

E-Portfolio

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Programme: BA Computer Game Design

Module: Academic and Professional Development

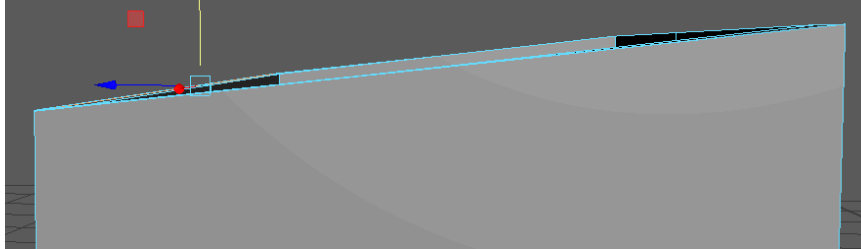
Module code: ACCA4039

The purpose of this task is to develop a digital production diary for Maya[1] projects using academic writing and professional skills. The work should showcase quick descriptions of each 3D model, and the step-by-step development process for each - including visual evidence. This task should also discuss any challenges and how they were resolved. And finally, the task should include an insight into what was learned from each project.

Project One: Bin -

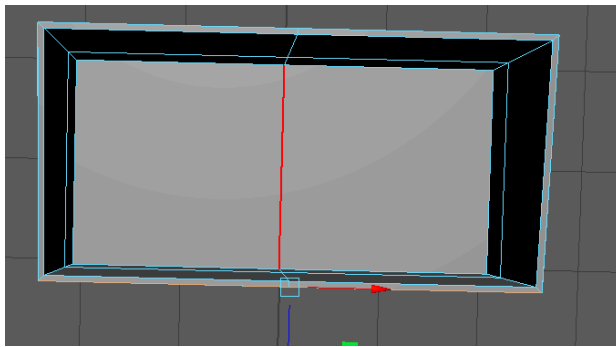
10th october 2025

The first 3D model for the assignment was to model a bin. Get a box polygon, and scale (R) it into a rectangle horizontally. Select the front top edge (press F10 for edge select) and drag it down slightly for an angled look.

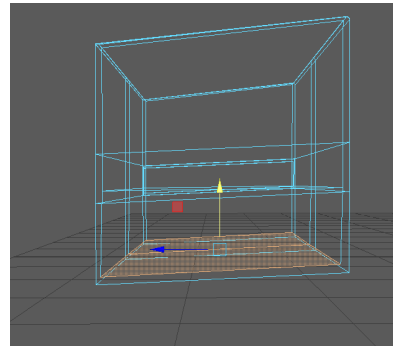


(Right side view of model, depicting the angle.)

Extrude top face inwards (Ctrl + E + R), then extrude (Ctrl + E) dragging the inner top face downwards (press 4 to use the wireframe display) just before it reaches the bottom face. Use the move tool (W) to drag the extruded face inline with the overall model, making sure nothing sticks out.

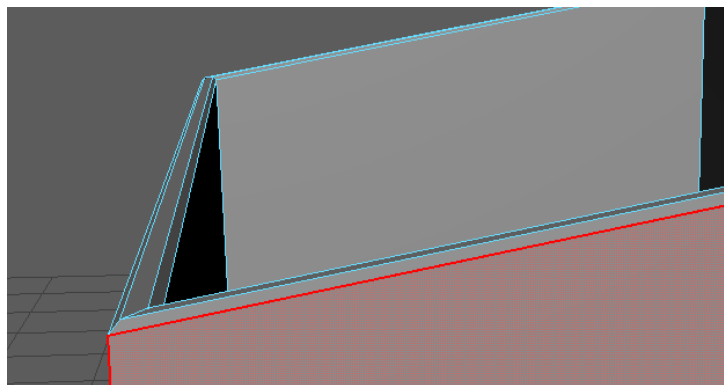


(Topdown view.)



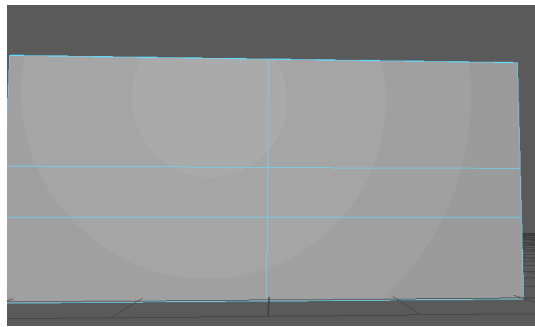
(Side view with wireframe.)

