# Primitives

*A script is being developed for a new children's animated feature film. The working title is Primitives and the film takes inspiration from the Transformers comic, toy and film franchise. The Transformers franchise is built on a simple concept where humanoid robotic figures are able to transform into, or from, everyday vehicles, electronic items or weapons; so each character has two clearly defined states. In Primitives the concept is different: inspired by Minecraft - the intention is that Primitives exist as simple base components that can take varying form dependent on the task or demands of the script. In this sense, the Primitives can be thought of as modern day Lego or Meccano sets with the characters able to combine or share common components. A key repeated visual in the film will be the transition shots where simple base components combine and build into complex humanoid robotic characters.*

For this assignment you need to use Autodesk Maya to choreograph an animated short in which a set of simple base shapes elegantly come together to build a complex humanoid robotic character. During the first few weeks of the unit you should spend a significant amount of time researching, designing and storyboarding your shots prior to animating. The only geometry you are allowed to use is the set of polygon primitives from the Create > Polygon Primitives menu. Your focus should be on animation design and the movement and choreography of the build. The start frame of your animation should simply consist of a pile or collection of 3D primitive shapes on a flat surface. Your end frame will be a humanoid robotic character. The animation must be 30 seconds long, or ~750 frames. The character need not have the exact same proportions as a human but should have the component parts; arms, legs and (at least one) head. *The character you construct in this assignment will form the basis of your second assignment, where you will make your robot dance. So, ensure it has enough limbs and enough flexibility to dance!*

*Important note: You are NOT allowed to use purely dynamic simulations or procedural animation, but you are of course allowed to use scripts and expressions of your own creation.*

## Assessment and Submission

Submit your animation online as a Maya binary scene file and as a Playblast animation. An accompanying report should be submitted as a PDF that introduces your animation and outlines the process undertaken to produce the design. The video file submitted must not exceed 25mb as submissions containing video files of larger than 25mb will not be marked. This assignment represents 50% of the unit assessment. **It should be submitted online in SAFE before midday on Tuesday 21st November 2017** - the Tuesday of academic week nine.

There are three main objectives on which your mark will be based: Your Maya file and animation are worth 80% of the assignment mark, while the PDF report is worth 20%.

## 1. Quality and complexity of motion

The primary goal of this assignment is to assess your skill at generating complex and realistic motion. Your use of the appropriate animation tools, as well as the range of animation techniques you use, will be taken into consideration. Try to successfully convey weight, momentum, collision and acceleration by keyframing objects and control attributes. Pay particular attention to the interpolation between keyframes by using the graph editor. Use of scripting and set driven key is encouraged. Complex and challenging choreography, solid impact and reaction design, and, where appropriate, applying the Disney animation principles will help you to attain the highest marks. Try above all to make your animation feel alive and move as though it were real.

## 2. Animation design

Secondly, we will mark you on your animation design. This is a subjective criterion based on the overall flow of your animation, the story it tells and how you convey character. Think about your animation as a film: Where are the impact points? Where is the climax? How does it build towards that climax? Is it well paced? Do you devote enough time to those elements of your model and keyframing which took a long time to implement? To attain top marks, you must tell us about your character even if all they are doing is assembling themselves. Consider how your choice of motion and overall choreography will produce a mood: and design it!

*Important note: You may add a soundtrack, sound effects, apply shaders or even light your playblast if you wish. But you will receive no additional marks for doing so.*

## 3. Report - your PDF report

Finally, you must explain your production and animation process clearly in a report. This PDF report should contain a cover sheet with your name and a selected frame from your animation; there is no strict page restriction but as a guide we would expect about eight pages (with an appendix for development storyboards and sketches). Put simply your report needs to tell us the highs and lows from concept to final composition: it should be structured clearly into three sections:

1. **Pre-production and planning:**
An introduction to your animation, including any sketches, narrative background and storyboards. Please feel free to include additional MOV or MP4 files to illustrate any significant animatic or storyreel progression.

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**2. Challenges and Highlights:**

In this section, you should discuss in detail any parts of your animation you feel were particularly complex to create, and why. How did you overcome any problems you faced? Did you achieve the effect you were after? Talk us through the lessons you learned from your experimentation. Also highlight the segments of your animation which you are most proud of, explaining why and how you achieved the effect. Don't forget to discuss any animation controls you built and the techniques that you used; justifying why they were appropriate.

**3. Conclusion:**

In this section, briefly sum up your thoughts on the final animation. What would you do differently if you did it again? How did you structure or organise the animation creation process?