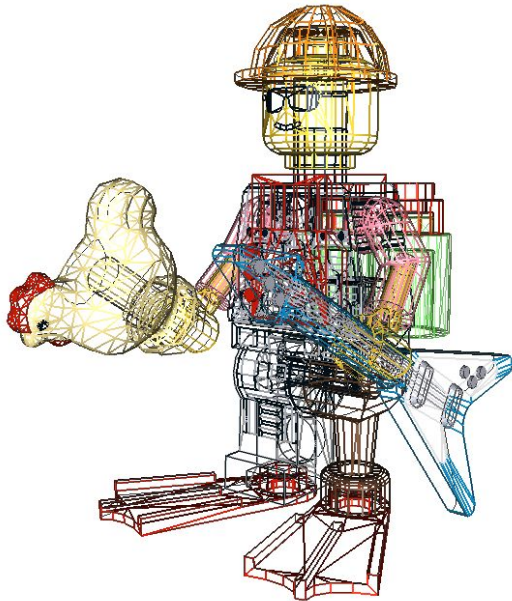


Digital Lego - Free and Easy (mostly)

A) MODELLING

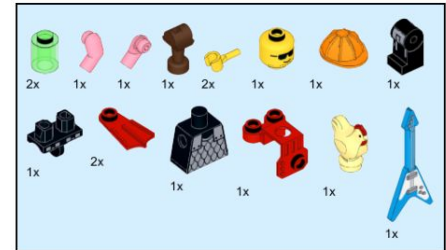


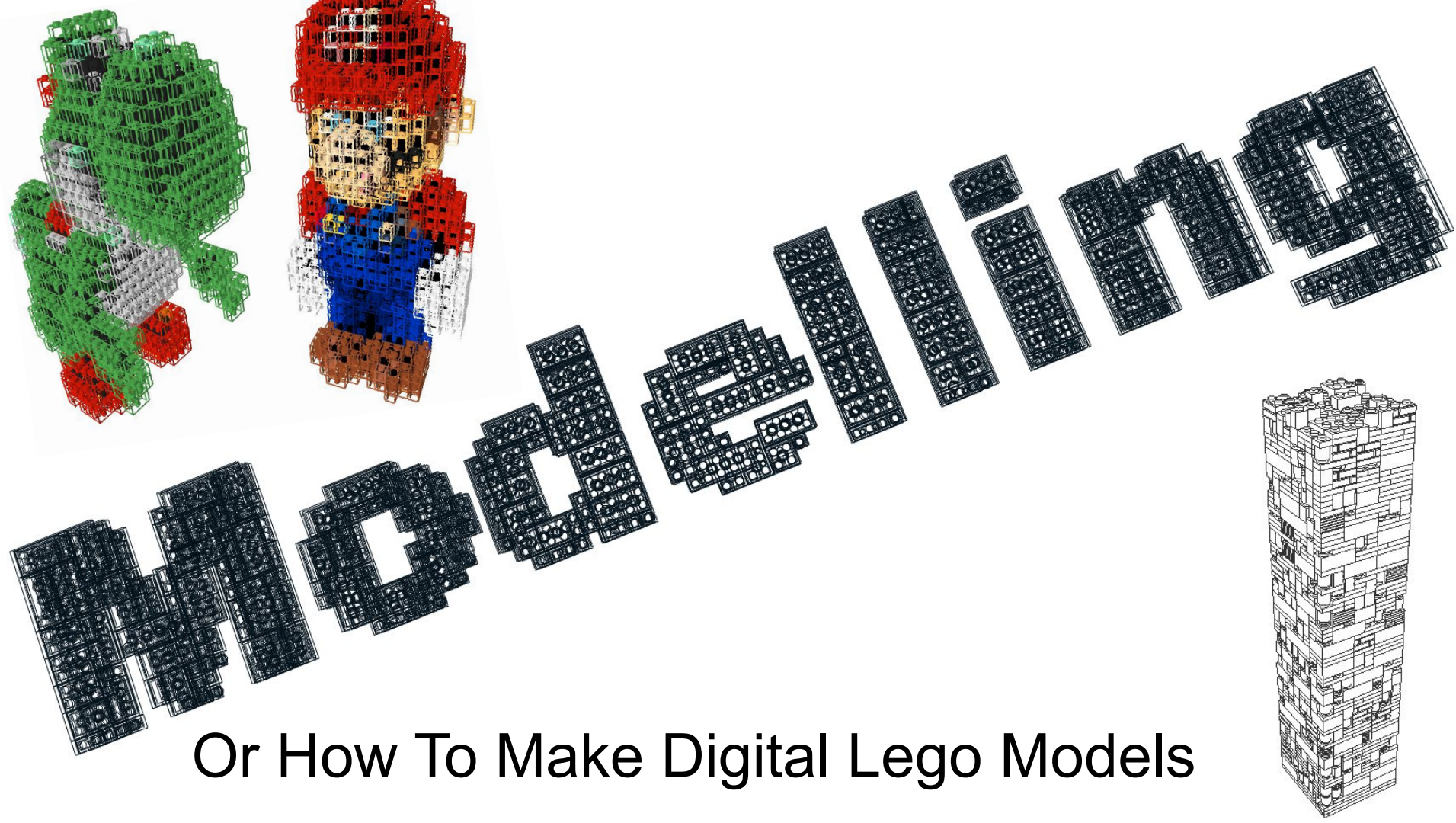
B) RENDERING



C) INSTRUCTIONS

1





Or How To Make Digital Lego Models



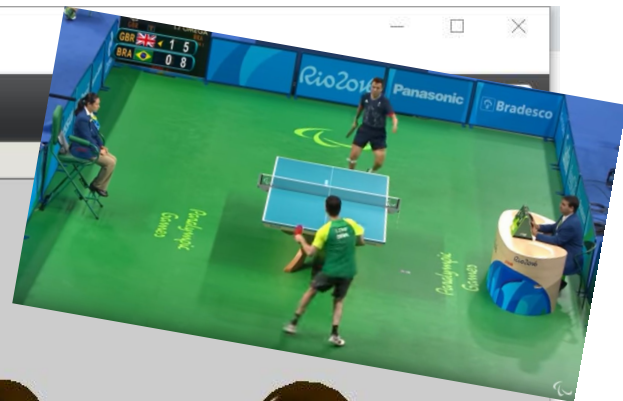


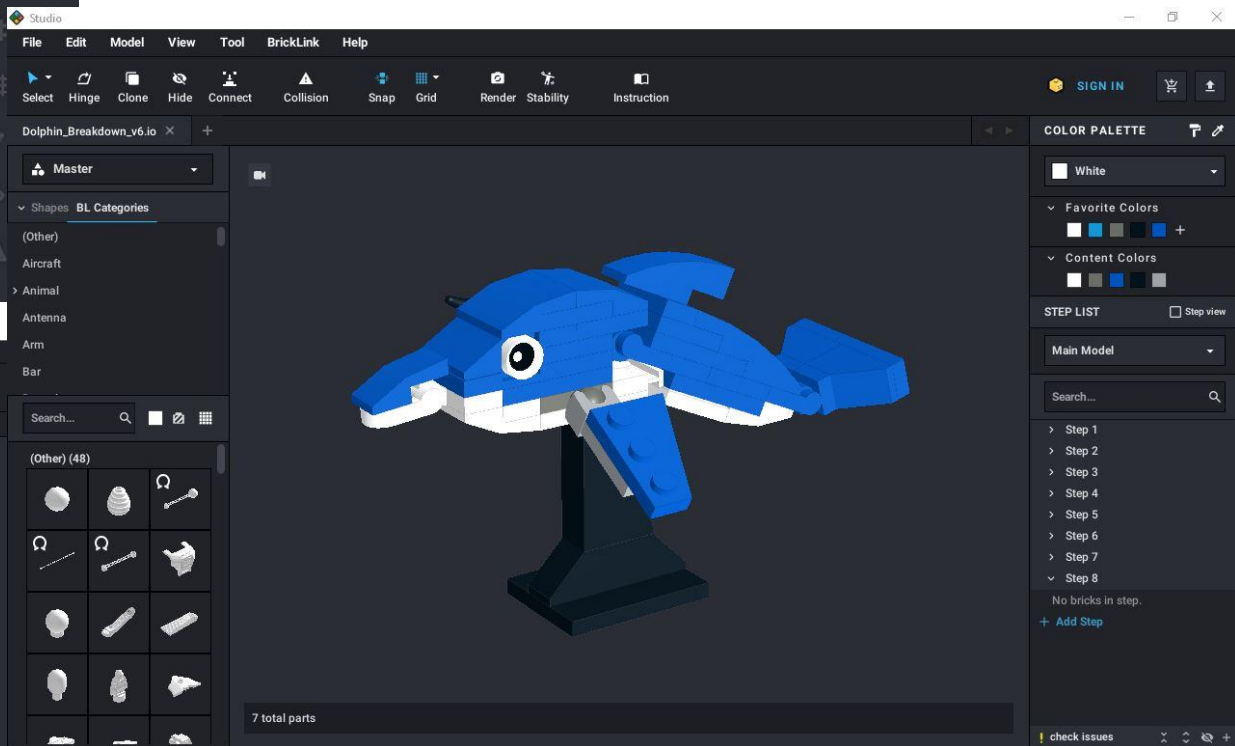
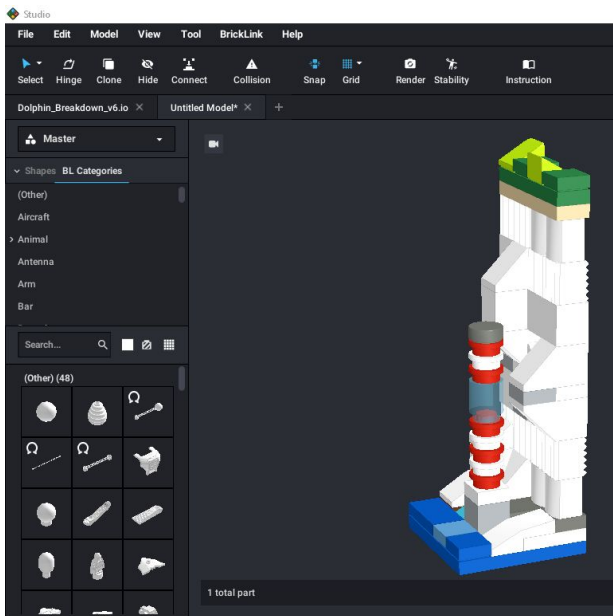
Bricks Templates Groups