Select all four top faces[4] (hold shift when selecting them all) and press Bevel (found in poly modelling right under "Arnold"), this can be done more than once.



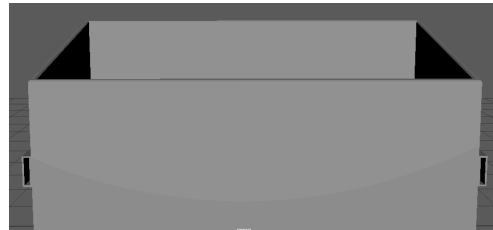
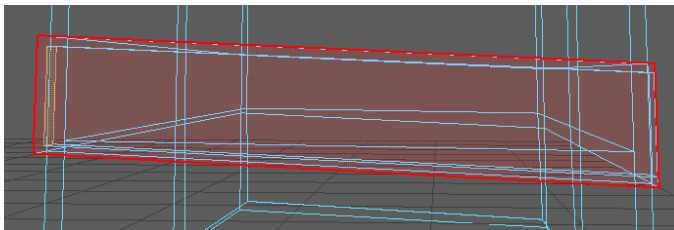
(Side view, showing the Beveled faces.)

Next, add two edge loops (Go to Mesh tools, then insert mesh loop), click either the left or right vertical edge to create a middle band.



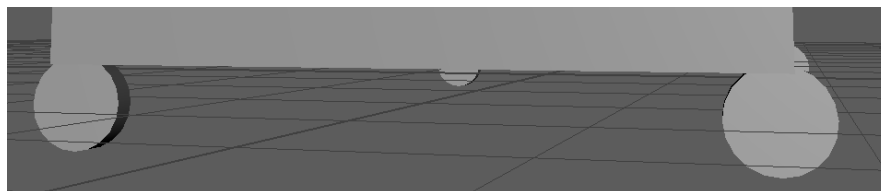
(Front view showcasing the "Middle band".)

On one side, extrude the created face to create a rectangular shape. Extrude inwards the top face, then again extrude the inner face until it reaches the back face. Do the same on the other side, mirroring the first.



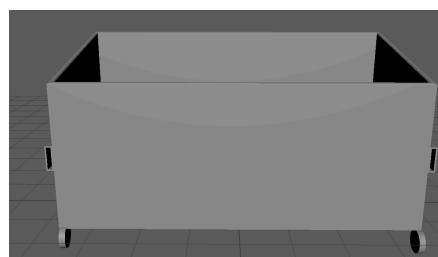
(Wireframe view of model, from the lefthand side.) (Front view of model with both side parts.)

Add in a cylinder polygon, shrink it (R) then flatten until it resembles a wheel, rotate and align it under one corner of the bin model, then duplicate (ctrl + D) and place one on each corner.



(Side view of model with all four wheels.)

An issue was encountered when using Maya and its wireframe keybind "4", due to the model getting stuck in this view, resulting in loss of time - however after searching for a solution[6], an onscreen button was found to return it to its original view, but no full fix was found outside of this.

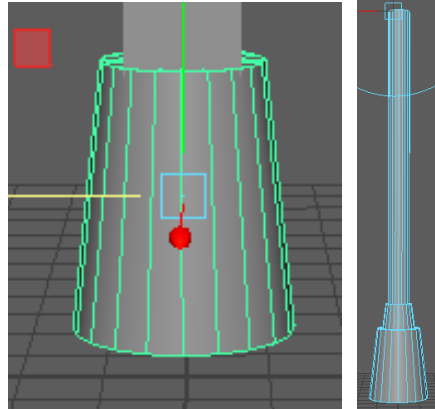


(Completed model from the front.)

Project Two: Lamp -

17th October 2025

To create a Lamp model first start with one cylinder polygon, select the top face and extrude[2] and shrink it. Then repeat that step again, after that extrude it up into a long pole.

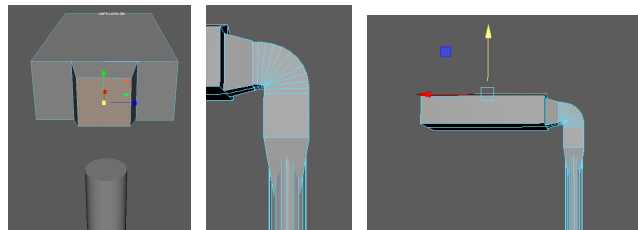


(Side view of the first steps.)

