Steps to 3D modelling

COMP2007

James Hayter
james.hayter@plymouth.ac.uk

GAME DEV. TECH.

UNIVERSITY OF PLYMOUTH

Overview

3D modelling is like a set of puzzles that can have many solutions:

- Break down the shape
  - Visualise an object broken into primitive shapes (cube, cylinder, sphere etc)
- Model a silhouette
  - Create a model from the primitives to match the shape of the object
- Grid texture fitting
  - Adjust the UV's to fit the models faces appropriately
  - Use a grid texture to guide fitting
- Texture optimisation
  - Overlap UV faces that use the same texture area
- Create the textures
  - Create a UV image of the faces
  - Use an image editor tool such as Gimp to add art to the outlined areas on the UV image
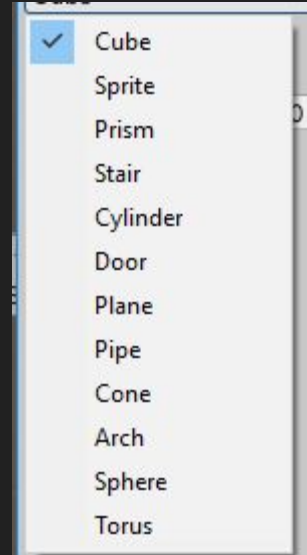
1. Breaking down the shape

Identify the primitive shapes in an object

- Cube, cylinder, sphere, plane

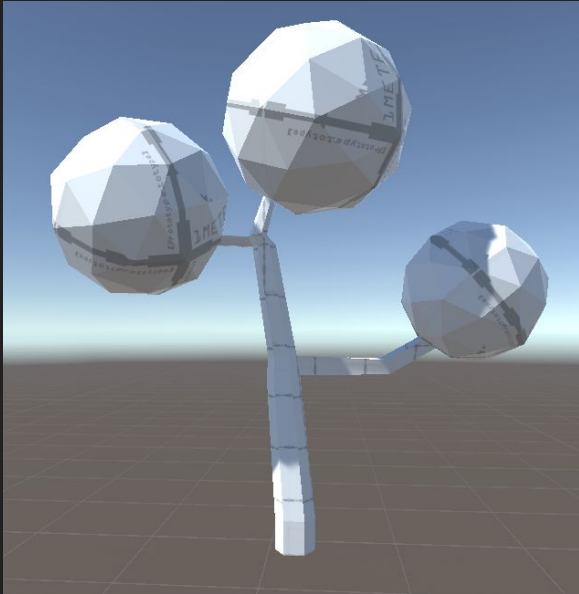Visualise how the object would break down into the shapes

Example

- A box of cereal is a squashed cube
- A can of cola is stretched cylinder

2. Create a silhouette

Use the primitive shapes to create a silhouette of the object

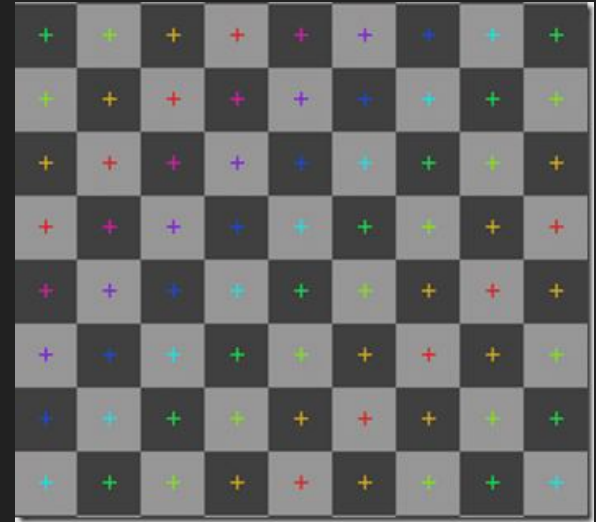Place images around the model to understand proportions

3. Texture fitting

Apply a UV unwrap with a grid

Use the grid image to align the UV faces properly before texturing

Adjust the position, scale and rotation of UV faces before moving on

4. Texture optimisation

Look for faces that will display the same artwork

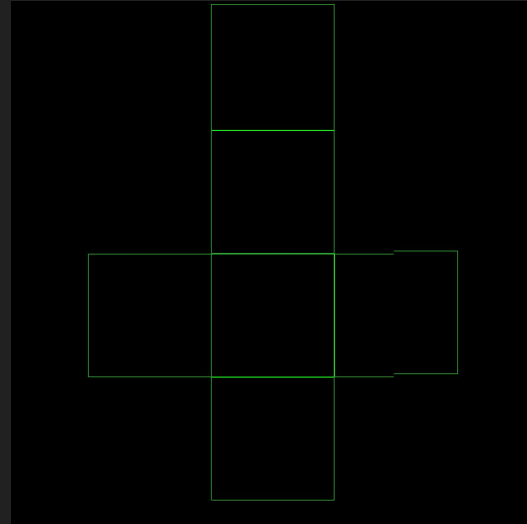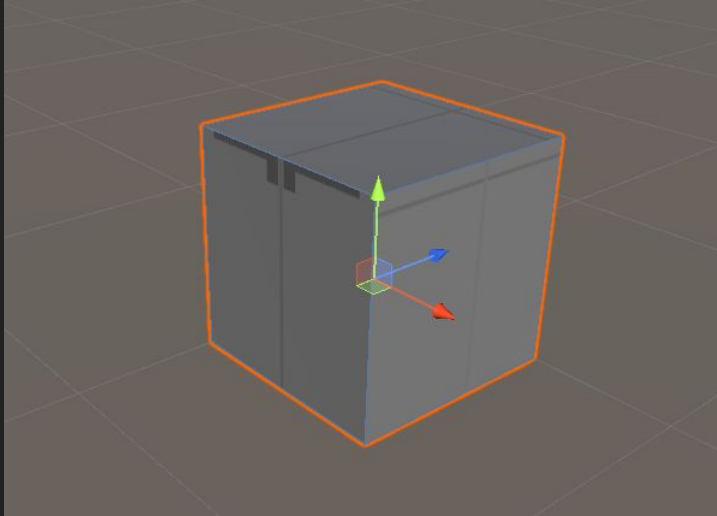A texture can re-use the same image space for many faces

Some models have repeating faces that may only require one or two images for all faces

5. Create the UV texture

Create a UV image of your model

This is an outline of the UV's for each face of your model

5. Create the final texture

Use an image editor to create appropriate textures

Use the UV image to place the texture at the correct position