LEGO DIGITAL DESIGNER extended

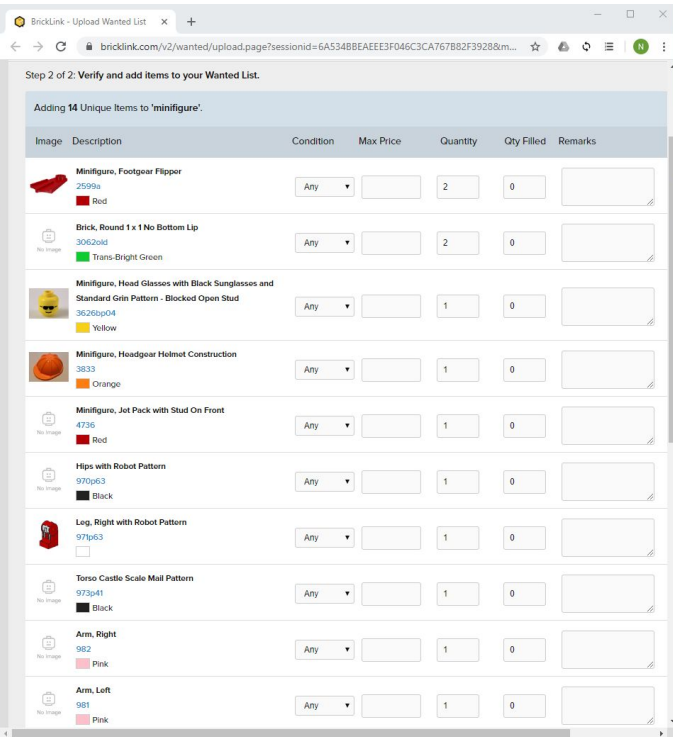
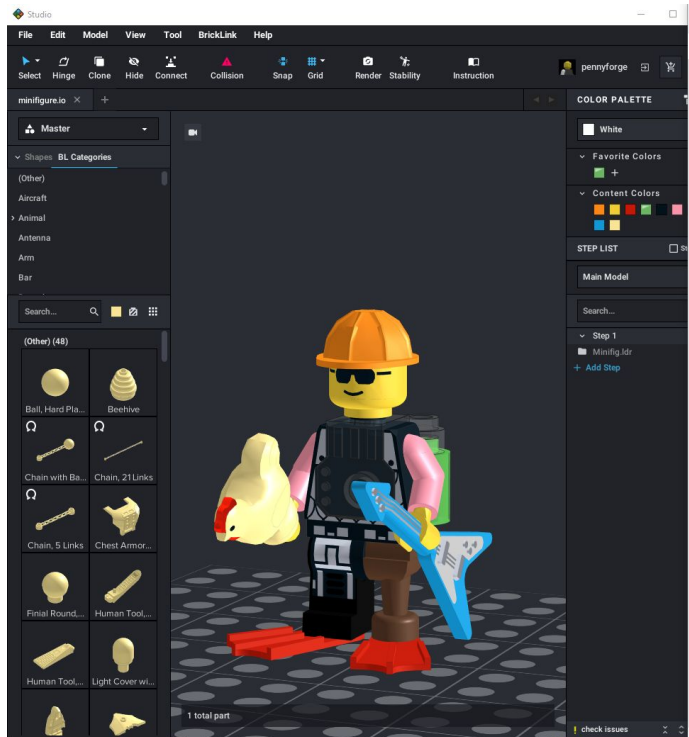


21 bricks





Stud.io BrickLink Integration





LDCad

Name
Pass Login

1 15 25.001 -49.998 -
1 15 -134.999 -49.998
1 15 -94.999 -49.998

1 2 3 4 5 6

Solid plastic



15(P): White



1 2 3 4 5 6

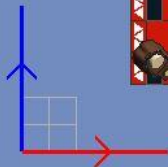
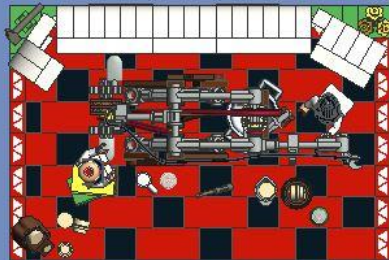
Search