Add in two box polygons, shrink one to just larger than the neck of the lamp, extrude the bottom face and pull it into the neck. Next, combine[3] the box and neck (Mesh > Combine).

Delete the top face of the box, and delete the back face of the head, and combine them. After that select the edges round the deleted faces, and bridge[3] them (Edit Mesh > Bridge).

To finish off the model, add one edge loop then raise it slightly, and finally bevel the head to add a curved and rounded look.



(Various angles of the Lamp head in the process of making the bridge.)

One major challenge the author faced when creating this model was learning how to use the Bridge tool. This first predicament added another, how to add a twist into the model. The

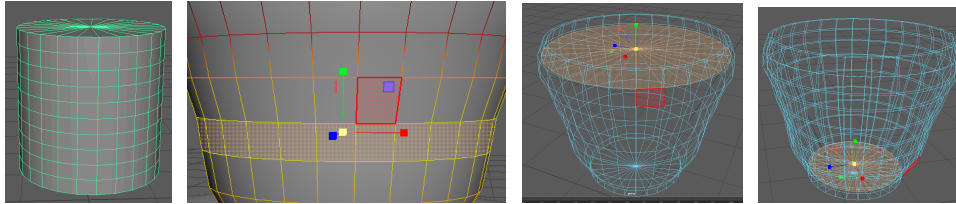
solution to this was found after watching a video tutorial on bridging, then using trial and error after the issue was not immediately solved. What the author discovered was objects cannot be bridged if one has more edges than the other, they need to be the same. Adding the box polygon to the neck before connecting to the head was the solution.



(Full view of completed model.)

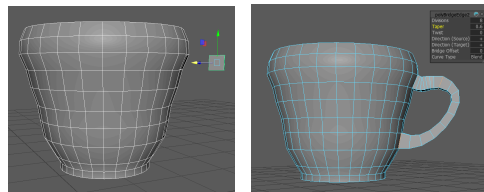
Project three: Tea cup - 24th October 2025

For the third project, the task was to model a tea cup and saucer, and the new tool given was the Soft Select[5], allowing for smoother transformations. Starting with a cylinder polygon, the goal was to sculpt the cup first, creating curves and then extruding the inside for a hollow model.



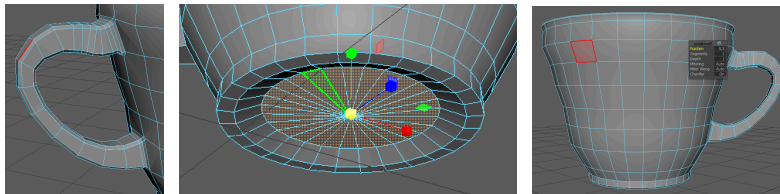
(Left to right: Cylinder being transformed with soft select, then extruded.)

Next, the cup needed a handle, and so using the bridge tool, a box polygon and messing with the bridge settings, an ear shaped handle was added to the main body.



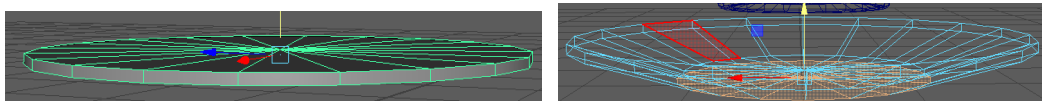
(Left: adding box, deleting faces for bridge.) (Right: Bridge tool being used.)

To round out the sharp edges, the bevel tool was used after. Alongside some minor adjustments to the lip of the cup - pulling it outwards - the cup itself was complete



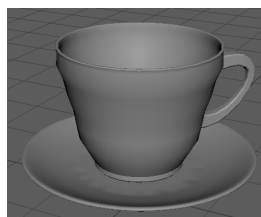
(Beveling being used on the cup in various areas.)

A flattened cylinder polygon was used for the saucer, where the same methods as the cup were used, such as extruding and beveling. The bridge and soft select tools were excluded as the author did not feel they were necessary.



(Saucer being modelled with extrude and bevel.)

