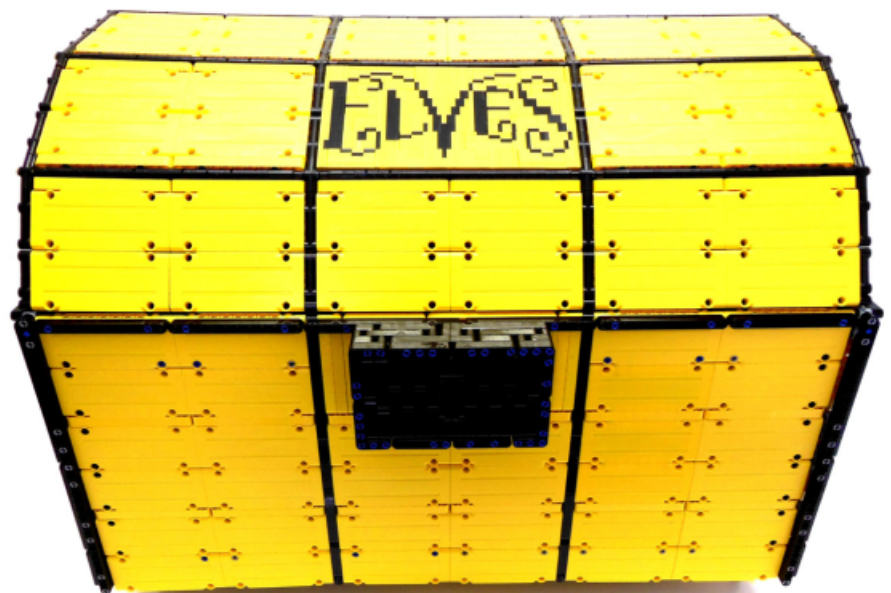


search to the four keys. One by one and with help of the magic powers of the elves they are able to get the four keys. With the four keys they can open the portal to the human world and Emily can go home.

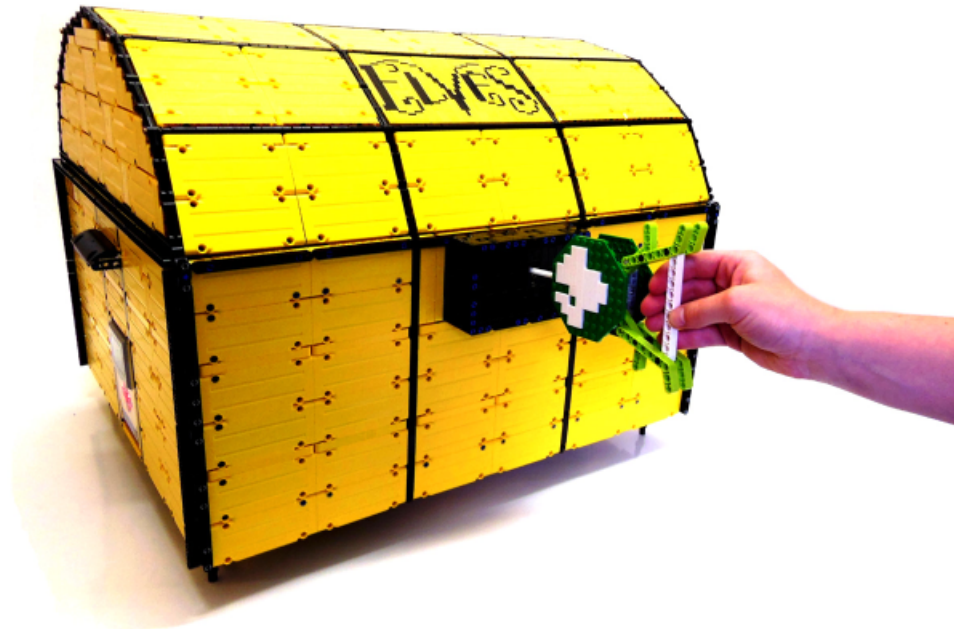
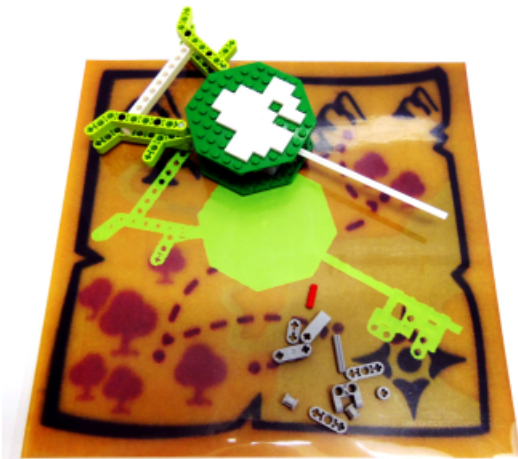
The story above is essential for the new LEGO® Elves line which is on the market since March 2015. Currently there are six sets in different sizes ( 41071, 41072, 41073, 41074, 41075 and 41076). In August two new sets will be released (41077 and 41078). Each set represents a scene of the LEGO Elves story, all eight sets together make up the complete story. Every set is designed with lots of details like flowers, diamonds, bottles and symbols of the four magic powers. The animals and mini figures in the sets have tattoos to give them a magical look. A great feature of these sets is that they have moving parts which makes them very playable. Some examples: The tree in set 41076 opens when pushing at the front. Inside the tree one of the keys is hidden. In set 41072 a map, which shows where the keys are, is hidden in a rock. The map falls out of the rock when moving the branch. In 41075 the bridge connecting the left and right part of the tree house can be transformed to a stair.



Although I really like these moving parts I was wondering why they don't move automatically. This gave me the idea to add EV3 power to these LEGO sets. I wanted my new LEGO creation to have the same mysterious feeling and good playability as the sets. The result is my Elves treasure chest.



The top and front of the treasure chest can be opened by kids. However they need to build a key first. The shape of each key bit is shown in a picture. Kids have to puzzle how to put the bricks together to get the same shape. When a key bit is finished the key can be put into the lock at the front of the treasure chest which will then open.

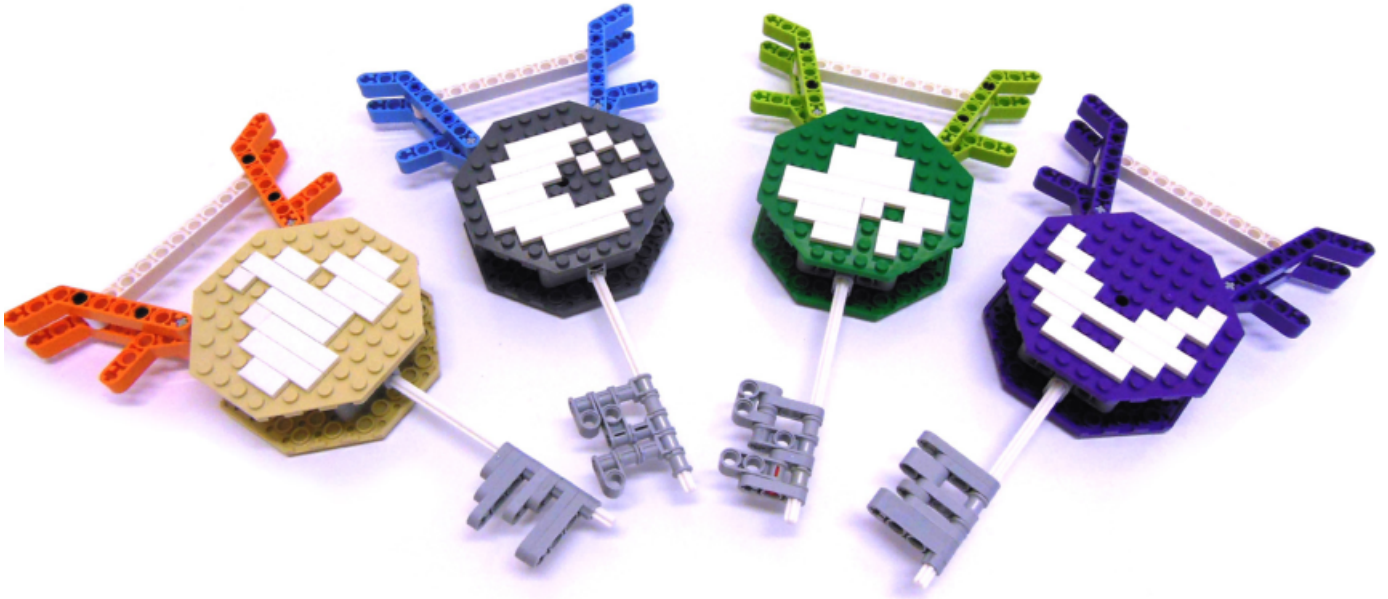


Inside the treasure chest the first six LEGO® Elves sets are visible in a nature landscape. And of course some of the parts are moving! Aira will fly to the top of the treasure chest with her flying engine. The boat sails. The tree and the lava flow will open to show the green and orange key. After watching this Elvendale adventure the treasure chest will close again waiting for the next kid with a finished key. The keys that open the treasure chest are a bigger version of the keys in the LEGO sets.





I designed four different keys just like in the Elves story. Each key has a different level of difficulty to build. Therefore kids from all ages can enjoy my Elves treasure chest.



Curious how my Elves treasure chest looks in action?

Watch the YouTube video:  
<https://youtu.be/7o-u6NxBFrs>

#

# LUGs of the world: MUGs (Australia)

By HispaBrick Magazine®

We continue our tour of LUGs from around the world. This time we have made a stop in Australia.



**HispaBrick Magazine:** Name of your LUG.

**MUGs:** MUGs (Melbourne LEGO® User Group). When the group started all of the Australian groups had funny names like BUGs, PLUGs, SLUGs etc. MUGs is the only group to have retained the name.

**HBM:** Country.

**MUGs:** Australia.

**HBM:** When did your LUG get started?

**MUGs:** Our first official meeting was in the second half of 2000.

**HBM:** How did it get started?

**MUGs:** The five people who started the group met online via LUGnet. We started having meetings and now meet in person every month at two different locations.

**HBM:** How many members does it have?

**MUGs:** MUGs doesn't have a formal membership structure but we regularly have 40+ people attend our meetings and recognise a few hundred people as members of our Community.

**HBM:** Are there any other LUGs in your country? Do you have contact with them?

**MUGs:** Most states of Australia have at least one or two LUGs though not all of them are RLUGs (yet). Although the population is comparatively small, we are geographically dispersed so there are a lot of small regional LUGs that do not have enough members to become RLUGs.

A lot of us are members of the Facebook groups of other Australia LUGs and we try to keep in contact with each other. Where possible, we try to attend the major events or other LUGs.



**HBM:** Do you organize events or exhibitions?

**MUGs:** Our major event for the year is Brickvention which we hold every January. Brickvention is both a convention and a LEGO Fan display. We also arrange or provide displays for local charities, schools and community groups throughout the year.



**HBM:** Do you have contact with TLC (The LEGO Company)?

**MUGs:** Yes, we do. We have contact at the international level via the CEE Team and Jan Beyer who is our overseer. At a local level, we have regular contact with staff at LEGO Australia. As a courtesy, we invite them to our show every year and sometimes meet up with them at other events.

**HBM:** How is to be a LEGO fan in Australia? Do you have any advantage or lack?

**MUGs:** It's tremendous amounts of fun! There are so many fabulous members of our Community. There are some negative things as well – LEGO prices aren't cheap; our nearest LEGO Brand Store is in Hawaii (over 11 hours away by plane); many of the fantastic international LEGO fan events are a long way away; and many of the exclusives are not available to us.

**HBM:** Can you explain any interesting anecdotes related to your LUG?

**MUGs:** There was the infamous over supply of cows as part of LUGBULK where it took us over an hour to work out why we had so many extra cows. It turned out that the cows were supplied as a pair and not as single animals. The convention attendees at our event each received a bonus cow in their event bag that year.

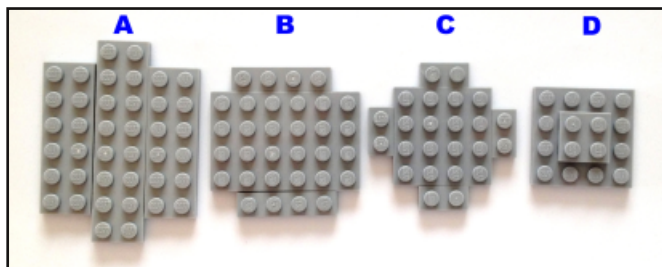
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# How to make an asteroid / planet

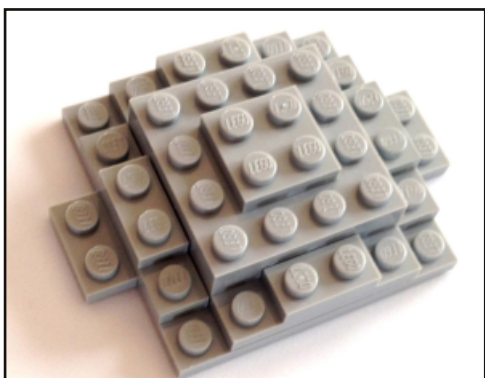
By Colin Walle

¿Have you ever wanted to make a planet, or a ball, using LEGO® pieces? Here are some tips on how to do it. First of all, what you will want to do is create a six-sided box. These are all the pieces you will need to make one side of the ball.