[no filter]

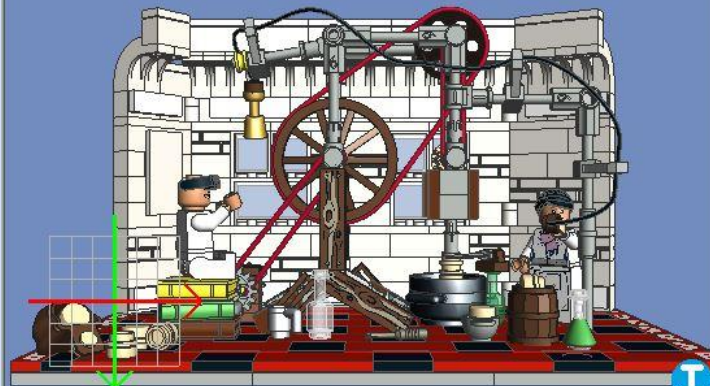
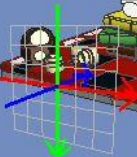
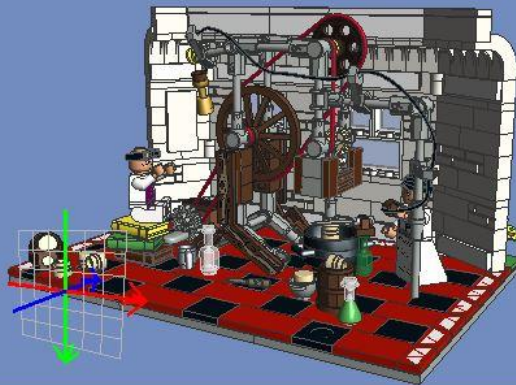
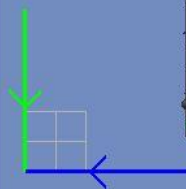
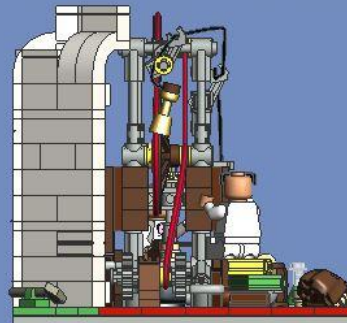


Render time:

123 ms (~8 fps)

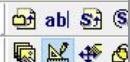


Brainstorm4_FloorAlign11.ldr?main.ldr {M}



(rel) grid position

-335; 48; -112.998



- Brick
- Baseplate
- Electric
- Technic
- Train
- Plate
- Minifig
- Slope
- Tile
- Lsynth
- Other Parts
- Models

Minifig



Mike's LEGO CAD

LDraw.org MLCad Discussion LM-Software Contact

Minifig Generator

Hat / Hairpiece:

Cap Aviator with 0



Neck:

None



Torso:

Pirate Ragged Shirt and Dagger Pattern



Left arm:

0



Left hand:

Hand Hook 0



Left hand accessories:

None 0



Left leg:

Plain Leg 0



Left leg accessories:

None



Head:

Standard Grin Pa 0



Hips:

Plain



Right arm:

0



Right hand:

Hand 0



Right hand accessories:

None 0



Right leg:

Plain Leg 0



Right leg accessories:

None



OK

☐ Insert into current file

☒ New submodel

☐ New file

Cancel

Top

Left

3D

What is LDraw?



[Forums](#) [Wiki](#) [Parts ▾](#) [Documentation ▾](#) [Downloads ▾](#) [Community ▾](#) [Help ▾](#)

You are here » [LDraw.org](#)

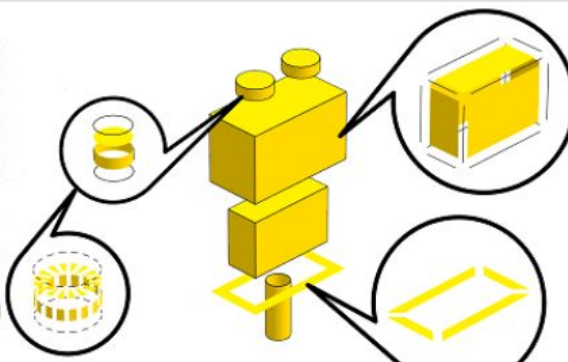
What is LDraw?

LDraw™ is an open standard for LEGO CAD programs that allow the user to create virtual LEGO models and scenes. You can use it to document models you have physically built, create building instructions just like LEGO, render 3D photo realistic images of your virtual models and even make animations. The possibilities are endless. Unlike real LEGO bricks where you are limited by the number of parts and colors, in LDraw nothing is impossible.

