

## Assignment 1: Getting Started in Maya

**Readings:** ‘Getting Started’ lessons in Maya Help (menubar or online); text Chapters 2, 4-6.

**Deadlines:** Two submissions during the week. Note that EOD = 11:59 PM on given date

EOD **1/16:** Work-in-progress version (with current status, even if a mess)

EOD **1/19:** Final version

**Punctuality:**  $\geq 50\%$  deducted if late (without prior arrangement and/or credible excuse).

**Deliverables:** The following three parts should be emailed to kent@cs.uoregon.edu as attachments. Note that any written documents (such as #1, below) are to be submitted as PDF files, not as word processing documents (no .docx, .pages, .rtf, .txt, etc.).

- 1) A PDF document that first serves as a ‘readme’, which would be opened first to guide one through your project (indicating which scene to open, etc.), then provides a personal narrative your challenges/frustrations, noteworthy breakthroughs, and so forth. This is a way to give me feedback. Make it long enough to serve as a bit of a log of your progress.
- 2) A Zipped Maya project folder. **Name your project folder with your last name, and the number of the assignment, such as Smith\_1.** I should be able to unzip the folder as a project, direct Maya to that project, open the indicated scene, and view your work. Note that you need to have autosave on, with a 10 minute autosaving schedule, so I can examine earlier versions if desired.
- 3) A PNG, TIFF, JPG snapshot of your model. You can use a screen-capture or use the Maya rendering window. Just add that as an attachment, or include the image in your narrative (#1, above).

Clearly, Maya’s user interface is something best learned by starting with a few good examples, such as those provided by the Autodesk Maya Getting Started Guides. I suggest working through the Maya Basics chapter:

[http://download.autodesk.com/us/maya/Maya\\_2014\\_GettingStarted/index.html](http://download.autodesk.com/us/maya/Maya_2014_GettingStarted/index.html)

and to cover Lessons 1-4 inclusive. The example of the temple, created from simple polygons, illustrates the most basic of object modeling in Maya, sometimes called poly-by-poly modeling. The subsequent lessons delve into SubD modeling and NURBS modeling techniques and from there into rigging and animation. One must start simple, and reinforce the new skills by repetition.

We’re setting you out on creating models out of polygons with only a brief and cursory introduction to the underlying representations of coordinate frames, and how vertices are assembled into polygons, and what are vertices, edges, faces, and meshes. The latter will be increasingly understood and available to programmatic manipulation through the maya.cmds SDK, but first get used to manipulating and assembling simple polygonal objects through the Maya interface.

For now you have camera navigation to move about in 3D, and selection, and directing of operations such as duplicating, scaling, translating, rotating, parenting, grouping. The Getting Started Guide walks you through some of the basics of making a Maya project (using the default folders to contain the various assets and resources needed).

For the first assignment, you'll make a simple scene out of Legos. To do that, you'll make your own Lego blocks, and a few special parts. I will supply the Lego Man. There are a *great* many resources on the Web to help you. Regarding dimensions, for instance, check:

<http://bricks.stackexchange.com/questions/288/what-are-the-dimensions-of-a-lego-brick>

<http://www.robertcailliau.eu/Lego/Dimensions/zBasics-en.xhtml>

We will be sharing these assets, and your parts should be able to snap interchangeably with those contributed by others.

Note that there are many pre-made digital models of Lego readily found, in some interchange format such as .OBJ or .STL. The goal of this assignment is to create instances of Lego blocks procedurally, and to assemble them procedurally.

Use polygonal modeling (not NURBS or SubD; just planar-faceted polygonal models). Save your model as an .ma file (not the binary .mb). Email me a zip file containing your entire Maya project. Inside will automatically be the autosave directory showing the development of your work, essentially 10 or 15 minute snapshots of your progress). Zip your project and include it as an attachment along with a few paragraphs explaining what you attempted, any comments to accompany the model, and any noteworthy modeling experiences or anecdotes). I should be able to save your attachment, unzip it, open the project in Maya, and navigate into the scenes folder to find your .ma file, and see your spiffy model.

This assignment is to get you going with the process of creating models in 3D, and to experience the process of interacting in Maya, and is not intended to test your artistic skill or for you to decide whether you have a future with Pixar. I wish to stress that these models are throw-aways, and not expected to be keepers. Get used to making and breaking as you will be learning a set of motor skills while picking up several interrelated concepts simultaneously. Should be fun. Explore.

Please let me know if you have any problems.