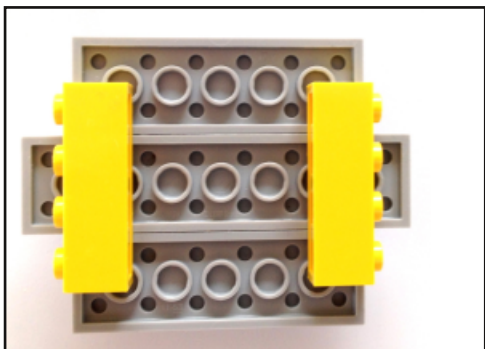
You will also need eight bricks modified 1x4 with 4 studs on the side, so that you can attach the six sides of the cube together.

Take all of the plates labeled “D” and attach them to “C”. Take this group of plates and attach them on “B”. Then do the same and put them on “A” labeled plates. Here is what one side of the ball will look like.

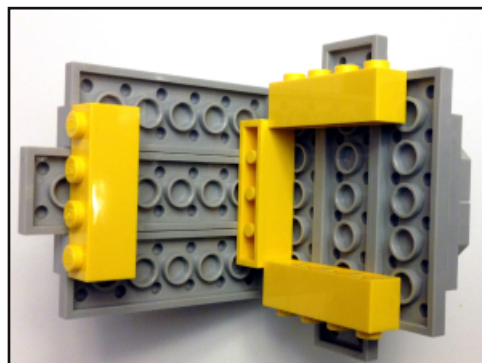


Repeat this step six times - though, as we will see soon - you can make variations to make it more interesting.

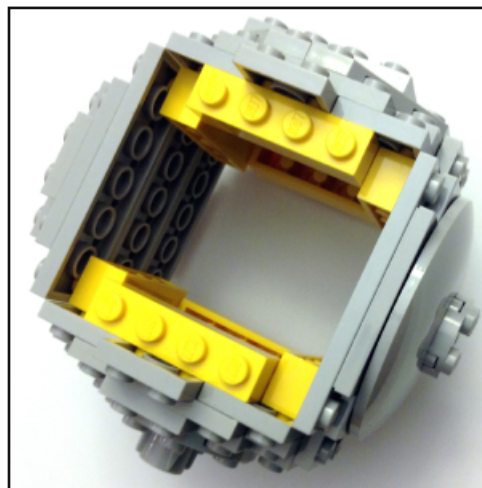
For four of the sides, attach two of the brick modified 1x4 with 4 studs on side, in the same way as you can see in the picture.



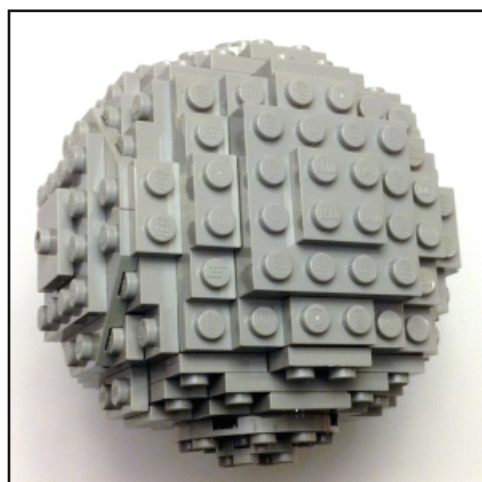
Then attach them together as shown in the image.



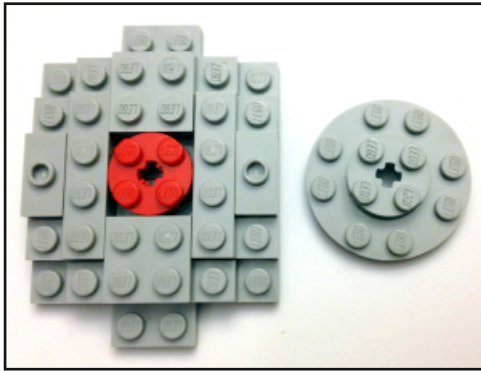
Note how you can make your own variations of the sides, so long as they angle upward in a similar fashion to the original.



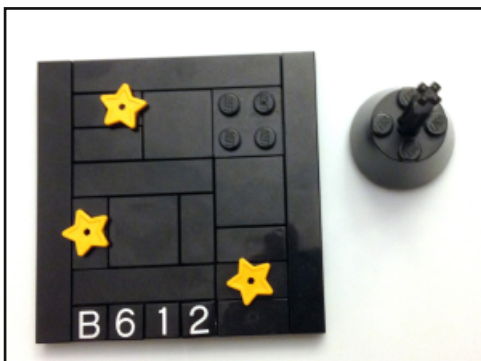
Attach the last two sides to the top and the bottom, and you have your planet / ball!



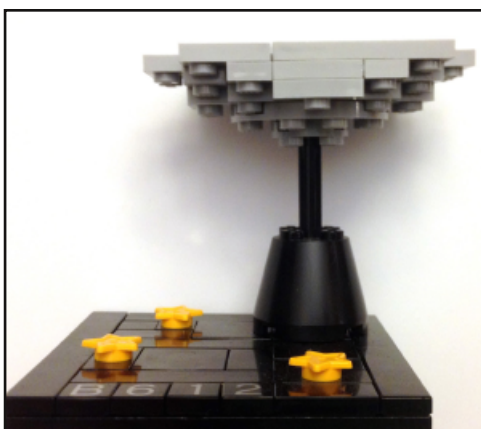
If you want to mount the ball / planet on a pedestal, you will need to make it possible to insert a technic axle by building one of the six sides differently like the next image.



You'll need a Technic axle, a cone 3x2x2 and a LEGO® surface, that can be decorated, where the planet will be placed.



The lower side would attach to the technic axle like this (though in reality you would have that side attached to the other five before you mount it on the technic axle).



Your end result could look something like Asteroid B-612, the home of "The Little Prince".



I hope you enjoy using this technique to make your own planets, stars, moons, asteroid, and any other spherical object that you desire!

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To see the project on LEGO® Ideas:

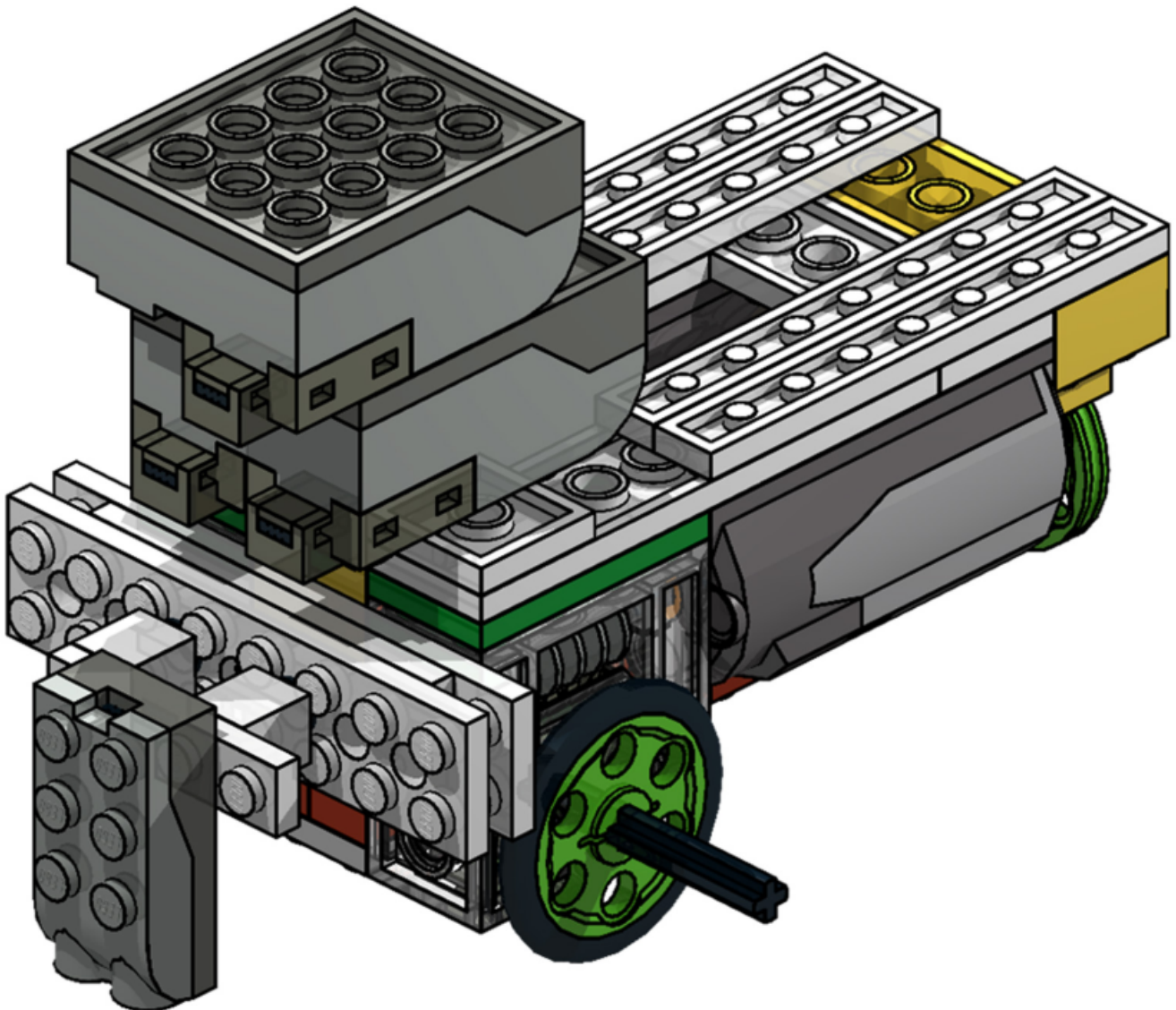
--> <https://ideas.lego.com/projects/50323>





# Tutorials

## Robotics with LEGO® WeDo (VIII)



### An introduction to robotics for the young with LEGO® WeDo: Line Follower

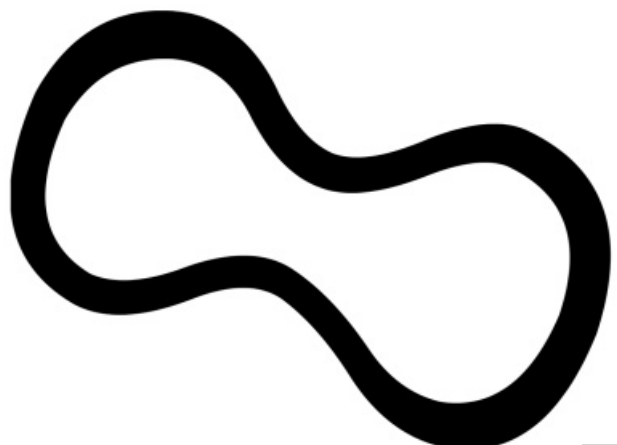
By Diego Gálvez

In this installment, I will explain in detail how to build and program a line follower using the materials included in the LEGO® WeDo set.

#### Construction

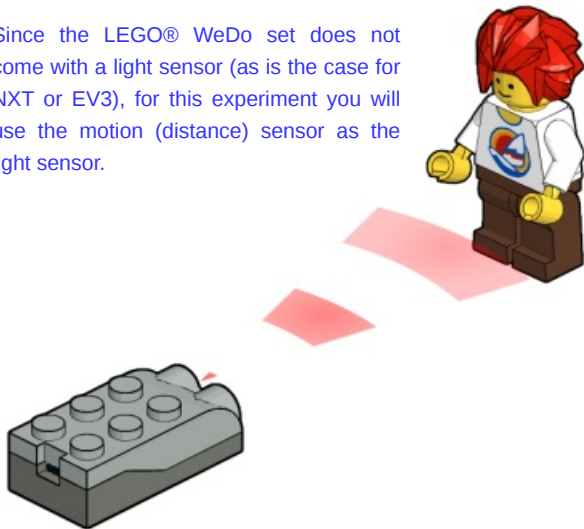
You will need two standard LEGO® WeDo sets to build a line follower.

The instructions can be found on my blog [notjustbricks\[1\]](#) (the web address can be found at the end of the article). There you will also find a track to try out the line follower.



Before beginning, it is recommended that this experiment be done in a setting where the light is uniform (avoiding shadows), so that the sensor gets the most accurate reading.

Since the LEGO® WeDo set does not come with a light sensor (as is the case for NXT or EV3), for this experiment you will use the motion (distance) sensor as the light sensor.



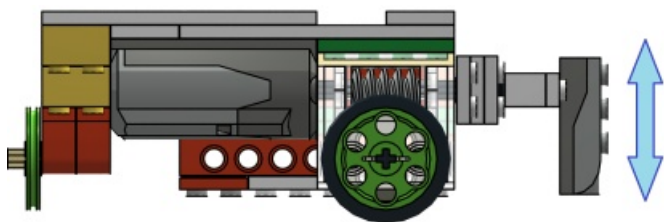
### Sensor Calibration

Place the line follower on the track. With the WeDo software make a program that copies the sensor readings on the screen.