Get Started



Give Back



Search Library

Go

**James Jessiman
Memorial Award**



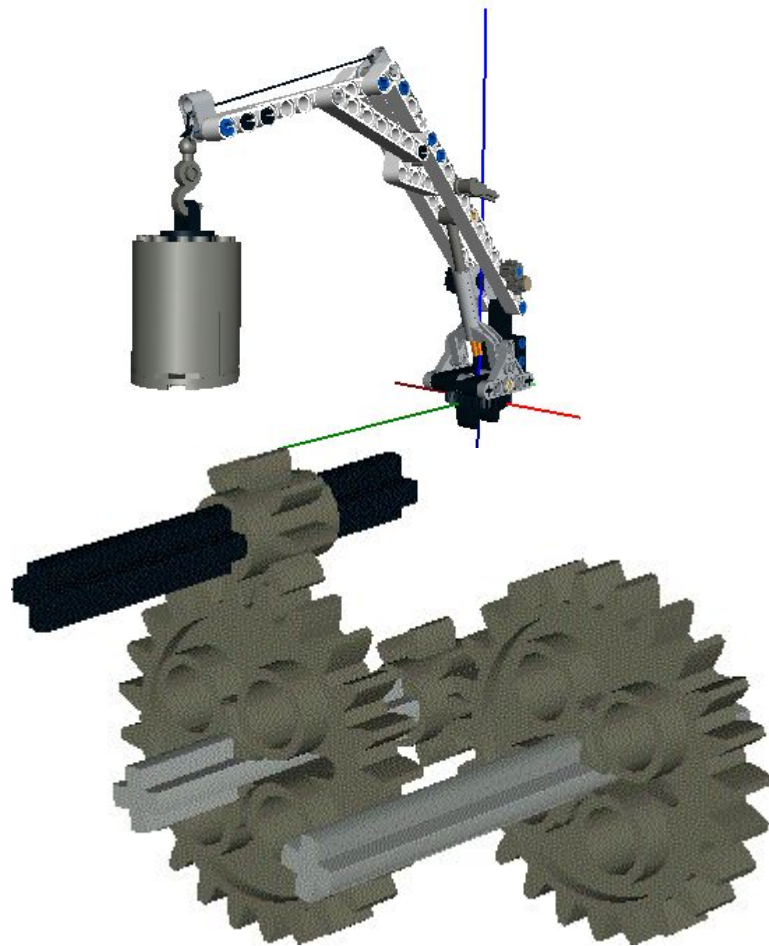
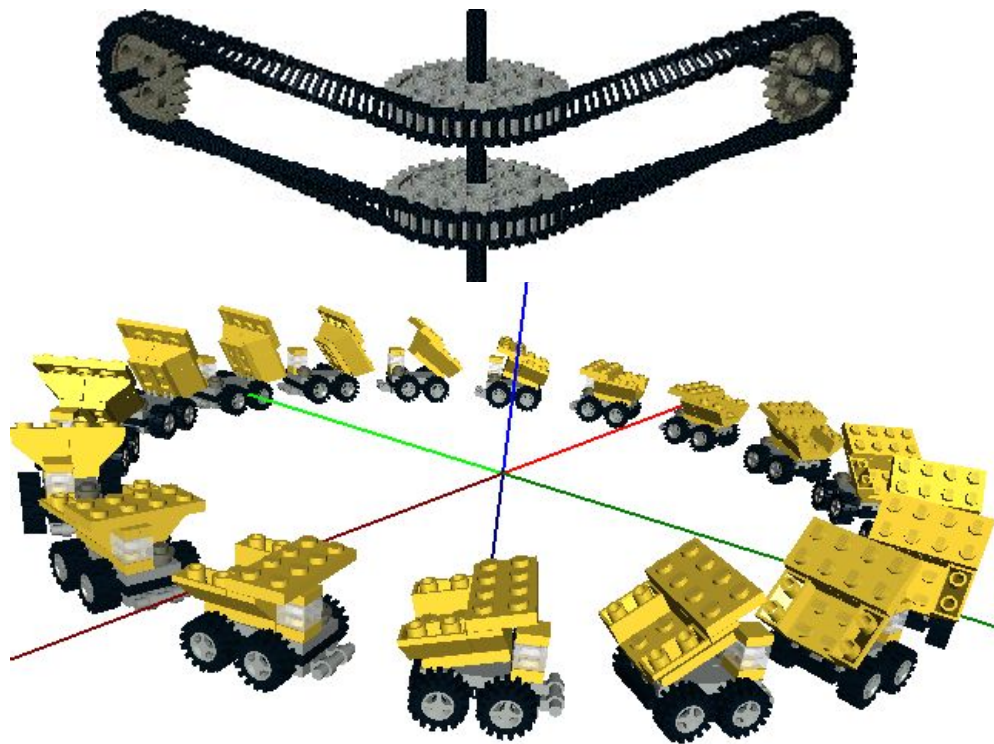
Recipient 2019
Gerald Lasser

Latest [Forum](#) posts

[So does anyone post on here?](#)

Apr 2, 2020

OpenSDraw



Python And LDRAW

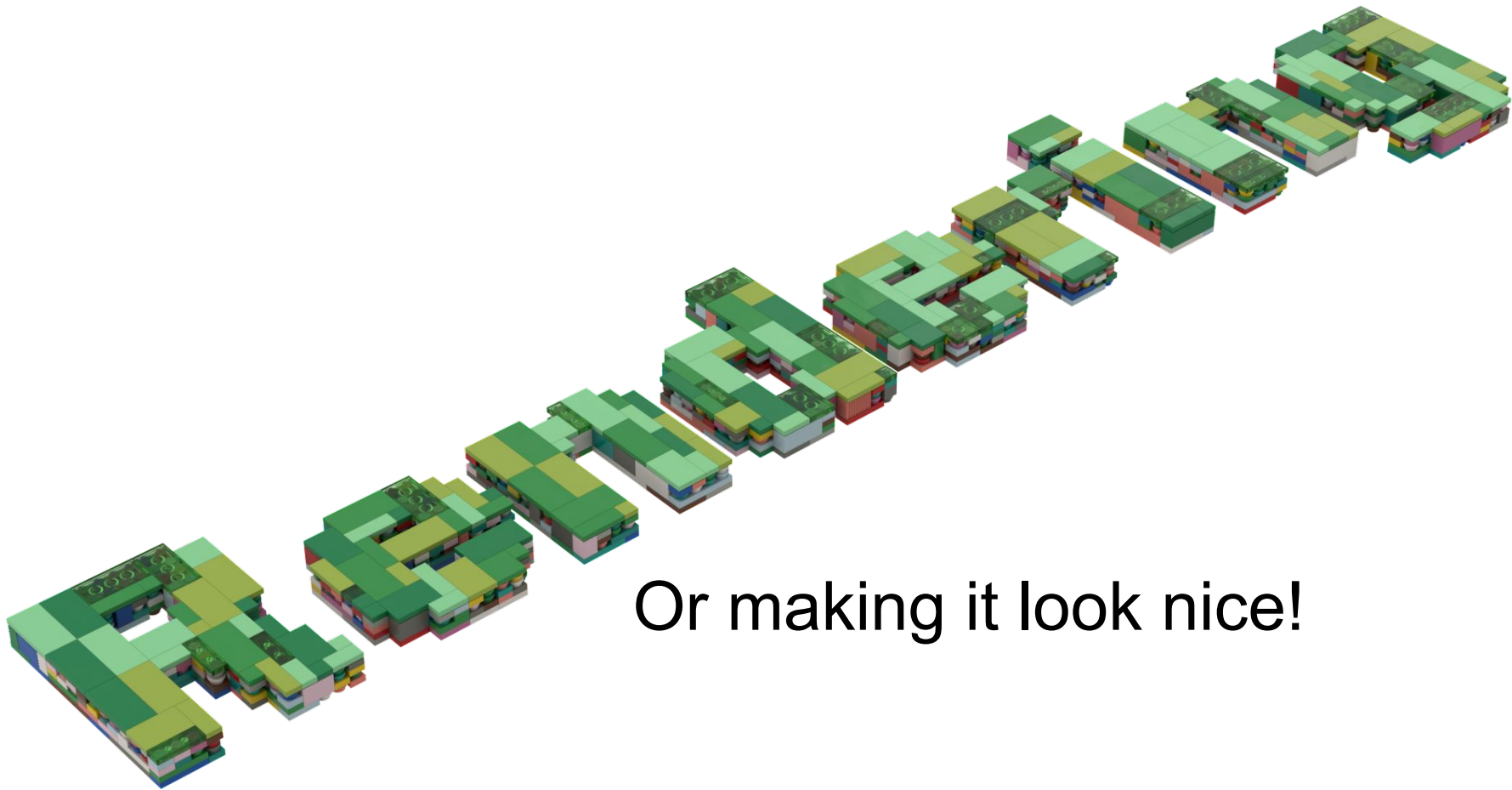


```
LegoLetters.py X 00_Projection Untitled-1
C:\> Users\ Dad > Documents > GitHub > ReworkingBricka
1042 depthOfMatrix = layer3DMatrix.shape[0]
1043 heightOfMatrix = layer3DMatrix.shape[1]
1044 print("Analysing Layers for Tiling")
1045
1046 for z in range(0,heightOfMatrix):
1047     #print(layer3DMatrix[:, :, z])
1048     #print("Adding to list")
1049     try:
1050         layer3DMatrix[:, :, z+1]
1051         #print(layer3DMatrix[:, :, z+1])
1052     except:
1053         print ("Top Layer reached")
1054         print ("Calculating Studs")
1055         #print ("XXXXXXXXXXXXXXXXXXXX")
1056         for x in range(0,widthOfMatrix):
1057             for y in range(0,depthOfMatrix):
1058                 sliceValue = layer3DMatrix[x,y,z]
1059                 #print ("sliceValue,x,y,z")
1060                 try:
1061                     for zColumn in range(0,heightOfMatrix):
1062                         nextLayerSlice = layer3DMatrix[x,y,zColumn]
1063                         #print ("nextLayerSlice")
1064                         if sliceValue != nextLayerSlice:
1065                             #print ("Mismatch")
1066                             layer3DMatrix[x,y,z] = 0
1067                             elif (nextLayerSlice == 0):
1068                                 #print ("Mismatch")
1069                                 #print ("Mismatch")
1070                                 layer3DMatrix[x,y,z] = 0
1071                             elif (z == 0):
1072                                 #print ("Mismatch")
1073                                 #print ("Mismatch")
1074                                 layer3DMatrix[x,y,z] = 0
1075                                 #print ("Mismatch")
1076                                 #print ("Mismatch")
1077                                 layer3DMatrix[x,y,z] = 0
```