Only a minor issue with the bridge tool affected this project, however it was an easy, but not obvious fix - the solution was to change the direction source from negative to positive .

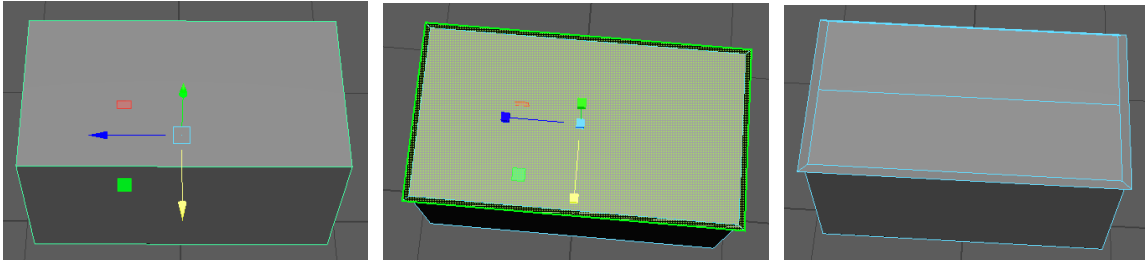


(Completed model.)

Project Four: House - 14th November 2025

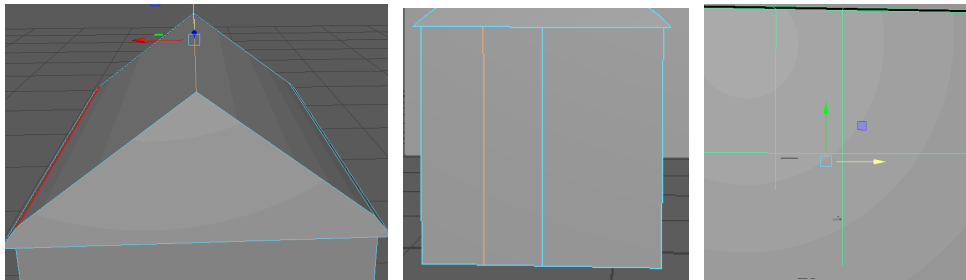
The last 3D Model to create was a house

Add Box polygon, reshape rectangularly. Extrude top face outwards, extrude again, then move face up, then inwards. Add edge loop to top face.



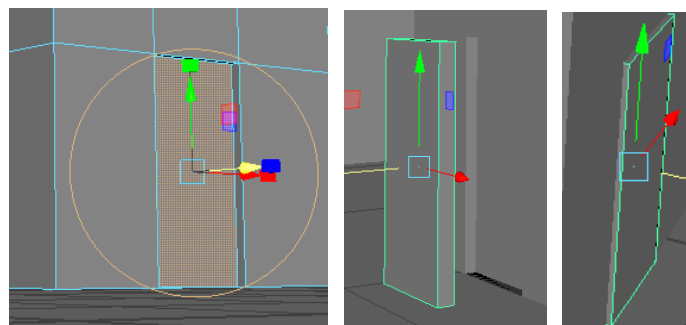
(Top view of box model reshaped.) (Top view of the extrusion process and adding the edge loop.)

Select the middle edge, and move it upwards into a triangular shape. On the front side, add three edge loops, two vertical and one horizontal, this will be the door mold.



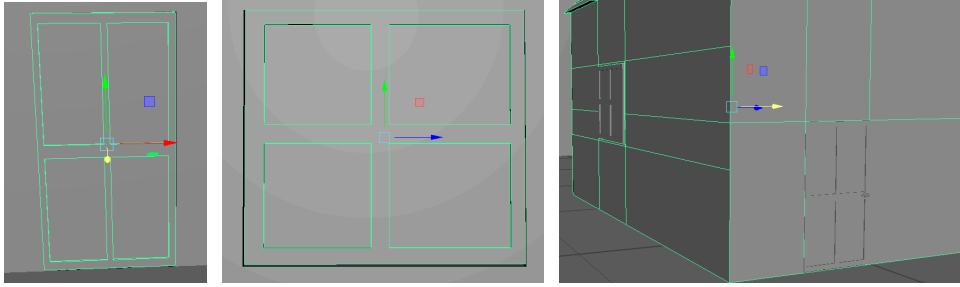
(Left: Depiction of the roof from the back view.) (Middle and right: Edge loops being placed.)

