

Creating the HispaBrick Magazine® Kiosk Instructions

Text and images by Jaco van der Molen

When Lluís contacted me about creating the instructions for this model I was immediately excited. In this article I will describe how I did it and what tools I used.

It all started with an email back in March 2017 when plans were starting for the model. The basis for the build was already available in LDD, but when I got the file it needed to be converted into LDraw format, since I create instructions with LDraw tools. With the latest `ldraw.xml` [1] this came out very nice to start with. Still, converting from LDD to LDraw is not 100% perfect, as some parts can be missing and some need correcting position, so there was still some manual correction to be done.

With a few adjustments the model was ready to process further with LDraw tools [2].

My choice of LDraw editing tool is LDCad. When you open a converted LDraw model, LDCad will tell you what parts are missing. I use various sources on the web like Brickset and Bricklink to find the parts. The most common problem is that the part has not been made in LDraw or is not yet official. Sometimes part numbers may differ, so you have to do some replacing. For this model I found all the parts and I used some unofficial parts. This is no problem since most unofficial parts work fine. The hard things to find were the patterned parts, especially the torso for the man, which turned out to exist in LDraw (but I could not find) and the torso for the girl that was exclusively made by request.

When all that is done you have your basic model in LDraw format, and now I have to think about making submodels. Submodels (or subassemblies or subfiles) are treated as 'parts' and are made of bricks. The bicycle for instance is made of 5 parts: the frame, the wheel (2x) and tire (2x). There are 3 bicycles in the set, so I created a submodel for one bike and used that 3 times.

The minifig torsos and legs are also made from parts: the body, the arms and the hands, and for the man and woman the legs are made from the hips and left and right leg. For each torso and pair of legs I also create a submodel.

Next I make a submodel for each individual minifig. Though LDCad is visual and you can easily find your submodels, I give each of these submodels a logical name like `torso1`, `torso2`, `legs1`, `minifig1`, etc. I will need that later on when creating instructions. I create other submodels along the way while thinking about steps and the logical use of submodels, so the the builder can understand the building process and make subassemblies much like LEGO® does all the time in their instructions.

The completed model is actually made up of two models: the kiosk and the bicycle rack. The kiosk will be the main model and the bike rack will be a submodel. Before I add steps, I sort the model and submodels by height of the bricks. I do this in MLCad, which is an older, but still very useful and functional



tool for creating models and instructions. When it comes to creating a digital model in LDraw the best tool of choice is LDCad, but MLCad comes in handy sometimes.

Once all bricks are sorted I add basic steps in LDCad. You can also step through the model in LDCad so you can see what the individual steps will be. While doing this I create some more submodels where needed. The next thing I do is open the model in LPub3D and generate very basic and simple instructions, going through the whole model once without doing any work on the layout or other stuff. I do this to see the images for the steps I created earlier and to see if I think the model is buildable.

The next step is to layout the page and create callouts for the different submodels. LPub3D is a great tool but sometimes it requires some tweaking and manual programming to really get what you want. There is a good tutorial on my website on working with LPub3D [3].

Finally there are some bricks that have custom prints and stickers, so I need to create those too. This is too long of a process to describe here, but you can find a tutorial on the web [4] and discussion on the [LDraw.org](http://www.ldraw.org) Forums [5].

Once I am happy with the result the final images have to be generated in high resolution and I do the rest of the layout to make the instructions to incorporate in the magazine.

All in all, this was a very nice project to work on. I hope you enjoy building it!

For any questions or help with LDraw tools contact me on the LDraw Forums.

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[1] `ldraw.xml` is a parts conversion file - you can find a link on the Eurobricks forum

[2] You can download all the LDraw tools through www.ldraw.org

[3] <https://sites.google.com/site/workingwithlpub/>

[4] <http://www.melkert.net/test/stickerGen.html>

[5] <https://forums.ldraw.org/>