PROBLEMS 47 OUTPUT TERMINAL ... 2: P

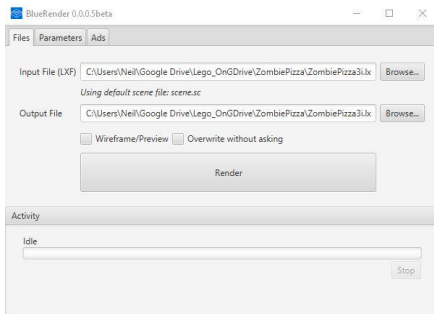
```
[3 3 3 3]
No uplift needed
[[1 1 1 1]
 [1 1 1 1]
 [2, 4, 1] 1
Getting Brick Part... 2,4,1
[4, 2, '3020.dat', 1]
Top of letters now level - press any key to continue
Press enter to continue

Skipping layer analysis (A)...
PS C:\Users\Dad>
```



Or making it look nice!

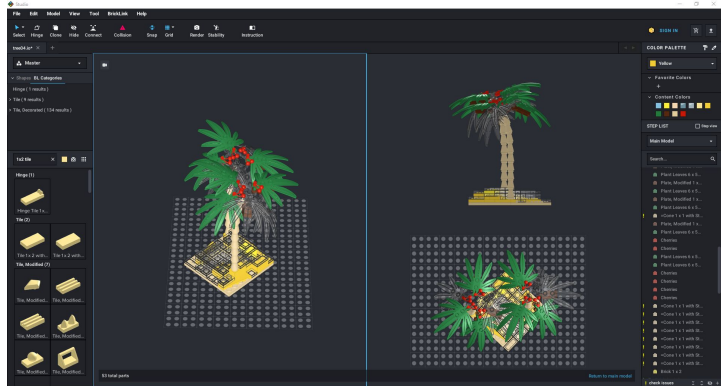
From LDD With BlueRender



Stud.io

Photoreal

Rendering



Stud.io

Photoreal

Animation

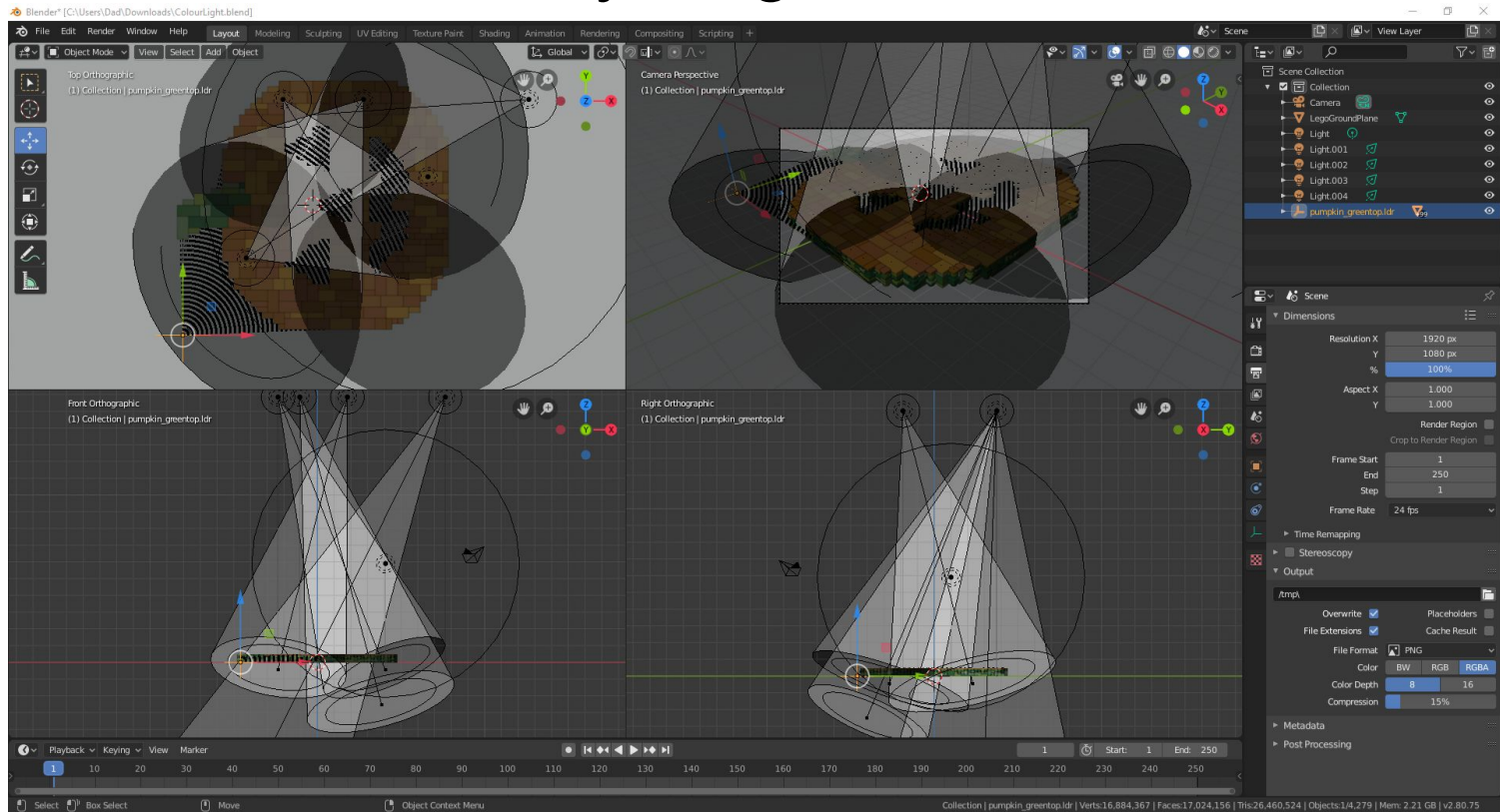


Let's hear it
for
POVray!

