CSYE 7270

Building Virtual Environments

Create a 3D Model

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Create a 3D Model

Counts towards assignment score

### Part 1 – (100 Points) Create a 3D Model

Create a 3D Model. Apply at least 2 shaders/textures to the model. Upload the model to Blackboard along with the images from renders from at least 3 distinct camera angles with and without shaders/textures.

You can build a model from scratch or tweak an existing model. If you tweak an existing model you must provide the base model, reference it and provide additional renders that illustrate the tweaks/changes made.

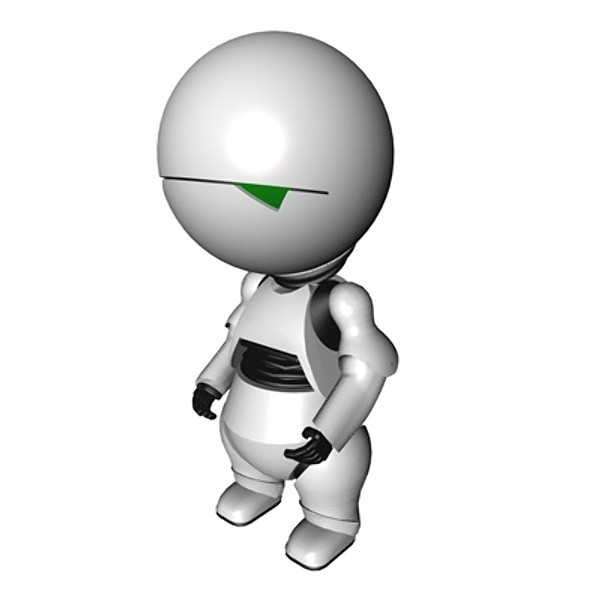
**Examples of 3D Models that aren’t “Too Simple”**

A picture containing cup, indoor, coffee, sitting

Description automatically generatedA close up of a toy

Description automatically generatedA picture containing sitting, front, holding, bench

Description automatically generatedA close up of a toy

Description automatically generatedA close up of a computer

Description automatically generatedA picture containing red, propeller, white

Description automatically generatedA close up of a knife

Description automatically generatedA picture containing table, sitting

Description automatically generatedA picture containing indoor, table, sitting, black

Description automatically generatedA picture containing sitting, table, white, black

Description automatically generatedA picture containing table, sitting, large, flower

Description automatically generatedA picture containing table, holding, topped, glasses

Description automatically generatedA close up of a statue

Description automatically generatedA picture containing table, plate, dark, sitting

Description automatically generated

**3D Printing Contest**

I’ll pay to 3D print the best model, if it is printable and the student desires a 3D print of their model. There is a $50 limit on the print cost.

**Scoring Rubric**

100 points possible

|  |  |
| --- | --- |
| **Requirement** | **Points** |
| Greater than 1000 polygons | 50 |
| Renders from at least 3 distinct camera angles. | 25 |
| 2 shaders/textures | 15 |
| Artistic merit | 10 |

**Submission**

You will submit your assignment via BlackBoard.

Click the title of assignment (blackboard -> assignment -> <Title of Assignment>), to go to the submission page.

### 3D Modeling Resources.

Maya Essentials 2: Polygonal Modeling Techniques with George Maestri

<http://www.lynda.com/Maya-tutorials/Maya-Essentials-2-Polygonal-Modeling-Techniques/96715-2.html>

Game Character Creation in Maya with Chris Reilly

<http://www.lynda.com/tutorials/Game-Character-Creation-in-Maya/83095-2.html>

Modeling Vehicles in Maya with Ryan Kittleson

<http://www.lynda.com/Maya-tutorials/Modeling-Vehicles-Maya/114004-2.html>

Character Animation Fundamentals with Maya with George Maestri

<http://www.lynda.com/Maya-tutorials/Character-Animation-Fundamentals-with-Maya/54994-2.html>

Working with HumanIK Rigs in Maya with Adam Crespi

<http://www.lynda.com/Maya-tutorials/Working-Human-IK-rigs-Maya/122440-2.html>

Maya Essentials 5: Animation Tools with George Maestri

<http://www.lynda.com/Maya-tutorials/Maya-Essentials-5-Animation-Tools/96719-2.html>

Facial Modeling Timelapse <http://www.sergicaballer.com/facial-modeling-timelapse/>

*Nice sources of 3D Models*

<http://rigging101.com/>

<http://tf3dm.com/>

<http://www.creativecrash.com/>

<http://www.turbosquid.com/>

<http://www.turbosquid.com/Search/?keyword=ufo&sort_column=A5&sort_order=asc>

<http://www.turbosquid.com/Search/Index.cfm?keyword=rocket&sort_column=A5&sort_order=asc>

<http://www.turbosquid.com/Search/Index.cfm?keyword=robot&sort_column=A5&sort_order=asc>

*SpringerLink Books*

Understanding 3D Animation Using Maya

Authors: John Edgar Park <http://link.springer.com/book/10.1007/b138279>

Principles of Computer Graphics Theory and Practice Using OpenGL and Maya®

Authors: Shalini Govil-Pai

<http://link.springer.com/book/10.1007/b135398>

References and Links:

* <https://ufo3d.com/3d-modeling-software-for-unity-top5>
* <https://www.youtube.com/watch?v=r1BRTNqCJ1A>
* <https://www.youtube.com/watch?v=0QT1GNMevfc>
* <https://www.youtube.com/watch?v=BN0okzfjSp8>
* <https://answers.unity.com/questions/11043/how-do-we-create-a-character.html>