

SCHWEIZER JUGEND FORSCHT
LA SCIENCE APPELLE LES JEUNES
SCIENZA E GIOVENTÙ
SCIENZA E GIUVENETETGNA

Università
della
Svizzera
italiana

Facoltà
di scienze
informatiche

PROJECT 7: Introduction to Computer Graphics



Students:

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Assistant:

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Project Goal:

The aim of this project was to learn the basics of 3D modeling with the open-Source program Blender 3D. In our final game project we used many functions available in Blender: for modeling, for animating and a part we liked a lot, the Blender Game Engine very useful to create the game itself.

Materials:

- Linux Fedora-based PC
- Blender3D, an open source software for modeling 3D graphic and animating
- Guides and help:

<http://www.blender.org/>
<http://www.blender.org/education/help/tutorials/animation/>
http://en.wikibooks.org/wiki/Blender_3D:_Noob_to_Pro
http://wiki.blender.org/index.php/Doc:2.6/Manual/2.6ur_First_Animation/2.6ur_Animating_the_Gingerbread_Man

- Gimp, Paint
- OpenOffice suite

Method:

First we practiced by modeling some simple objects in Blender. After we decided what we like to model.

We chose a Lego man because the structure is not so complex, and we had more time to animate.

As first step we animated the arms and legs of the Lego man and his mouth. Now he can show some expressions!

When we were happy with our work, we had the idea to created a little game.

Therefore we designed a level, we "duplicated" the character to allow a multiplayer game, and thought about, what's the goal of the player. Then we wrote some scripts to realize this.

We enjoyed the possibility to program the behavior of our characters.

```
import GameLogic as gl *
cont = gl.getCurrentController()
own = cont.owner

act1 = cont.actors["act1"] *
act2 = cont.actors["act2"]
act3 = cont.actors["act3"]

punkte1 = gl.Punkte1 *
punkte2 = gl.Punkte2

if punkte1 != punkte2: *
    if punkte1 > punkte2:
        cont.activate(act2)
    else:
        cont.activate(act1)
else:
    cont.activate(act3)
```

- Import an Object to manage the logic behind the game.
- Put the owner and the controller of the current object in variable to use it.
- Define the 3 variables for the different cases which can happen.
- Save the number of collected bricks in two variables.
- If the scores aren't equal the player with less points gets a bad smile.
- Else both players get a neutral face.



The finished model in Blender



Adding bones to the Lego man



Animating the body



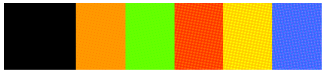
Animating the face



Modeling some Legobricks



Final Render of the Lego man



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