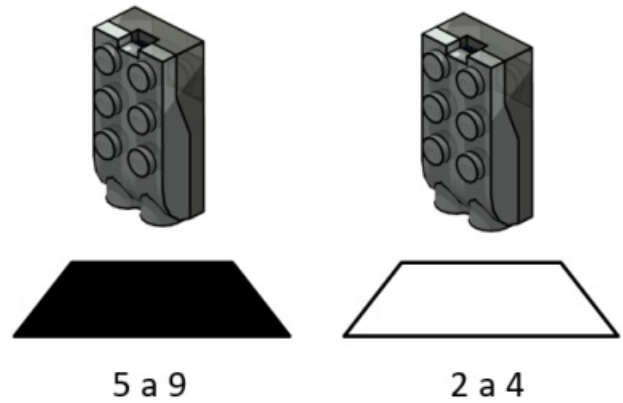


Observe the sensor readings at different points along the track, both on the white and black area.

If you do not observe a noticeable change in the sensor reading, chances are you need to adjust the sensor's distance from above the track.



The values given below are the results obtained with the motion sensor I used. These values should be taken as reference and will not necessarily match those that you get, as it depends on the **lighting** and the **motion sensor** itself.

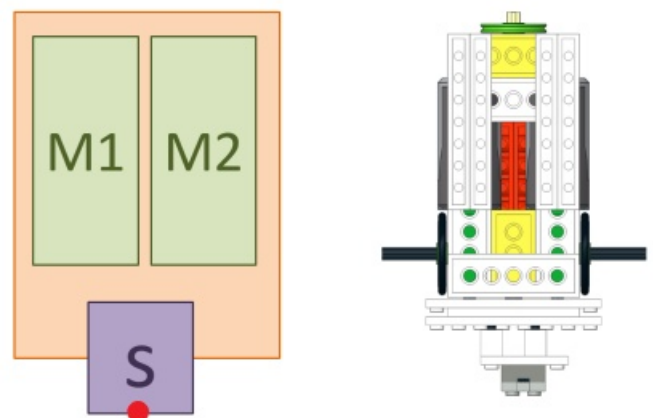


In our case, a reading of 2 to 4 was obtained when the sensor was above the white surface, and a reading of 5 to 9 was obtained when the sensor was above the black surface.

It can be said that when the sensor yields a value greater or equal to 5, the surface is black; otherwise, it is white.

### Connection

To avoid confusion between the two motors, we'll name them M1 and M2, as shown in the figure below (view from above).



When connecting, the software should recognize which motor is which.



In the following case, M1 is the motor with one circle and M2 is the motor with two circles.



## STEP

To be able to more easily understand the algorithm, the concept of 'steps' will be defined first.

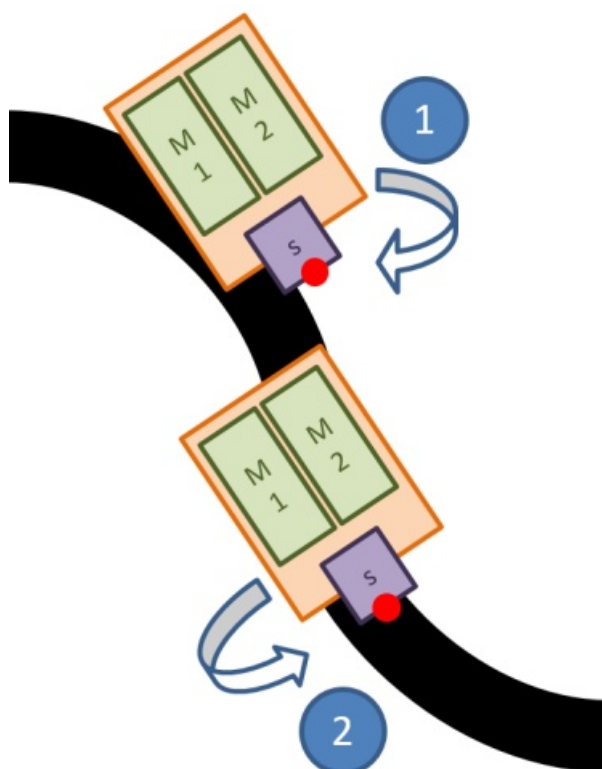
For the purpose of this experiment a 'step' is the powering of the motor for a small period of time. In the case of the line follower, we have defined what a 'step' is for M1 and M2.



Testing them both out, you will be able to see the 'steps' for both motors.

## ALGORITHM

The algorithm for the line follower has two cases.



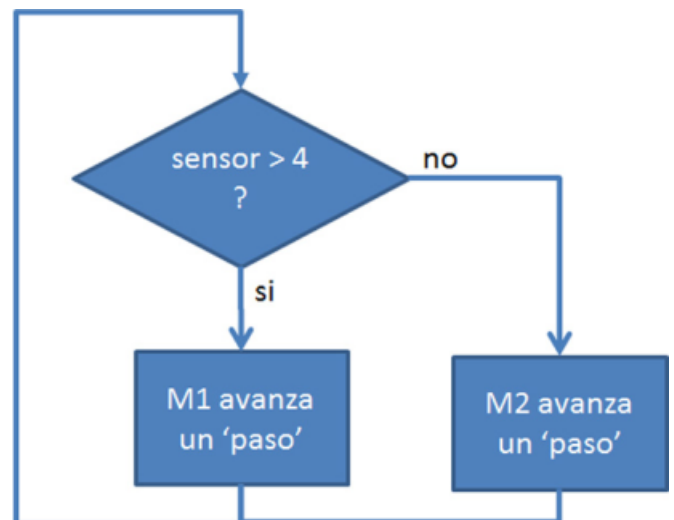
## Case 1:

If the sensor reads «white» M2 advances one "step".

## Case 2:

If the sensor reads «black» M1 advances one "step".

Both cases should be locked in an infinite loop so that the sensor (reading white or black) continues processing.



Block diagram

## WeDo Program

To ask if the sensor's value is greater than 4, we will use the sending and receiving blocks.

The first part consists of sending the value that the motion sensor is reading. In order for the reading to continue updating, we will place it in an infinite loop block.



The message values will range from 0 to 10.

As calculated in the beginning, the sensor gives values ranging from 2 to 4 on a white surface and 5 to 9 on a black surface.

Now the message receiving blocks are created. For values 2, 3, and 4 the 'step' for M2 is added, and for values 5, 6, 7, 8, and 9, the 'step' for M1 is added.

In the example shown, the cases were added for 0 and 1 upon detection of white and 10 upon detection of black. Although not necessary, to avoid any undesired outcome it is good to include the full range of sensor values (0 to 10).

#### Reading on a black surface



#### Reading on a white surface



#### Recommendation

When testing the line follower, hold up the HUBS USB cables since these, due to their weight, may cause the prototype to move.

#

[1] On the web page <http://notjustbricks.blogspot.com> you will find multimedia material of the author's own creations, some with building instructions.





## LEGO® WeDo (VII)

### Programming in Scratch

By Edwar Romero

Cover Image by Osvaldo Romero

LEGO® world domination plan: 1) Find world domination music that will inspire us and make our enemies tremble. 2) Bring the bricks to your favorite secret hiding place. 3) Start planning the strategy for world domination using our LEGO bricks. 4) Remember this task becomes a lot easier if the bricks are programmable, like those from the WeDo™ set. 5) Learn to program with Scratch so that the bricks will follow only our orders as we please.

In previous issues of HispaBrick Magazine we have made the comparison between the basic commands of the WeDo program and the equivalent coding instructions found in Scratch. We have also discussed the Amazing Mechanisms (Dancing Birds, Smart Spinner and Drumming Monkey), Wild Animals (Hungry Alligator, Roaring Lion and Flying Bird) and the Play Soccer (Goal Kicker, Goal Keeper and Cheerful Fans). We are getting close to finishing the basics of the first 12 WeDo robotics constructions.

This time is Adventure Stories: Airplane Rescue, Giant Escape, and Sailboat Storm.

Those are the last 3 robotic creations shown in the image below.



Let us begin with the first story, the Airplane Rescue. The WeDo software programming is shown on the next page.

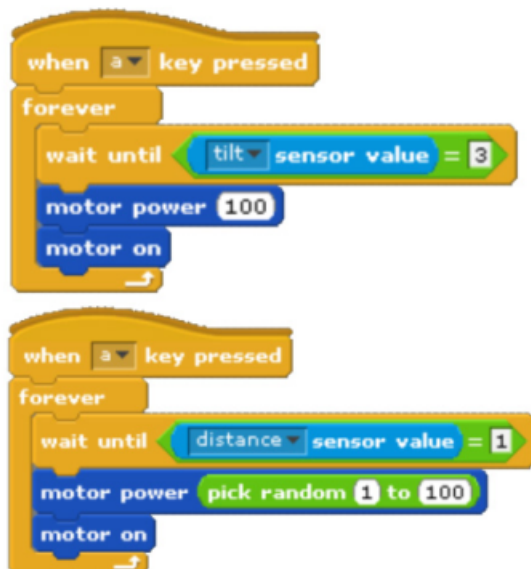


When the letter “A” on the keyboard is pressed, the program starts. If the tilt sensor is pointing up, the motor will show all the power it is capable of; however, if the tilt sensor is pointing down, the motor will experience power difficulties that are quite random. Everything is programmed in a loop to keep the code running forever.



The Scratch programming becomes a bit challenging this time because there is no image showing the tilt sensor's direction. The tilt sensor has 5 different values (from 0 to 4). A leveled sensor is 0, pointing down is 1, pointing to the right is 2, pointing up is 3, and pointing to the left is 4.

For our code we need to remember only that up is 3 and down is 1. So, the programming must be similar to the one shown below. The start and loop blocks are found under the Control menu. The commands to turn the motor on and off are under the Motion menu (if not visible, go to Edit, Show Motor Blocks). The tilt sensor is under the Sensor's menu. The equal block (the one with the “\_=” sign) is found under the Operators menu.



With these two programs we can have hours of fun creating a story about a damaged airplane in need of rescue.

The next robotic creation to program is the story of the Giant's Escape. This is a giant that wakes up very angry when disturbed from his dream.



The programming code from the WeDo software is shown below.



The basic WeDo code uses the arrows in the keyboard to make the giant go up (when it wakes up) or to go down (when the giant goes to sleep). Both programs help us to test the times for waking up and the time for going to sleep in order to check that everything goes in the right direction (so basically, to check nothing breaks!).

The version of the code for Scratch for this giant is shown below. You need to remember that a time of 10 in WeDo is equal to 1 second in Scratch.





The following code is the version with the sound of the giant's angry roar for having been woken up. You can program the time and the best angry sound for the giant.



In Scratch you need to import the sound you like the most under the Sounds menu. For this example (see image below), if you look under the Human folder, you will be able to find the Scream-male1 sound. You can also record your best impersonation of an upset giant.



Last but not least, we need to recreate the Sailboat Storm story. You will be able to program overseas journeys where relentless storms will test the best of your nautical skills.



The WeDo code is shown in the following image. It uses a loop or repetition cycle. You also need to add a waiting time with random numbers (the dice icon) to simulate the ocean waves with variable motor power in order to make the sea trip more realistic.



The programming code in Scratch is presented in the next image. The blocks required for this one can be found under the Motion menu (motor power), the Control menu (the repetition loops and wait blocks) and the Operators menu (pick random number).



Do not forget the 5 steps for world domination using LEGO® bricks. However you need to be careful, the temptation to test our building skills to the maximum can detract us of our objective. We could spend hours and hours on end making new creations and forget what the original plan was! But for now, rest assured you can make programmable robotic stories with your new creations!

That's all for now this time folks, keep tuned for the advanced programming of these creations in the next issues of HispaBrick Magazine. You can find more information, and building and programming instructions for the designs presented here and many more at:

--> [www.wedobots.com](http://www.wedobots.com)

--> [www.facebook.com/wedorobots](https://www.facebook.com/wedorobots)

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**wedobots**  
The unofficial blog for LEGO® WeDo designs



# Reviews

## Review: Minecraft™ 21121 The Desert Outpost

**Set name:** THE DESERT OUTPOST

**Set number:** 21121

**Parts:** 519

**Minifigs:** 4

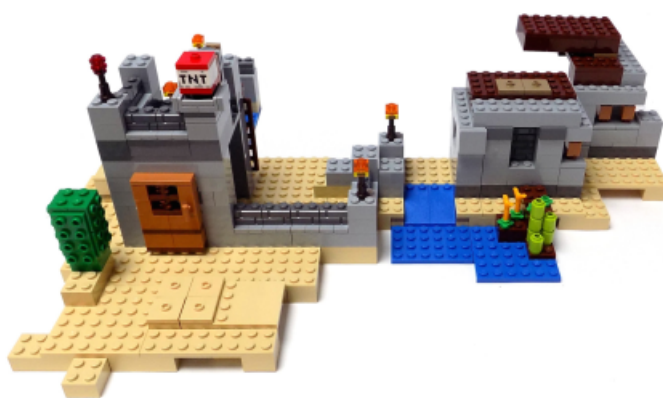
**Text & pictures by A. Bellón (Legotron)**

### Minecraft™ adventures in the desert.

This set belongs to Minecraft theme sets surfaced this Summer 2015. The set depicts a small outpost located in a sandy area of the Minecraft™ world, ready to be used by our characters as a defensive position against the dangers of the Minecraft™ world. It is a mid size set, and in my personal opinion, a very good example of what can be considered a great LEGO® set.