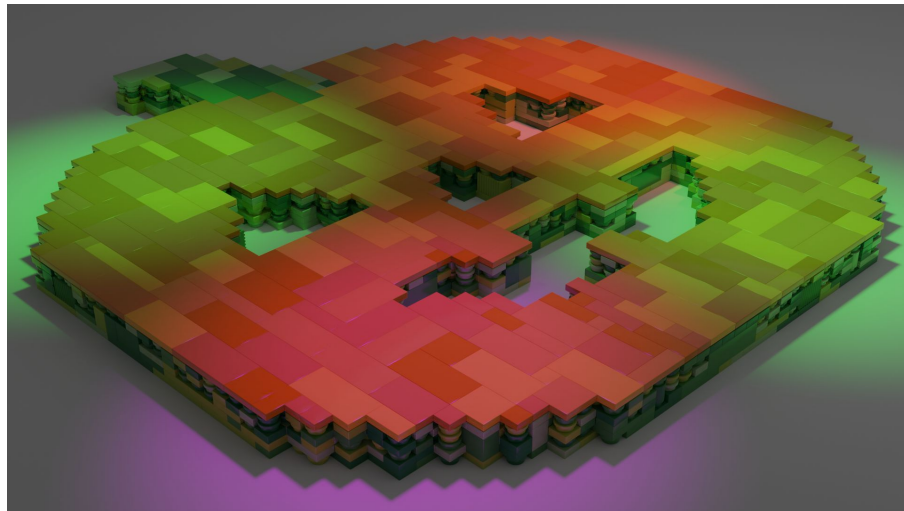
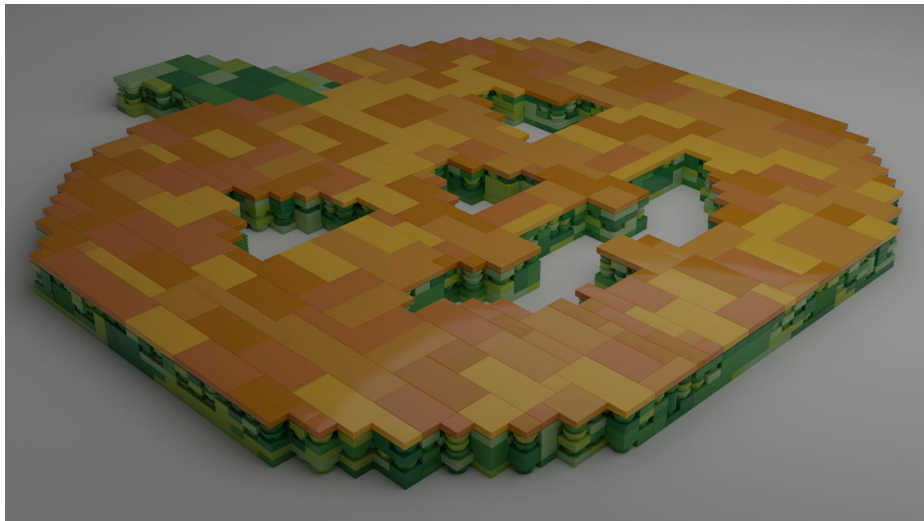


LDRAW and Blender

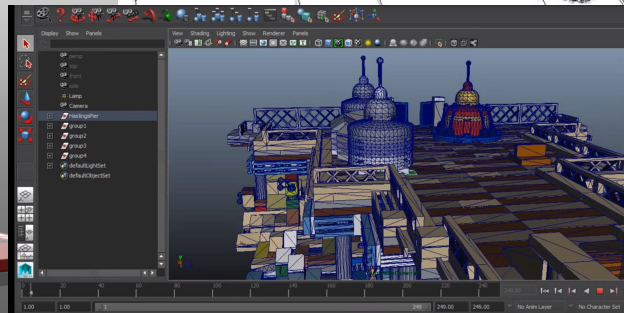
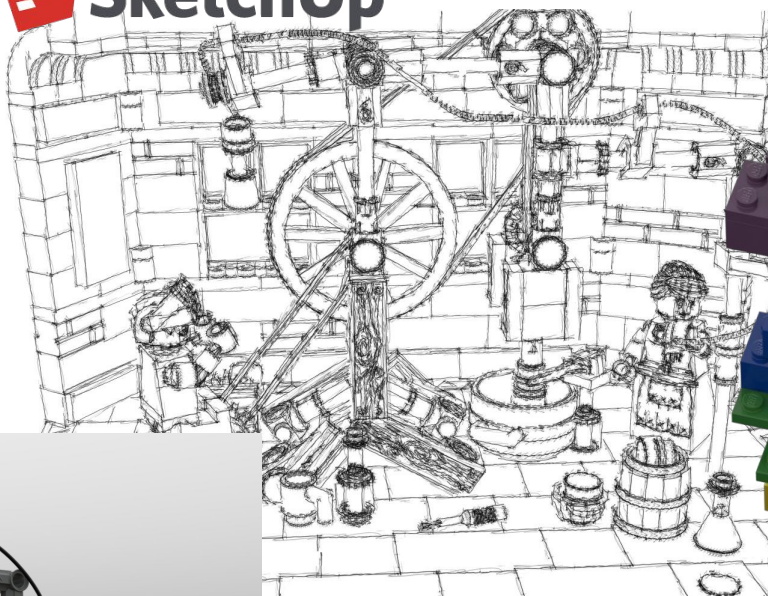
You can do almost anything - But it is a bit full on!



