Character design 2019: Olympoids

A script is being developed for a new animated feature film. Inspired by the film Real Steel the working title is Olympoids and the film's release is intended to coincide with the 2020 summer Olympics in Tokyo, Japan. The film is set in the year 2040 and, whilst much of the modern world is unrecognizable, the Olympic Games are as exciting and as globally popular as ever. The Olympic spirit and the core Olympic events remain exactly as the Games of today - BUT the days where humans physically compete in the Games are long gone. In this futuristic world there are no national Olympic teams; no human competitors. Each nation is represented by just one Olympoid: an advanced robotic athlete capable of competing in a number of Olympic events. Olympoid film characters are complex, multifunctional elite sporting machines with an individual personality and style.

The 2019 assessments for COMS31000 are based on this film concept, and designed for you to experience the entire static character production pipeline from concept, through to geometry, lighting design, texturing and shader application. **Using Autodesk Maya you will design and model a CG character that could feature as a robotic athlete in the Olympoid film.** For the Character Design submission you will design and model the shape and geometry of your Olympoid. For the second Rendering and Lighting submission the focus is then on surface design. The end game is to create a rendered publicity shot for the film: with your robotic character posed for action, textured, lit and rendered as an elite Olympic athlete of the future. For the Character Design submission you are not required to texture, shade or light your Olympoid. There are no restrictions in terms of polycounts or the number of components. The aim of this first assignment is simply to focus on the creation of a precise 3D representation of a film character. Create a model that demonstrates creativity, observation, and importantly your understanding of a wide range of modelling techniques. *With this in mind - the character that you design must be complex enough to provide you with scope to experiment with a range of construction methods.*

Assessment and Submission

Use the Arnold renderer to create an ambient occlusion render of your scene at a resolution of HD_720: 1280x720 pixels WIDE. Submit this HD_720 image as a JPG with a PDF design report (maximum of six pages for the core report - *plus an extended appendix for artworks*). Your report should introduce your Olympoid character, outline the creative design processes and explain clearly the different modelling techniques used and your reason for using them. You do not need to submit your Maya binary source file for this design submission; but it must be available on request. This character design task represents 60% of the unit assessment. **Your ambient occlusion pass and design report should be submitted online in Blackboard by 7th November 2019**; the Thursday of academic week six.

*Beyond the obvious requirement to explore the creative design process and produce an **original** design for an Olympoid athlete, there are a number of technical objectives on which your mark will be based:*

1. Modelling components from real reference objects

Although this is a creative design task you need to show some evidence that you can reference and model real objects. Proof that you can model real objects (to the correct proportions) is a minimum requirement. Simply include recognisable objects as component parts of your robot character or as accessories. Presumably some **olympic-related objects** and olympic references will feature in your design? Modelling from reference is a vital skill for a 3D modeller. The ability to study and visually breakdown a real object into component parts allows you to make decisions about the tools and procedures that you use to create a virtual copy. This is about learning to model. EVERY OBJECT AND EVERY COMPONENT OF YOUR OLYMPOID MUST BE CREATED BY YOU. Do not download and then assemble found geometry - if you do that's plagiarism, you learn nothing, it complicates lighting and texturing design for your second submission, and it's dull.

2. Demonstrating your understanding of a wide range of techniques

Secondly, we encourage you to explore the wide selection of modelling tools and techniques that Maya offers. It is very important that you display a variety of techniques and approaches. Simply producing lots of geometry using only one rehearsed procedure repeatedly, or by mass duplication will not attain you high marks. It is also important to create clean geometry. Avoid non-manifold models and self-intersection. The more techniques you use, and the more skilfully and appropriately you apply them, the higher your mark will be. A common level of detail and resolution throughout your design, clean geometry, and complexity of design are all important factors. This is a static modelling task; please avoid using dynamic emitters and colliders in your scene; especially important if you include cloth - bake it.

3. Design report

Finally, you must explain your modelling process clearly in a design report - *why did you adopt different techniques for different parts of the model?* This PDF design report should be structured clearly into sections:

1 **Pre-production and planning:**

Consider your report a complete *making-of* document which explains the entire design process from creative idea through to final geometry. Your report should start with a pre-production and planning section. What did you do prior to technically modelling the geometry in Maya? Explain your creative design process. Beyond the basic six page limit for the core of the report you can include additional style-sheets, visual references, development drawings, sketches and blueprint designs as an appendix (no limit).

2 Techniques and surfaces:

Create a bulleted list or illustration that shows the modelling techniques and procedures used to create your final design. For each technique briefly explain where in your character, and to which surfaces, the techniques were applied. *Please populate your report with interim screenshots to illustrate the text.*

3 Process and discussion:

Discuss the process you went through to complete the task, explain how the design evolved and why certain techniques or surfaces were used for different parts of the model. Sensible justification of your design decisions and your choice of technique will gain you higher marks. One approach may lead to a more realistic result than another, or may lead to the same result but provide more flexibility during construction; *or it may simply take less time*. You may be thinking forward about edge flow and surface design for texturing? If you have experimented with different ways to create the same shape and found one approach to be better than another - why? What does better mean? Explain your thought processes and be sure to mention those parts of the model that you found most difficult, and the parts that you are most proud of. In this discussion section, briefly sum up your thoughts on your submission.

What would you do differently if you did it again?