The building process is very easy, with clear and very well explained instructions. In this case, it is very curious to see that secondary elements and details are built first, to be incorporated to the ongoing main construction, like many of the Minecraft sets. Each part of the outpost is built separately, and then they are joint together with hinges or with permanent connections. Thanks to those hinges it is possible to get different positions of the structures. Some of the techniques used to get that “Minecraft” appearance for the buildings are very interesting, and can be applied to medieval or modern houses. They add some volume and improve the wall a lot because there is almost no other detail in the buildings.



When you look at the finished model you can realize that it seems bigger than expected. Furthermore, the hinges allow you to open the different sections in order to play every angle of the outpost. There are several functional elements, like the entrance trap that works very well, or the explosives launcher. The main building is fitted with a removable roof, so you can play inside. There are also some “Minecraft blocks” of sand that can be detached very easily and placed in many different places to add more playability.

The set contains 4 minifigs and some other complements. We have 2 skeletons and the Steve and Alex minifigs. Both skeletons are the same as we have seen in other sets of this theme, but one of them is equipped with armour and a helmet. The Steve minifig is the same, and we have Alex, a new character to play with. They are not very detailed, but they have the most distinctive features that can be seen when you play Minecraft. There is also one animal, and one of my favourites, a wolf, a perfect addition to guard the outpost. The set comes with some more typical elements of the game, like torches, a craft table, a bed or an oven, that can be placed in many locations of the outpost. There are also some plants, a nice addition to this set.





In short, this a great set, very well designed with a very interesting assortment of parts.

I don't like to write long conclusions, as they are a personal opinion, but this time it is mandatory for me.



For those who like Minecraft™ this a perfect addition to play your own adventures with Steve and Alex, with many features of the Minecraft world. And for those who don't like Minecraft™ it is perfect to add many bricks to their collection.

I like this set very much, and I'm not a fan of Minecraft. But, in my opinion, the set is very well thought. This set is designed to encourage new builds. Some changes can be found in the instructions in order to make small modifications. And it is especially a set to play with. You can compare this set with some others like pirates, where there is no room to put your minifigs, and the houses are just made with several walls with some details and with no place to put the minifigs. In this set you have a main building, with a door, windows and with plenty of space to place your minifigs and many utensils. There is a walled enclosure, with much space inside, yes there are many studs to put the minifigs instead of directly on a table. There is room to build, to battle or to play with your minifigs. There is also a fortified entry, big enough to accommodate several minifigs, and furthermore, there is some external landscape with a river and an esplanade bordering the outpost, where you can play. This is very important to have a good playability, so that is why I consider this set is a great design. And that with only 500 pieces!



Acknowledgements: To LEGO® SYSTEM A/S for the set.

#

# Review: Minecraft™ 21122 The Nether Fortress

Set name: THE NETHER FORTRESS

Set number: 21122

Parts: 571

Minifigs: 5

Text and pictures by Satanspoet



We continue on now with the world of Minecraft™ . This time we will present to you a review of the LEGO® Minecraft™ set 21122 The Nether Fortress.

Alex and Steve must beat the blaze that protects the fortress to be able to pass on through. They must extract the light stone to light the way and help defend themselves from the attacks of Zombie Pigman and the red-eyed Ghast so they can finally get the Nether quartz.

The contents of the box include six bags numbered from 1 to 3. We also find two 8x16 plates and the pre sealed instruction booklet.

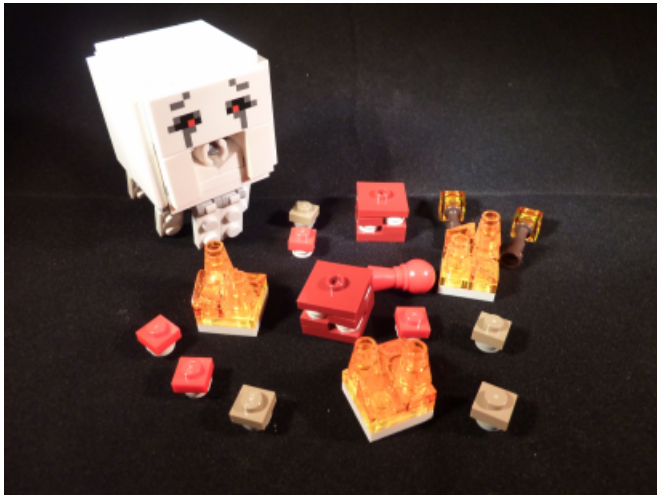


We begin the build by assembling the characters Alex, Steve, and Zombie Pigman. Then we build a Blaze, the chest with its diamonds and gold sword, elements that represent mushrooms and nether warts, fire elements, torches, and nether quartz.



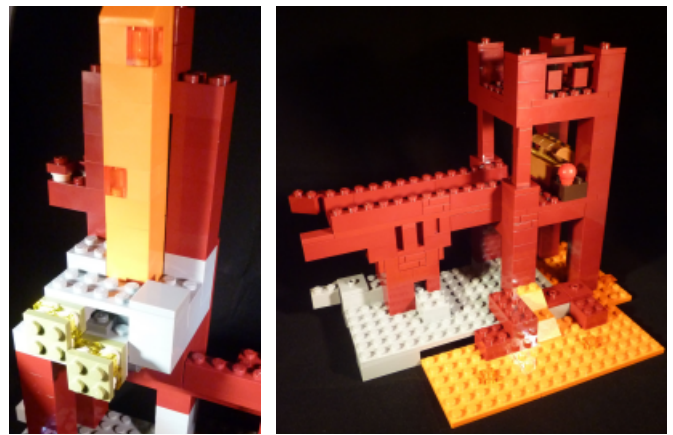


The next step takes us to the building of a Ghast, whose mechanism allows it to shoot round plates (representing fireballs) out of its mouth. Also included are different printed tiles which allow you to change its face, showing its different moods.



Once we have all the characters and props, we begin with the building of the fortress.

At this point we build the part of the bridge that will take us to the chest with diamonds and the gold sword. We assemble the lava block with orange 2x2 bricks and trans orange 1x1 bricks. We also get to make the mechanism that frees the lava and holds the glow in the dark pieces.



We complete this building phase with the entrance portal to the Nether. For it, we use a 1x16 wall panel in dark transparent purple.

Lastly, we are left to build the last part of the bridge and the small tower that guards the chest. At the base of the tower we build more lava using primarily orange plates.

Once we have the whole set assembled, we can place it to form a 90 or 180 degree angle. Now all that remains is for the battle to begin.

We conclude that it is an easy to build set with a good amount of small pieces and interesting colors. In addition, it comes with some fun characters like Zombie Pigman, a Blaze, and a Ghast that shoots fireballs.

It is definitely a very recommendable set for fans of the Minecraft™ world and non fans alike.

Acknowledgements: To LEGO® SYSTEM A/S for the set.

#



# Review: 10247 Ferris Wheel

**Set name: FERRIS WHEEL**

**Set number: 10247**

**Parts: 2464**

**Minifigs: 10**

**Text by lluisgib**

**Pictures by LEGO® System A/S and courtesy of Brickset**

The Ferris Wheel and the Roller Coaster are two of the most desired sets when talking about Amusement Parks. Some years ago there was a Creator Ferris Wheel (Set #4957) which had a great success and a lot of people adapted it to their cities.

When LEGO launched last year the Mixer the community started to be excited about future rides that would appear. And this year we received the first good news: the Ferris Wheel. It is a quite big set with 2464 parts. The building process is divided in 4 different parts.

The set includes 10 minifigs: 6 adults, including the ride operator and an ice cream seller, and 4 kids. It's a nice variety of citizens with colorful dresses and varied hairs and accessories, including a balloon, ice creams, a pretzel, tools and money.

The Ferris Wheel measures over 23" (60cm) high, 21" (55cm) wide and 14" (38cm) deep. These measures could make us think about a fragile building. Nothing far from the reality. It is a very strong structure and you shouldn't have any concern about taking it with your hands.

In the first step of the building process, you build the base of the ride. It consists in 5 - 16x16 green plates and 2 8x16 green plates. They are distributed in a kind of "H" letter with one 16x16 plate in the center and on the sides 2 "columns" formed with 2 16x16 and 1 8x16 plates. This "H" structure is fixed with technic bricks. It permits to attach the parts where the main beams of the ride will be fixed in the next step. There are also the axles that will allow to move the Ferris Wheel, and the mechanism that fixes the ride when the visitors want to go into the Ferris Wheel or leave it.

Once the mechanical part is finished, it is fully covered with green plates and slopes. When the first building step is finished, we have a fragile base. It will become strong when we start to attach the other parts, but at this point you can see how big the Ferris Wheel will be.





Let's continue with the second step. In this part you build the ride control cabin, the access to the ride, including stairs, fences, ramps, a turnstile... together with the main beams and some decoration including two trees with a new and very interesting flower part. In the control cabin there is another brand new part: a brick arch 1x3x2 inverted. There aren't a lot of inverted arches and they are usually bigger, so i think this part will have a lot of success.



But the new flower part will be one of the top ones in the next LUGBULK. It is a Plant Flower Stem with Bar and 6 Stems. This year it appears in 4 sets (the Ferris Wheel, and Friends / Elves sets). This part will be useful to increase or variety of trees, and flowerpot stands.



In this set there are two trees and each one includes 5 of this part, attached to a 1x1 modified brick with 4 studs on side. The result is a round crown very beautiful and without empty parts.

The beams are made with standard bricks and plates, forming an inverted "V" with two cross pieces in each side. The same structure is build twice. Then we have a total of 8 beams to fix strongly the wheel to the basement.

In the third building step, you build the structure of the wheel itself. This is the part where we start with the 12x building steps. There is an interesting mixture of axles and standard plates to build a 12 axle wheel where we'll attach the 12 cabins. I must admit that it's a bit boring. But when the process evolves, and you start to see the wheel growing, it becomes more interesting. Besides the structure itself, there are two trans-clear parts to decorate the axles, in orange and yellow. I am trying to figure how to add light to these parts, to make a spectacular night scene, but I still have not found the right way.

In the 4th and last building step, you build the cabins. There are 12 cabins in 3 colors. Perhaps it's not the best color choice (Green, Yellow, and Purple). I miss perhaps a 4th color (like Red) to make it more attractive and colorful. The cabins are all equal, besides the color. There are two small doors that can be opened, and space for up to three minifigs. They have a roof made with a radar dish 6x6 inverted.



Once the set is built, you can start to play by turning the wheel with the pulley on the rear side. The movement is transmitted by 2 x 18mm wheels, that are in contact with the external ring of the wheel structure. When you are tired to make it turn manually you can easy attach a PF M motor to make it work electrically. The mechanism is ready for this attachment and you don't need to apply any modification. That is great.

The overall set is wonderful. It's big, functional, very detailed. In one word: Spectacular. There's not only the ride, but also a lot of small details like a ice cream stand, the amazing trees, a bench. I only found a problem. Sometimes it's difficult to put the minifigs in the cabin. Its size is not big enough to easily put the minifigs, and the adults are even more difficult to put inside because their head hit with the top axle that

connects the cabin with the structure. A tip for this is to remove the radar dish before you put the minifigs. Once they are inside, put it again. This is a minor complaint that does not decrease the interest and spectacularity of this great set.

In my opinion this set will be one of the most successful set of the year in the AFOL Community. We will start to see MODs and MOCs around it. The

Amusement Parks are usually very liked by the kids on exhibitions, because of their movement and colorful designs. I will test in our next exhibition with the MIXER, the Ferris Wheel and one or two more rides I have in mind. But... will there finally be a Roller Coaster next year? We need special parts to make it work. A set with tracks and cars to make your own Roller Coaster would be amazing. Let's wait a year and keep the fingers crossed.

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Acknowledgements: CEE Team and Kim E. Thomsen for this set.





# Review: 70751 Ninjago Temple of Airjitzu

Set name: NINJAGO TEMPLE OF AIRJITZU

Set number: 70751

Parts: 2028

Minifigs: 12

Text by Iluigib

Images: LEGO® System A/S



I think that very few would have expected a Ninjago playset to this scale and grandeur. At first glance it appeared to me to be a set launched in the Creator Expert series, however despite my judgment and an age recommendation of 14+, the set has been released in the Ninjago theme.

The set features a three story pagoda with a food market and blacksmith shop to each side. Connecting the two shops is a bridge which is built above a suggested river. The main appeal of the set, in my

opinion, is the use of some very elaborate building techniques, some of which we have not seen before.

## Minifigures

The set contains 12 minifigs. Master Wu, 6 warrior ninjas (Kai, Cole, Lloyd, Dry, Zanet y Nya), and 5 townsfolk. The latter minifigures made it difficult for me to gauge what time period the set takes place in. The master and warrior ninjas are dressed in a traditional manner, leading me to believe we are in the past;

however, the 5 townsfolk are dressed in more modern clothing and have modern accessories, for example a camera, making me think the 20th century.