LDRAW and Blender Rendering

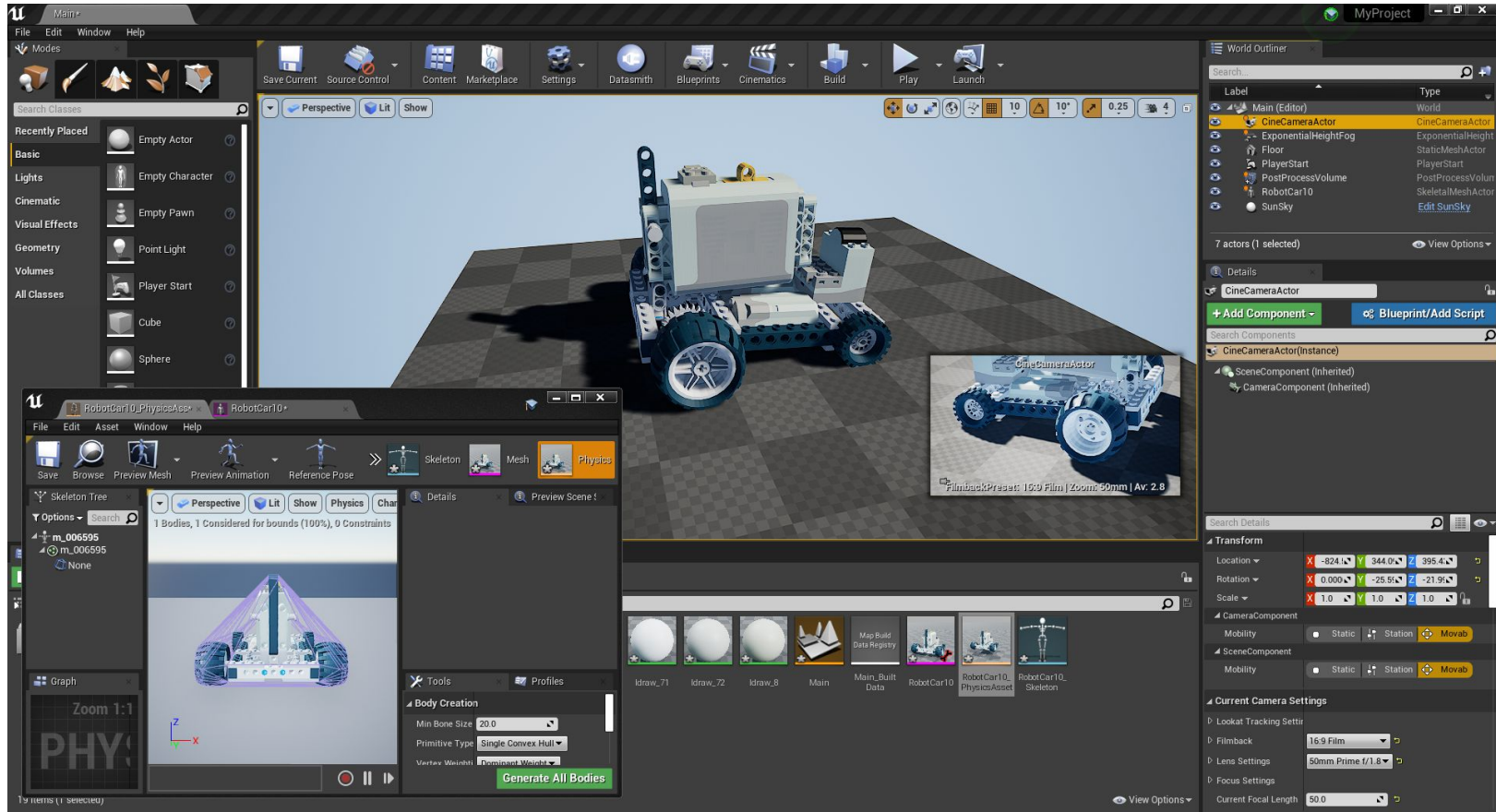


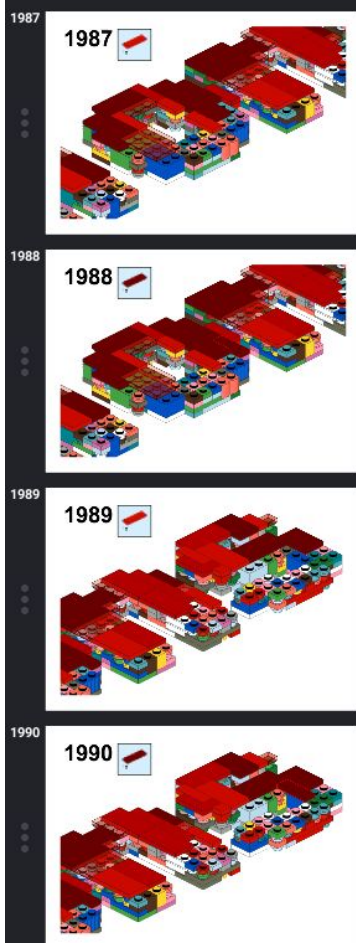
Modo, SketchUp Maya And Brickalo



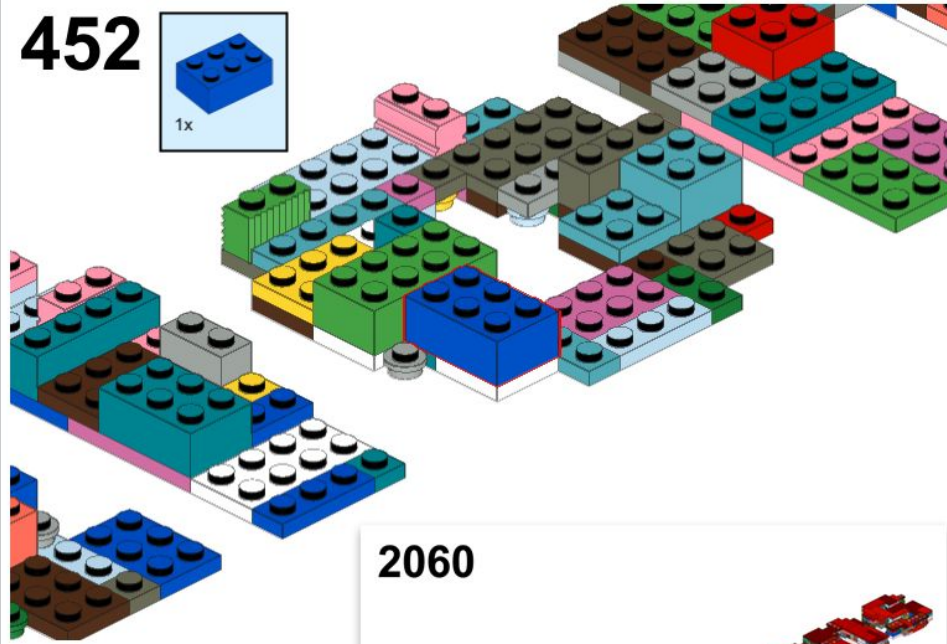
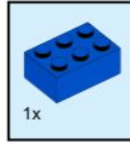
AUTODESK
MAYA

Lego and Unreal Engine





452

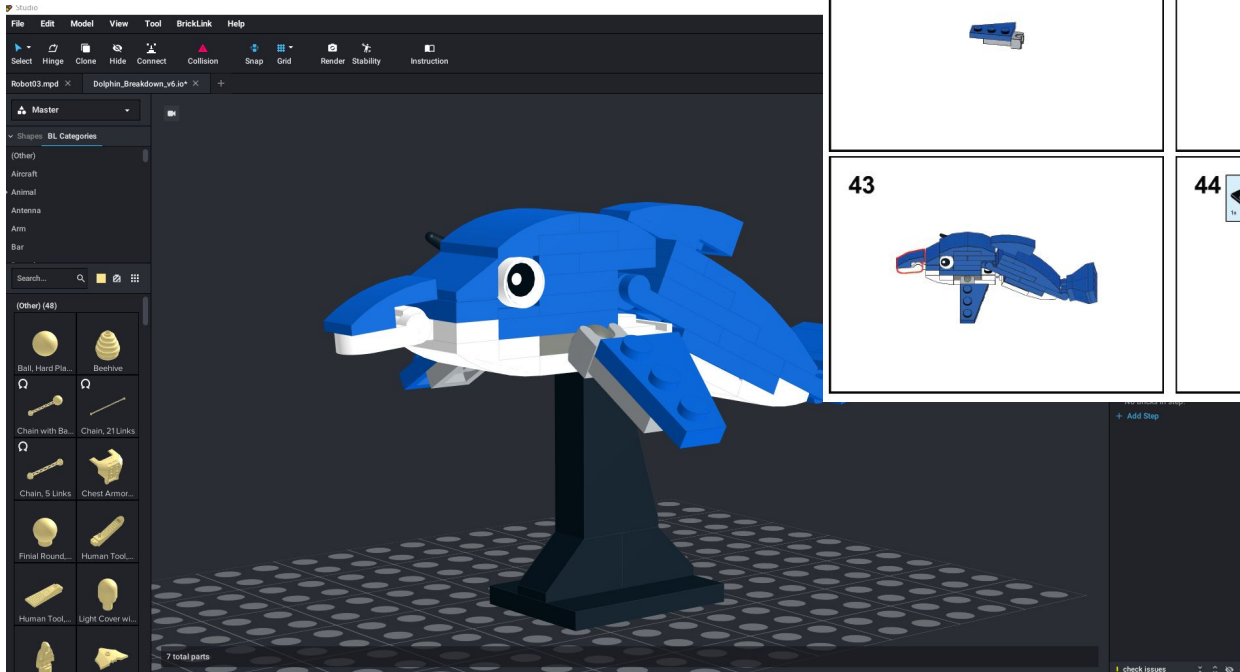


2060



INSTRUCTIONS - How you actually build it!