As always, the quality of the minifigures is exceptional. Even though all the warriors are dressed in a similar fashion, each one has their own detail (both on the torso and leg printing) that sets them apart. The townsfolk are more standard, but even then, the quality of the printing is good.



### The build

Let us begin with the two smaller shops located on each side of the large pagoda. Both shops are completely different in terms of style and both offer up some building techniques never before used in a LEGO® set. For a clear example, we will take a look at the food market's roof. While LEGO could have used plates or even slope pieces to achieve the curved roof look, they elected to use a new technique. Using garage door pieces attached to golden decoration at the top, the designers were able to create an almost perfect concave curve (a look that is often seen in Asian architecture).

The blacksmith shop is a more standard build that resembles the medieval market village style of architecture. Despite a more standard build, it still contains many lovable techniques and features. The use of brackets and cheese slopes allows for the



reproduction of exterior base molding. Another interesting exterior detail are the trees built using elephant trunks and dinosaur tails. Found on the inside is a fire to heat the metal, an anvil, tools, and a small work bench. It is an ideal space for any blacksmith.

Moving on to the centerpiece of the set, we will take a look at the pagoda. Built up on a small rock formation, the pagoda is accessed via a curved staircase found on either side of the building. When you build the rock formation a hole is left in the center. Inside the hole is one of the main features of the set, a shadow theater. Using a light brick and a small pulley system, shadows are projected onto a transparent plastic piece. The shadows can be rotated using a handle found on the side of the theater.



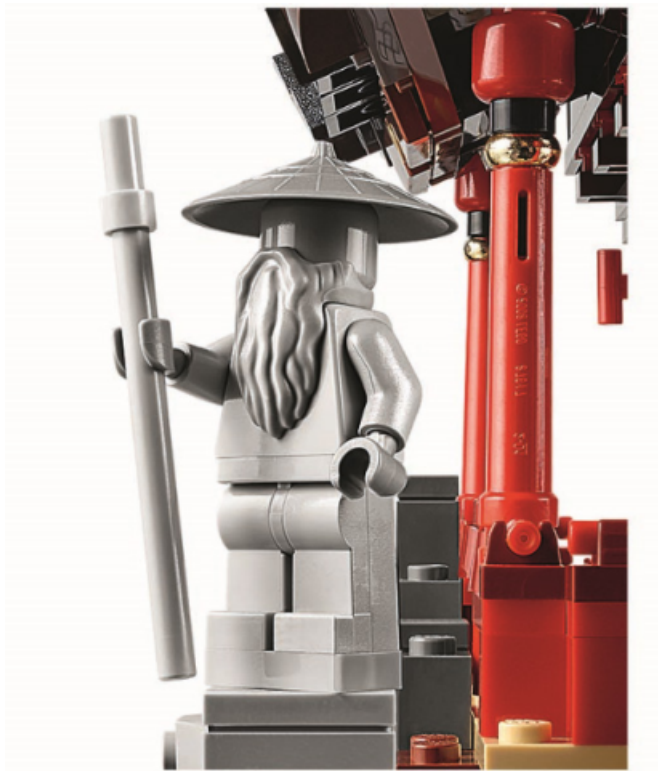
The bottom floor of the pagoda houses a meeting room. To access the main floor there are two "paper" doors which slide to the side to open. The doors open up to a small walkway on the outside where once more we see the curved stairs. In addition to the stairs, other



details like railings and gold topped columns can be found. Back inside we see some details like a rug and a tea kettle for the tea ceremony.

The two top floors of the pagoda are similar in design. The first directly above the entrance contains an armory. In it we find two katanas, a bow, and a straw dummy for combat practice. On the top floor there is a study containing a bookshelf and an easel with a painting on it. Above the upper floor there is a small loft area that houses a crate with the words "Cole's stuff hands off". To top off the pagoda, just above the ceiling, there is a typical crown that extends upward. This decoration is built with train wheels and technic ball joints.

In front of the pagoda there is a fountain with a statue of a sensei. Once the two shops are united with the pagoda, all that is then left to do is build the bridge which will sit in front of the statue uniting both of the shops. To achieve the Asian aesthetic, dinosaur tails and soft red hose pieces were used to create the characteristic curve.



Lastly there are some smaller accessories to build. These include a flying contraption for the ninjas and a firework cart. The flying contraption is interestingly designed in the same way as those found in the older Ninja sets from the late 90s. The firework cart on the other hand is a new design that uses stud shooter



pieces (typically found in Star Wars sets) to launch the colorful assortment of studs (used to represent, you guessed it, fireworks).

## Conclusion

When I first saw the set I fell in love. My love for the oriental theme led me to want the set even more. And while I am not particularly interested in the Ninjago theme, I will admit that I acquired the two previously released temples from the line (2507 and 70728).

As I have said before, I think it is a set that lends itself well to the creator expert line in many ways (size, difficulty, building techniques ... ). At no moment are you bored as there are no repetitive steps. As you build, your desire to see the finished product grows, and once it is finished it is absolutely stunning.

Do not be fooled by the Ninjago logo, I think the set will please any AFOL, Ninjago fan or non Ninjago fan alike.

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Acknowledgements: CEE Team y Kim E. Thomsen for this set.





# Review: 10223 Kingdoms Joust

**Set name:** KINGDOMS JOUST

**Set number:** 10223

**Parts:** 1575

**Minifigs:** 9 and 2 horses

**Text and pictures by A. Bellón (Legotron)**

Prepare a medieval joust and make the best knights fight for fame and glory.



This set is one of those marvels that occasionally comes out of the LEGO® factory, it is something similar to set 10193 Medieval Market Village, that was brought to us several years ago. This set recreates a medieval joust in the Kingdoms theme, with knights, the royal box, an entrance to the walled enclosure, and several buildings. It is an older set, but one that deserves a look back on. My first impression when I saw the photos of the set was that it looked very exciting, especially because of the parts it contained. Its many gray pieces are very useful in order to build up other medieval buildings. Of course, after buying the set, the first thing I did was build it in order to see what the original model was like, and I must admit that I liked it a lot.

The building process is divided into several steps, one for the side walls, another for the main entrance, one for the royal box, and a last step for the jousting area. When I had a look at the instructions I realized that it is possible to build them in any order. As I often do, I began with what I consider the most interesting element, in this case the side walls. There are two wall sections, one with a small house and another with a small platform. The last one was not of special interest, but the one with the small building is a very nice build. The windows, as well as the walls, follow a very interesting design. The house itself is very small, with no doors or any way to access it, but the visual effect

was so good that I was very inspired by this element. There is another interesting feature in the design of the walls, namely they are built in a “random” style by mixing two different gray colors and several types of pieces, they are not just a single line of gray bricks.



I began with the walled entrance. This is the main element of the set. The building process was very enjoyable as there are many details to appreciate all around the building. The brick walls, especially the corners, have been carefully designed with a very interesting technique using cheese slopes and 2x2 modified facet bricks. There is also a detailed interior with some furniture. The first floor is the entrance to the building with one door in both towers. There are also some flowers decorating the wall. The second floor has different features in each tower. One has a very nice balcony and the other a stained glass window( one which is very colorful). On the top floor there is a walkway with arches built within it to join both towers. The two towers have some very nice windows to add a little bit of detail. The whole construction is open at the back in order to allow you to access the rooms and their furniture. Both towers have a nicely built red roof, and yes, there is an unexpected guest inside ... After that building process I can assure you that the level of decoration and details is well above that which may be found in other LEGO® castles.

The next element to be built was the royal box. It was very easy and fast to build. The combination of colors



is very nice, and the whole thing has a good design, although a throne for the king to sit would be a perfect added detail. Following that, I quickly built the tents for each contender. This was, in my opinion, the worst part of the set. All those parts were used to build a storage area for two weapons, with no other function other than added detail. Once done with that, I then put up the jousting fence, a very simple element. Once all the different elements were together I saw they occupied a good amount of space. All the features together make for an excellent display, especially with the minifigs.

Speaking of minifigs, let's have a look at the great quality and quantity of them that come with the set. There are 9 minifigs in total: a king, a queen, a nobleman, a princess, 2 knights, 2 soldiers, and a squire. All the minifigs have printing on both sides of the torso. The king, queen, princess, and nobleman are very detailed, and their legs have printed patterns as well. At this point I'd like to present a question about the height of female minifigs, why does the LEGO company use that piece for the skirt? The female minifigs are not poseable and therefore are higher than the other minifigs. There are two knights included as well, a black knight with the colours of the Black Falcons faction (a nice touch with a high degree of nostalgia for veteran AFOLs). The other knight can be found sporting the colours of the Lion Knights. Both of them come with horses equipped with bardings. All the minifigs, including the squire are very well detailed in their prints, the minifig selection therefore receives two thumbs up.

My final analysis of this set could be summed up in these words: it is a very well put together set with a very interesting piece pallet, this is a must have for castle fans. From an AFOL point of view it is a very interesting set due to the techniques used, the minifigs, and the great amount of parts. Many of those parts could be useful for medieval MOCS or adding on to other sets. The build's level of detail is high and even allows for plenty of playability with all those different minifigs and structures. As a final comment, the set is very carefully packed, with the instructions inside a small plastic envelope with a piece of hard cardboard in order to avoid any kind of damage. While this set is older, I'd still consider it a must buy for any medieval fan.

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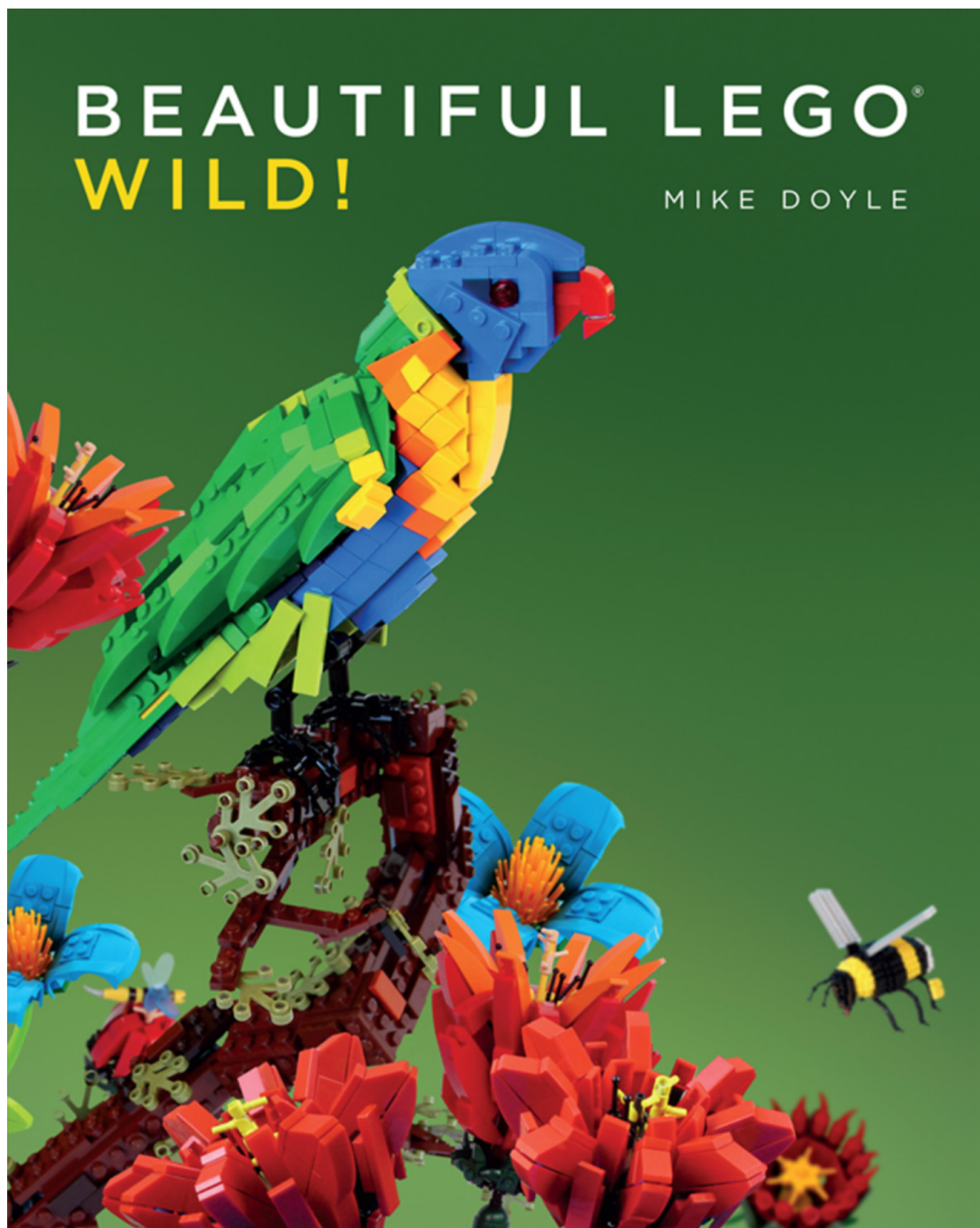
## Review: Beautiful LEGO Wild!

Book title: BEAUTIFUL LEGO WILD!

Editorial: No starch press

Author: Mike Doyle

Pages: 232

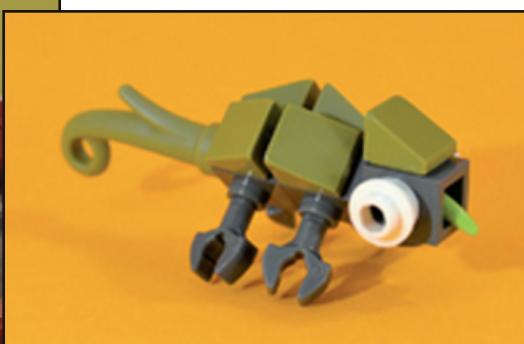
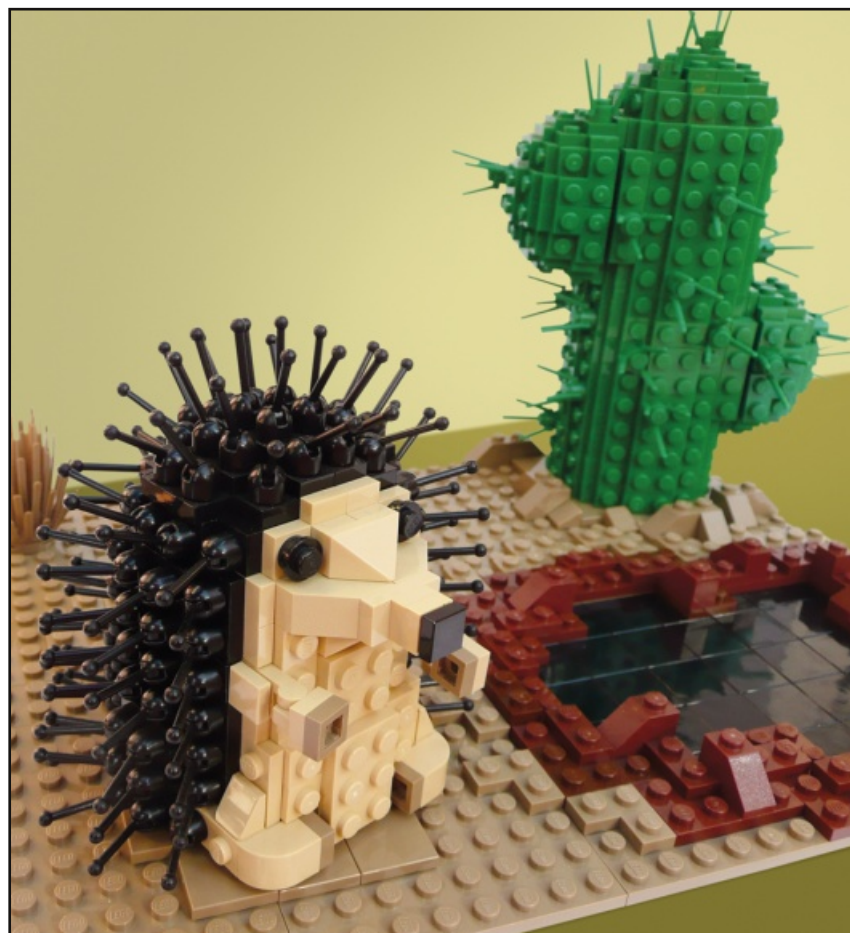


**By Jetro**  
**Pictures courtesy of No Starch Press**

The series of Beautiful LEGO® books is now out with its third installment, and like times before, the image on the cover is the perfect invitation to the content within. This time nature is the main focus of the LEGO based art work collection and the photo composition that graces the cover shows some of the more colourful images together.

In addition to covering topics as diverse as elaborate landscapes (both large and micro), or animals that look like they are about to jump off the page as a result of their lively color and stance, the book is special for other reasons as well. Throughout the different chapters there are short interviews with a few renowned artists whose creations are known within and outside of the AFOL scene. Such artists include Sean Kenny who brings forth some truly colossal sculptures, or Tom Paulsom, the creator of LEGO Birds that recently launched from LEGO Ideas. It also contains a multitude of pieces done by other artists. An index can be found which includes names and links to their respective online galleries.

The book is a real treat for the senses and the perfect excuse to steer any conversation between friends to the







“serious” side of our hobby; there are works of art included that would leave any critic of such a “childish” hobby without argument. Of course, there is also the opposite danger: after half an hour of closely inspecting the book, my nine year old daughter came to me with a thoughtful list of demands, “I want us to build this, this, and then this other one...” Whatever the case may be, this book deserves a place in any LEGO® library as it is one of those books that you take out from time to time to enjoy its colorful MOCS or to get inspiration for the next project.

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Special thanks to: Ana Morrow of no starch press for the book and images. Images are property of their respective authors.

# Presentation: New summer sets 2015

By HispaBrick Magazine®

Pictures courtesy of LEGO® System A/S

This summer LEGO® has launched some interesting new sets for AFOLs. In this presentation we take a look three sets we have built in order to share our first impressions.

## 10248 - Ferrari F40 Creator Expert

The summer started with images of the new Die-Cast car from the Creator Expert theme which included a new logo for this theme. The logo is made up of 7 modified 1x1 headlight bricks, that form a cube. It is a very clever logo as it shows how you can build a cube with 7 of these bricks, something that fits very well with "Expert" building. ;)

When Speed Champions came out and I saw some of the Ferrari sets, I already imagined the Creator Expert car for this year might be a Ferrari, but I have to say that I was surprised the chosen model was the F40. It is a mythical car, but today there are other much more recognisable and promoted models than the F40.

Building the F40 is very entertaining. It is built in much the same way a real car is built, starting with the chassis, then the interior, the engine, and finally the bodywork,. The chassis is simple. It is made with Technic bricks and reinforced with technic axles in order to support the weight of the rest of the car. One of the most interesting parts is the interior. It contains two red sports chairs, a gear shifter, a hand brake, a (non-functional) steering wheel, and the clocks, which is just as simple and spot on as the original. The windscreen is the only new part in this set, and it is printed in red to simulate the connection between the chassis and the roof.

The engine has 8 cylinders and is a faithful reproduction, including the turbo, collector, and gearbox ... After finishing it and fitting it on the chassis it's time for the icing on the cake, the bodywork. Evidently a car from 1987 doesn't have the curves a modern car might have, which allows the shape to be built quite faithfully with LEGO bricks. Maybe the simplest part is the rear spoiler which is completely square. The rest of the bodywork is built using wedges and curved slopes. There are some interesting construction techniques, for example in order to build



certain shapes, bricks need to be used upside down. As with all Creator Expert cars, the doors, hood, and the cover of the engine can open, allowing access to the different parts of the car.

The final result is a faithful reproduction of the F40. The shapes, proportions, and small details like the closing headlights, are identical to the original! The car comes with a small sticker sheet which helps to complete a superb car. There is only one drawback, the model is quite fragile. Compared to the Mini Cooper or the VW Camper, this car needs to be handled with care if you don't want any parts to come off.







We knew of this model some months in advance, when it was nominated in one of the LEGO® Ideas reviews, and I believe this set was highly anticipated by fans of the Sitcom.

Upon opening the set, the first thing that draws your attention is the instruction manual. It is quite thick. Not just because of the building instructions, but because it also contains an explanation of the series and its characters (in three languages English, French, and Spanish- if you get the international version) at the beginning of the booklet, and of the designers at the end.

For those who know the TV series not much explaining is required, so I started building the set almost immediately. The build is divided into two parts. In the first part the minifigs of Bernadette, Amy, and Howard are built together with the living/dining room where much of the sitcom takes place, with very little detail.

In the second part the minifigs for Leonard, Penny, Sheldon, and Raj are built together with the furniture of the room, including all the geeky details that come with the set.

The minifigs are splendid. They capture the style and look of each character. Some of the minifigs include molded parts in two colours, like in the Simpsons® minifigs. Sheldon and Leonard's T-shirts stand out as the most recognisable from various episodes.



The room is also spot on compared to what you see on TV. The sofa with Sheldon's favourite seat, the centre of his universe where everything is perfect... the small table, the shelves which are loaded with collectibles, as well as the table near the window where Sheldon occasionally fights the birds he hates so much ...

It's the details that give this set its personality. There is a blackboard for Sheldon to work on when he is at home, a telescope, a DNA sequence, the Green Lantern, collectible figurines, and a long list of other items I will not mention so as not to spoil all the fun of the build.

The set was designed for fans of the series. It isn't very playable, rather static, and reproduces a scene in the famous sitcom. It is also not much of a building challenge, nor anything anyone who doesn't know the series would ever buy. But it is a delight for the fans of the series who, I am sure, will want to own them in pairs - one to keep and one to play - just like Leonard, Sheldon, Howard, and Raj would do.

## 21303 – Wall-E from LEGO® Ideas

The other LEGO Ideas set for this year was also much anticipated : Wall-E, the main character from the 2008 Disney® Pixar film. I must say I recognise Wall-E, but I haven't actually seen the film which make it a little harder to judge how faithful the reproduction is.

The box certainly stands out, in bright yellow, and it is quite a lot thicker than that of the Big Bang Theory. The instruction booklet introduces Wall-E as well as the designer of the set, but in this case only in English. The box is quite full and heavy for its size.



The set is not built in stages (there are no numbered bags). The yellow parts are a different colour from the standard LEGO® yellow. they are a little more orange and I'm not quite sure if this colour has ever been used before.

The robot is larger than I imagined before building it. It is approximately 12x12 bricks and its height depends on whether or not you stretch its neck, but on average it is about 15 bricks.

The first thing you build is the body of the robot. It has an 8x10 base on which a cube is built that serves as its body and to which the arms, legs, and neck are connected. Also, in the front part, there is a door that can open so Wall-E can store his treasures. On that door there are two silk printed parts with Wall-E's name. At the top of the door there is a control panel, indicating the solar power level and the other new part that is also printed. As you build the body you add the small appendages to the robot, using SNOT techniques.



When the body is done, the tracks that allow Wall-E to travel are built. This is the most "Technic" part of the build, but it isn't complex and soon our robot is capable of moving around.





The most elaborate part is the head. The neck is simple, but the parts that hold the eyes are very complex as they must allow the eyes to turn 360 degrees and express different emotions.

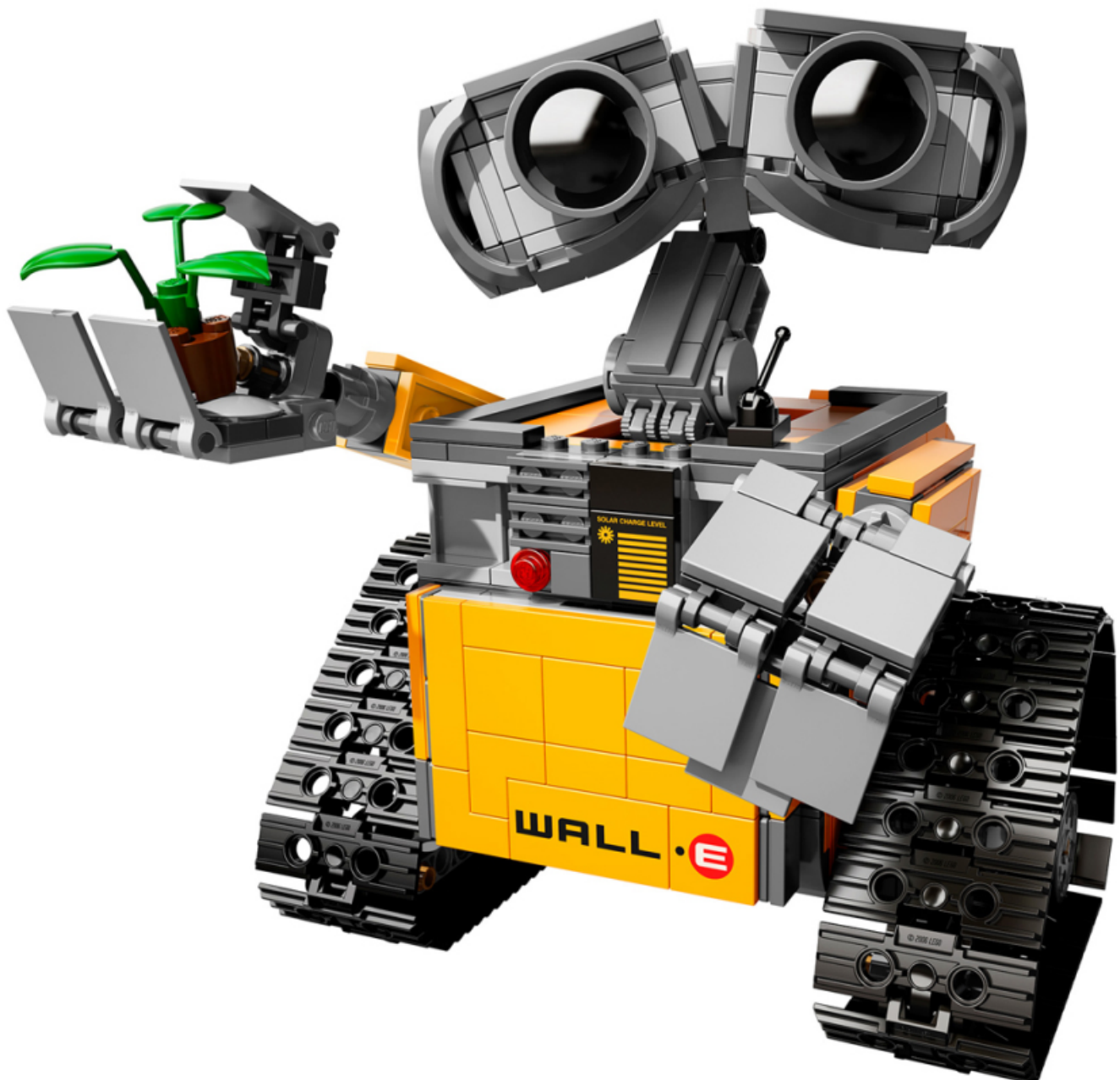
Finally the arms are connected to the body using ball joints. The arms can be turned forwards or backwards, opened, and turned 360 degrees. Each arm is finished with three “fingers” that allow Wall-E to grab objects of a certain size. The set comes with a flowerpot and a plant that the robot can hold in its hand. The flowerpot attaches to the hand via a stud.