Stud.io instructions



37



38



39



40



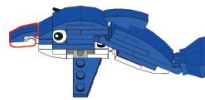
41



42



43



44

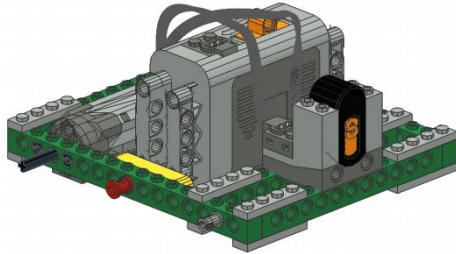
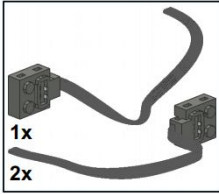


45



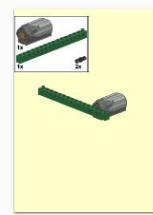
LPUB 3D instructions

18

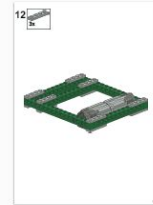


CONNECT THE TWO CABLES FROM THE MOTORS TO THE IR RECIEVER AT THE FRONT

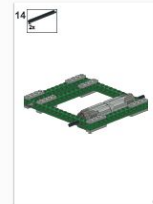
20



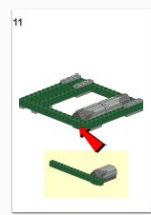
11



13



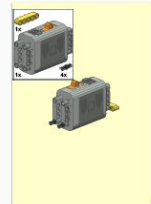
15



12

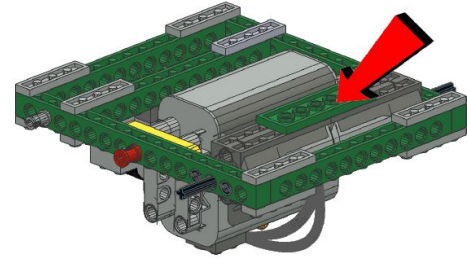
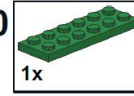


14



16

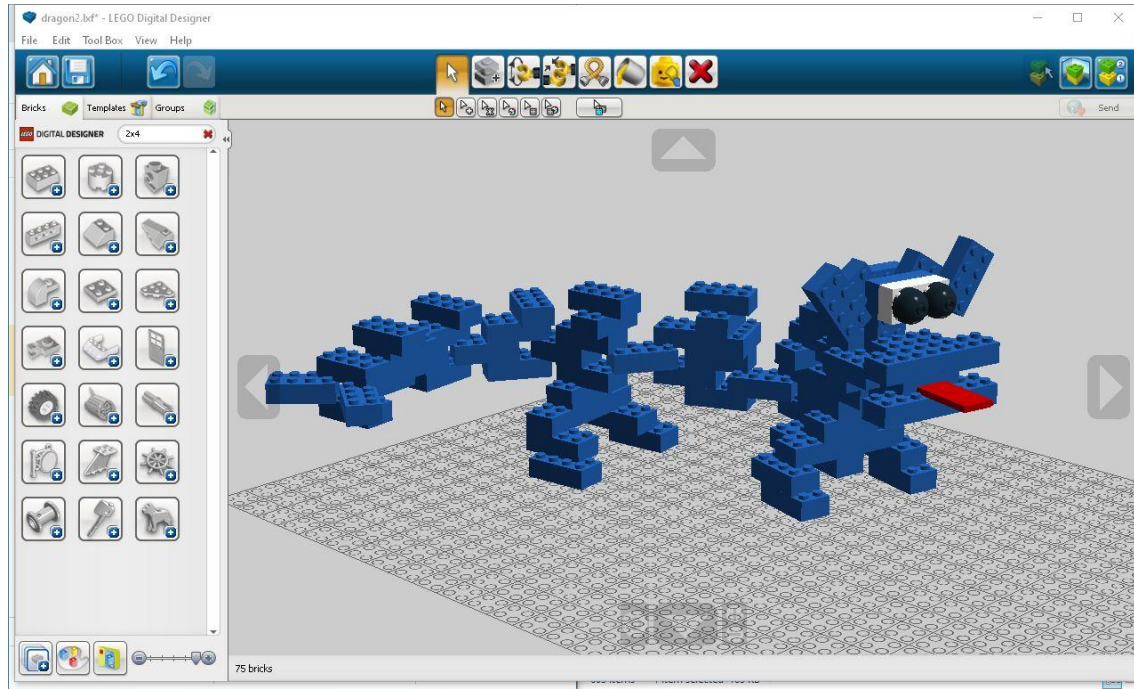
20



TURN THE MODEL UPSIDE DOWN
AND ADD THE 2x6 PLATE TO THE
BASE OF THE MOTORS

22





HERE BE DRAGONS!

With Digital Lego There is so much to discover!

LINKS

LDD: - No longer directly accessible from the Lego website
<https://lego-digital-designer.en.softonic.com/>

Custom Decals in LDD:
<https://www.rockraidersunited.com/topic/5399-tutorial-adding-custom-decals-into-ldd/>

LDD Useful Tips: <https://bricks.kalais.net/post25>

Stud.io: <https://www.bricklink.com/v3/studio/download.page>

BrickLink: <https://www.bricklink.com/v2/main.page>

LDraw: <https://www.ldraw.org/>

LDraw All in ONE installer:
<https://www.ldraw.org/article/104.html>

LDCAD: <http://www.melkert.net/LDCad>

MLCAD: <http://mlcad.lm-software.com/>

OpenSDraw: <https://github.com/HazenBabcock/opensdraw>

Python: <https://www.python.org/>

Visual Studio Code: <https://code.visualstudio.com/download>

BlueRender:
<https://www.eurobricks.com/forum/index.php?/forums/topic/109972-software-bluerender-a-rendering-engine-for-ldd/>

Blender: <https://www.blender.org/download/>

Blender LDraw Plugin: <https://github.com/TobyLobster/ImportLDraw>

Modo (Free 30 days - Command Line Rendering Always Free)
: <https://www.foundry.com/products/modo>

Modo LDraw Plugin (Donation Ware): <https://www.battlefleet.net/fmtldr>

SketchUp: <https://www.sketchup.com/>

Maya (Free for School Children with a school email address):
<https://www.autodesk.co.uk/products/maya/free-trial>

POVRay: <http://www.povray.org/>

Brickalo: <http://www.brickalo.com/>

LPUB
3D: <https://trevorsandy.github.io/lpub3d/>

Unreal
Engine: <https://www.unrealengine.com/>