After finishing the build, the set looks really great. The

tracks aren't very smooth which means you need to press them down to make them turn. Being able to change the expression on the face of the robot is a very positive aspect of this set and, together with the movement of the arms, this makes the set playable. Some people who have seen the film tell me the set is an excellent reproduction of Wall-E.

So now that I have built my own Wall-E I feel obliged to watch the film in order to confirm that opinion. Anyway, I have very much enjoyed building it which makes my expectations for the film high.

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# Interviews

By HispaBrick Magazine®

**Mel Caddick** is an Australian LEGO® Designer, who works in Billund designing some of the most desirable sets by the AFOLs. We had the opportunity to interview Mel at the LEGO® Idea House during the visit we did last March to the LEGO facilities in Billund. In the following lines you will find explanations about her works and her thoughts.

**HispaBrick Magazine:** Name, age, etc.

**Mel Caddick:** Melody Caddick, Age 40, Australian, boyfriend, 2 teenage boys, I like to travel and the outdoors, LEGO build, love animals, meeting new people, I have a sweet tooth!

Dislikes: mean and grumpy people, roller coasters, scary movies.

**HBM:** Did you play with LEGO when you were a kid?

**MC:** Yes, I received my first set when I was 3 from my Grandparents – I reckon the set was bigger than me! I had a lot of LEGO sets as a child and I was always encouraging my mum to buy my younger brother LEGO sets as a child. Sometimes she would give me money to buy him a gift and I would buy something I thought would suit the both of us – she eventually figured this out. I was the sort of kid that if I wanted something and couldn't have it, I would build it out of LEGO bricks, so the more the merrier. If my brother wanted a car I would build him a car using LEGO bricks, or encourage him that he needed a LEGO car and not a Matchbox car etc.



**HBM:** Did you ever dream to be a LEGO designer?

**MC:** Yes. But I always thought it wouldn't be possible because I lived too far away. And at the time I was just a young kid and I didn't actually realise that there was a designer behind the products. I didn't know or understand how it was created. It wasn't until I was a little bit older that I understood there was a designer and that there were all these people who were assigned to a project. But I did think it would be cool to do that. However, I also thought it was created by a robot and crazy stuff you think of when you are a child. And when I realised the company was based in Denmark, I thought that's really too far away and I didn't speak Danish, so I didn't think it would be possible at all... (As a kid I grew up in both New Zealand and Australia). There's nothing cooler than being a kid, playing with LEGO bricks, thinking how great it is... only to grow up and work for that very same company you grew up with!



**HBM:** How did you join LEGO and have you always been in the same department?

**MC:** To begin with, I was living in North Germany (I moved there in 2005). But I joined back in 2008, which



is 7 years ago (in August). I initially joined 'LEGO® Serious play' and after that I joined the 'Licensing' department. After some time there, I noticed there was an ad/poster for possibly several design positions coming up. I applied, and I thought even if I am not successful, I still have a job working for the LEGO® Group and that in itself, is a dream! – You can do almost anything and still be happy to work for the company – but I thought I would give it a go. There were more than a lot of applicants for this so I didn't think too much about it, and then a group of us were chosen for a workshop – I was part of that lucky group so that was pretty exciting, and then I thought "OK, I'm really lucky and thankful to have gotten this far. But I don't know how much further I will get" I was trying to be realistic as there were many talented people attending, mostly designers with a design background, something I did not have. The workshop was probably one of the most stressful times of my life, occasionally thinking "will I get it, or will I not?" I mean, here was my BIG chance! And even though I was pretty nervous, I did my best. Sometime after, the results were out and a bunch of us were chosen and I was absolutely gobsmacked that I even got a position, so I was very, very excited, I couldn't believe it! I joined the 'LEGO® CREATOR' department and now I am currently in the 'LEGO Licensing and Extended Line' Department. My childhood dream came true! That was almost 5 years ago.



**HBM:** In your opinion, what's the difference between LEGO bricks and other toys?

**MC:** As I mentioned about when I was a child; with

LEGO bricks you can pretty much build anything you imagine. If you think about it, you can build almost anything you want thanks to the width, depth and complexity that it so extraordinary for The LEGO System in Play Of course I like other toys, products as well, but LEGO play is quite versatile. You can do so much with it.



**HBM:** What was the first set you designed?

**MC:** I think it was Brickley. I was working on several sets simultaneously. On Brickley and also on the 'LEGO Inside Tour' set; the Moulding Machine and of course one came out before the other one even though I was working on them around the same time. So it was one of those.



**HBM:** Was it difficult to design following the design rules?

**MC:** When I first started it was a little difficult as there is a lot to learn. You have to understand all the different guidelines, the LEGO culture and various things to take into consideration. Figuring out what you can and what you can't do. Especially if you are normally building as a fan and then suddenly start building for the company. Obviously they are two very different things and there are many things to take into consideration. I mean, it

wasn't extremely difficult, but it was a challenge trying to remember everything in the beginning and make sure you are doing it in the right way. Of course you want to do a good job. But it's a lot of fun. It's nice to build differently than as a fan - you learn a lot of stuff. And then you can apply that to your fan-type buildings as well, in which sometimes you end up doing subconsciously.



**HBM:** How do you get inspired when you design a set?

**MC:** By talking about it. Sometimes we have a brainstorm and we talk about the brief, what it is that needs to be created. You think about what you are going to build and how and you build on that. You get inspired by discussing it, as inspiration often snowballs from there. Of course also looking around on the internet and seeing what is out there – I prefer realistic visuals ...

**HBM:** You designed some sets for the LEGO® inside tour. What inputs did you have when you were requested to design them?

**MC:** The LEGO Inside Tour is an exclusive tour so these sets need to be exclusive as well. And they have to be something that is related to the company in a special way as well and preferably something that has never been released before. So it's an advantage to work on something like that. And hopefully, something that is exciting for the tour attendees. But I have done 2 of them so far, the LEGO Moulding Machines and the old LEGO plane. Upon visiting those areas, you come across pictures or information and that helped to expand the initial ideas, for example adding the control

tower for the plane, and the accessories and the old moulding machine to show both the first and back then the latest moulding machines.



**HBM:** Did you have any influence on the model chosen?

**MC:** Yes (as in the previous question). With the moulding machine set, I knew that we wanted to do a moulding machine (so I wanted to do one of the latest at the time) and I thought it would also be cool to do the old version as well, so we could have the old and the new. And of course it is not just to build a moulding machine, but if you can try to put a function or two in there as well - that makes it even better because it gives a bit of playability and realism.



**HBM:** Did you follow the same design rules as for a regular set or did you have more freedom?

**MC:** We had a little bit of freedom in the design – but once done, the set needed to fit into the box. We still have the same design guidelines. And of course, limitations. Things we can use and we can't use and so on ...





**HBM:** You have done a lot of animals: bear, rabbit, reindeer ... Are they your speciality? Why?

**MC:** Of course it could be a coincidence that I like animals, but these are the things that I have been briefed on. We get briefs from different people within the company and they may ask for something that has a minifigure or something that doesn't... And in this case it was something that didn't have a minifigure, and it was going to be some sort of sculpture - like a bear or a reindeer. If we were building it for ourselves it would look different. But because we are building it for children it has to be in a particular way and we have to make sure that it makes sense in a building instruction and for the children that are actually building it. But I wouldn't necessarily call them my speciality.



**HBM:** Taking a look at your latest designs it seems you are focussed on tiny sets, like polybags, seasonal sets, micromodulars. Do you feel more comfortable designing tiny sets than bigger ones?

**MC:** This is the line of work I do, a lot of promotional sets and gift with purchase etc. That's what my area does. So my work simply reflects what I'm briefed on.

We do a lot of these particular kind of sets for companies and they have to be at a certain size. I don't mind what size set I work on. I've built some larger sets and I've built some smaller sets – maybe the challenge is more with the more smaller sets because the FMC is so small and you think “what can I build out of that and include loads of detail that a young kid can also build?” and that would actually make sense and will make people go “oh, that's so cool!”.



**HBM:** How does the cost (FMC - Full manufacturing cost) or the number of parts influence the final design?

**MC:** If you have a lot of FMC then naturally you have more options. If you have a little FMC then you are limited to how much you can spend, but yet again, there are many points to take into consideration, because there's a certain type of balance you need: it needs to fit onto the building instructions and packaging, machines, does it fit the age mark etc.. There's all sorts of different things to take into consideration and that has an impact on the design as well. Maybe you can't use a large element because it doesn't fit in the box or the bag and so on ... So we have to be creative to suit all needs.

**HBM:** What do you think is more important in your models, the variety of colours or the variety of parts? (Thinking about AFOLs)

**MC:** Of course we think about the AFOLs, but it has to match the age mark, so if it's 6+ it has to be buildable for 6+ kids.

We take the AFOLs into consideration by maybe putting in new or rare elements, but of course that also comes down to cost. Some of the new elements are a little bit expensive because they are not so commonly used yet.

When it comes to colour, I try to put in a variety of colours, but there are also other people who apply their input as well based on various principles. With the animals for example, we had to add a little bit more colour in there. Of course it would be nice to have an all tan bear, but then children will find it difficult to see where the next steps are, so you have to throw in a bit of extra colour, even adults get a bit thrown off at times. There are some points we take to help the children, together with the building steps.



**HBM:** Where is the limit of detail when designing a small set?

**MC:** That depends on the age group and I work with several age groups. We can't have too many small elements if it is a small age group, because it may be difficult for the children to place some of those elements. Small parts add to the detail of course, so there can be a limit, but we also have to be careful

of what elements we use because they can be expensive or maybe they don't make sense.



**HBM:** Do you get any useful feedback from the AFOL community?

**MC:** Yes. I like reading the criticism especially when it's constructive. For example when somebody says they don't like something about a set, but they also say why they don't like it and offer suggestions and useful advice, that helps us because although we can't take everything into consideration, we can make an overview of what people are saying, what they like and don't like and hopefully apply those things to the next sets we do.

Of course we can't make everybody happy – it's difficult to make something that everyone will like, but that is just how it is. Simply, the kids come first, they are the ones we create for and the input we get from them is hence imperative.



**HBM:** What is your preferred set from the ones you have designed?

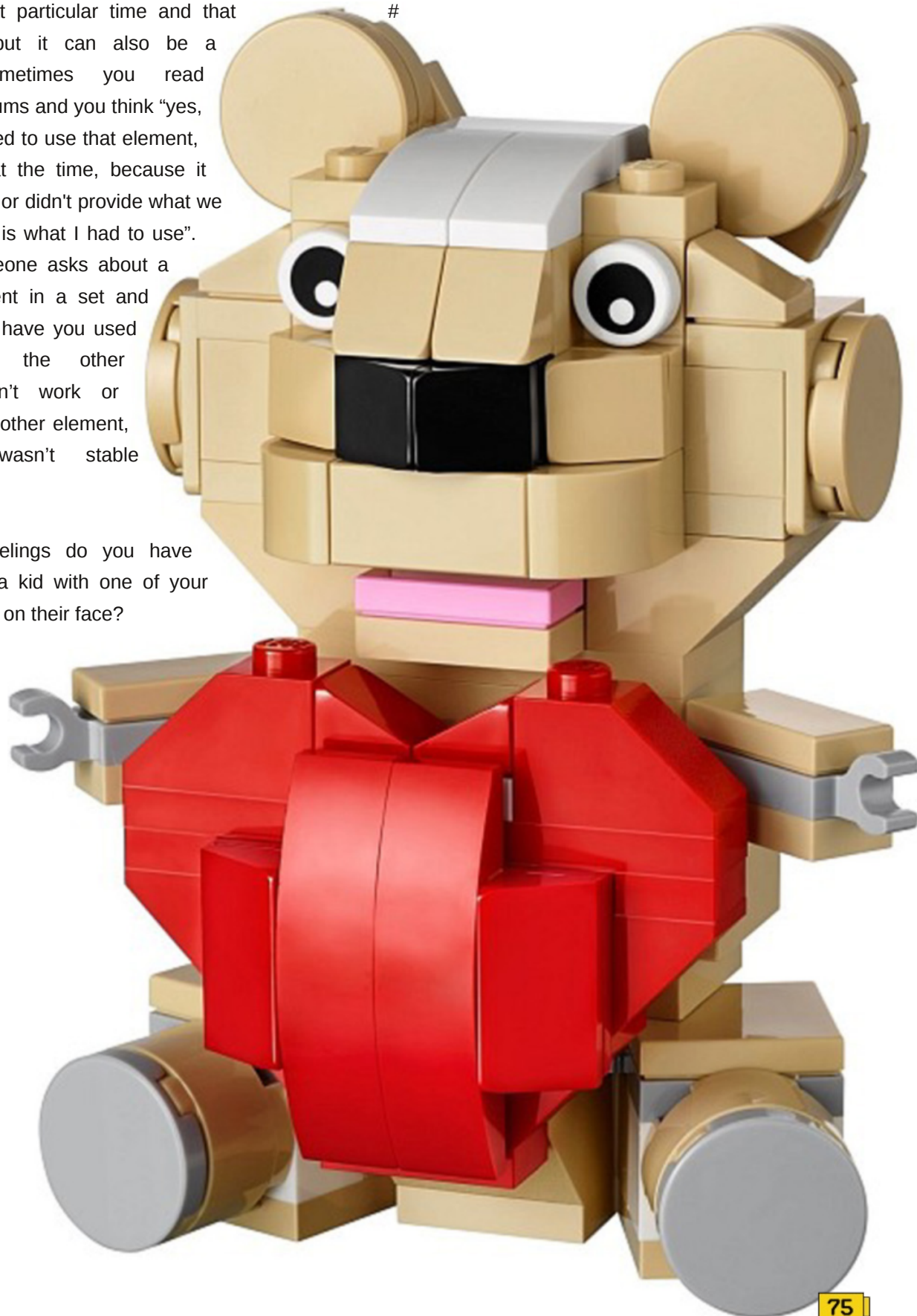


**MC:** I don't actually have a preferred set to be honest. But I really enjoy doing new models that we haven't done before. I think that is because when I'm designing a set there are many points we need to take into consideration, but also because there are particular elements I would like to use, but maybe they are not available until later on so I have to use whatever is available at that particular time and that can be OK, but it can also be a challenge. Sometimes you read feedback on forums and you think "yes, I would have liked to use that element, but I couldn't at the time, because it wasn't available or didn't provide what we needed, so this is what I had to use". Or maybe someone asks about a particular element in a set and they think "why have you used that?" Maybe the other element wouldn't work or maybe with the other element, the model wasn't stable enough.

**HBM:** What feelings do you have when you see a kid with one of your sets and a smile on their face?

**MC:** That's the best and my ultimate goal. That's why we are here. We are here to create these sets for kids. When a kid has that set in their hands and that smile on their face (especially after building it), that's exactly what we are trying to do - make them happy and hoping they have a great LEGO® experience ... It's inspiring!

#







## EXPOSICIÓN DE CONSTRUCCIONES DE LEGO®

5 y 6 de Diciembre 2015  
 en el Museu Nacional de la Ciència  
 i de la Tècnica de Catalunya (mNACTEC)  
 de Terrassa (Barcelona)

ORGANIZA



COLABORA



LEGO, el logotipo de LEGO y las Minifiguras son marcas comerciales del Grupo LEGO. ©2015 The LEGO Group



# HBM: Construction activity

By HispaBrick Magazine®

Thanks to the CEE Team (Community, Education and Engagement), RLUGs from around the world have had a chance to participate in a creative activity. Each RLUG received a number of 40107 Winter Skating sets to carry out a construction activity designed by each RLUG. Afterwards they had to take pictures of the builds and post them in a Flickr group that had been set up specifically for this occasion.

The activity for our community was simple: each participant received two copies of the set and had to build one of the set according to the official instructions and use the second to extend it, using their imagination.

Afterwards these creations were shared with the world wide AFOL community in the Flickr group:

<https://www.flickr.com/groups/2792699@N25/>

or on Instagram using the hashtag:

#LEGOWinterSkating and #HispaBrickMagazine.

We hope the CEE Team continues to encourage this kind of activity for the AFOL community in the future!



This is the set involved in the construction activity. It has 129 parts and depicts a typical snowy winter scene.

Below you will find some of the constructions made by HispaBrick Magazine members:

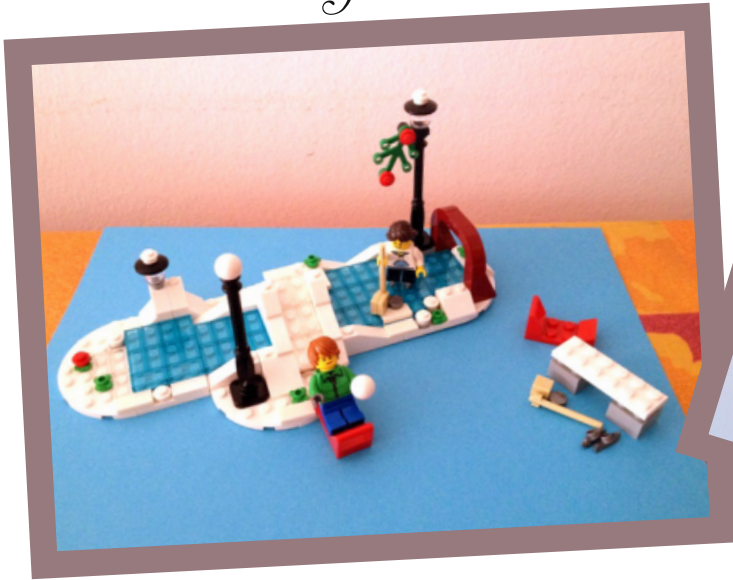
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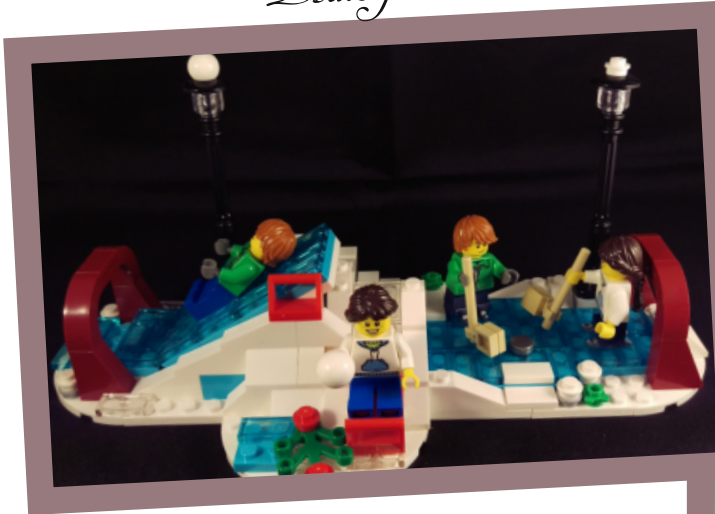
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*Safanspoet*



*Tausitxa*

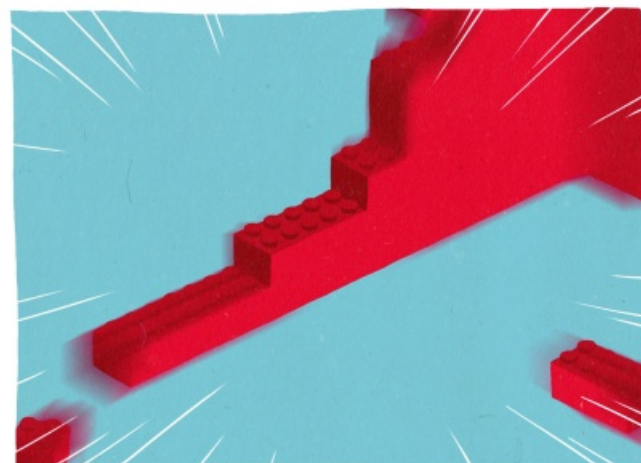
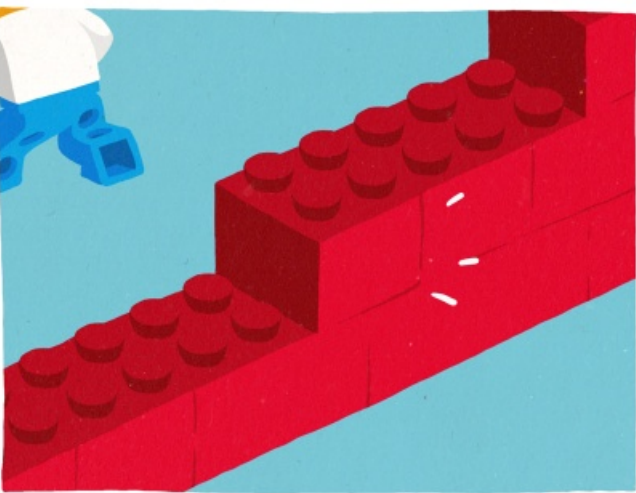
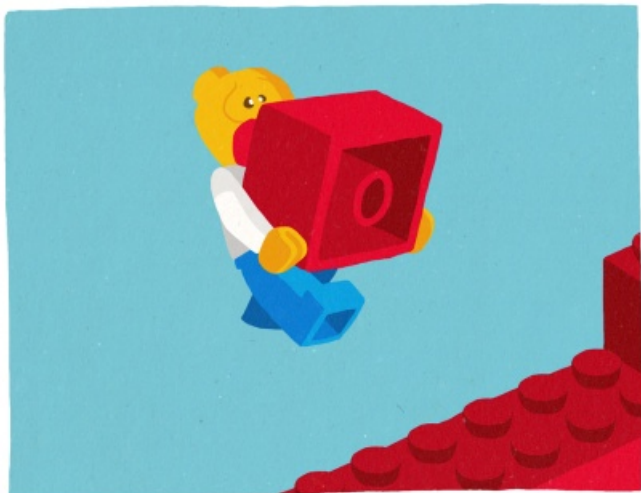
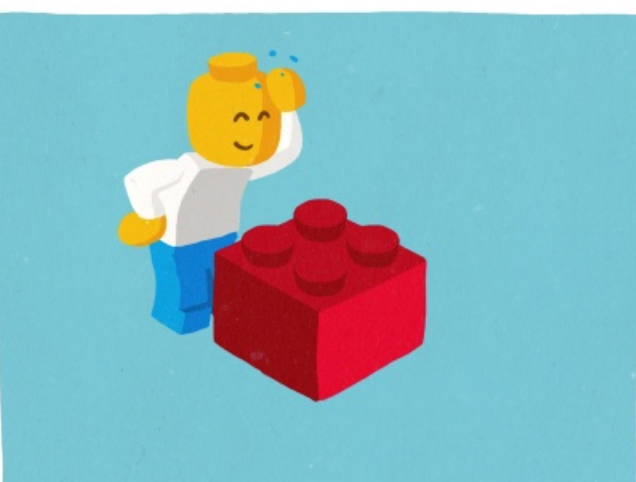
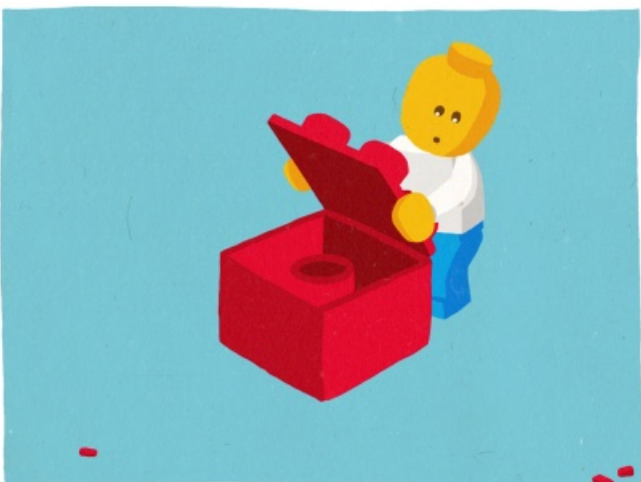


*Jetro*





# Desmontados by Arqu medes



# How to collaborate with us

Collaborating with HispaBrick Magazine® is very easy, please just send an email with your projects or ideas to [info@hispabrickmagazine.com](mailto:info@hispabrickmagazine.com) and we will help you to “build” your article.

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

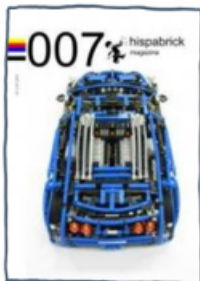
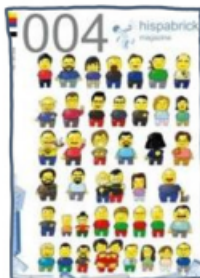
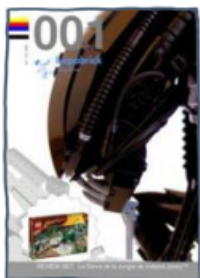
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## Our collaborators on the Internet

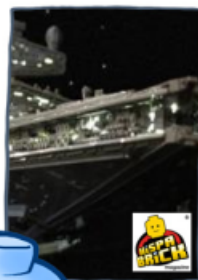
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| Lluís Gibert (lluisgib)         | <a href="http://www.brickshelf.com/cgi-bin/gallery.cgi?m=lluisgib">http://www.brickshelf.com/cgi-bin/gallery.cgi?m=lluisgib</a>     |
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