Extrude the face, shrink it, extrude again and push inwards to create the door mold. Add another box polygon, reshape into a door the size of the mold, with a little hanging out of the house model.



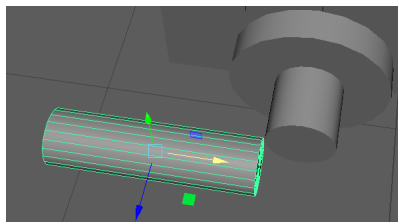
(Left: Door mold pushed in from the front view.) (Middle and right: Door model shaped and moved into position.)

Add edge loops, to resemble a door, deleting unwanted edges. For the window, repeat the same steps as the door, but from one of the other sides.



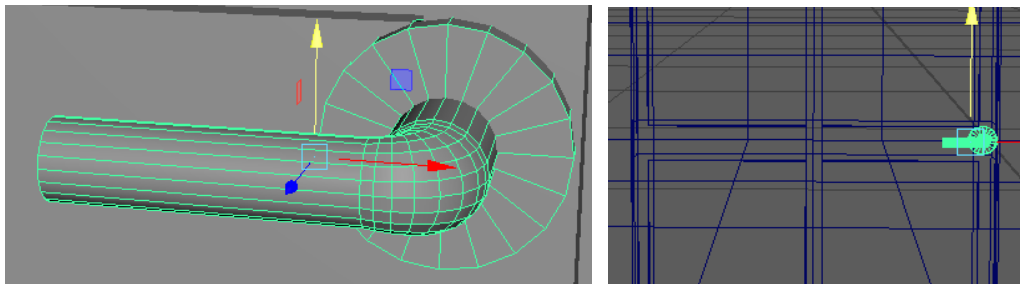
(Left: Door model with edge loops.) (Middle: Window model.) (Right: View of window and door from an angle.)

Add three cylinder polygons, flattening one and connecting it to the door. Reshaped the other two polygons to resemble a door handle.



(The 1st cylinder polygon was reshaped and aligned with the door.) (Aligning the door handle together.)

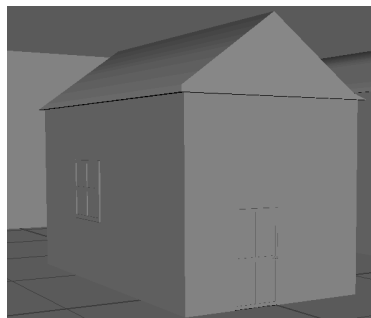
Combine the two handle pieces (mesh then combine) then bridge them (edit mesh, bridge) to create the door handle.



(The finished door handle, shrunk and aligned with the door.) (A wireframe view of the door handle and door.)

When modelling the house, there were little to no issues faced - as the authors confidence in the software and skills learned grew, leading to no challenges to discuss for this model.

However, one thing to improve upon for this would be moving the edge loops for the door and windows into the middle - as after this project was complete did the author eventually notice they were off centre. One potential way to rectify this is to increase the subdivisions in inputs (located on the righthand side), then deleting the excess edges.



(Completed house model from side view.)

Bibliography

- [1]AutoDesk, "Autodesk Maya | Get Prices & Buy Official Maya 2025 | Autodesk," *Autodesk.com*, Jan. 19, 2021. <https://www.autodesk.com/uk/products/maya/overview>
- [2]Keates Models, "Maya: How to Extrude - Tutorial," *YouTube*, Oct. 09, 2024. https://www.youtube.com/watch?v=Gc8_tktSs14 (accessed Dec. 12, 2025).
- [3]Adam Head, "UWTSD - BA Computing - I3DM - Maya: Combining Meshes and Using Bridge Tool," *YouTube*, Nov. 27, 2024. <https://www.youtube.com/watch?v=7YK2IoUDH5M>
- [4]Adam Head, "UWTSD BA Computing | Maya: How to Select Multiple Faces - Tutorial," *YouTube*, Oct. 28, 2024. https://www.youtube.com/watch?v=kEWsy_5j9q8
- [5]Keates Models, "Maya: Soft Select," *YouTube*, Nov. 27, 2024. https://www.youtube.com/watch?v=Svd4w_knWWY (accessed Dec. 12, 2025).
- [6]"Help," *Autodesk.com*, 2025. <https://help.autodesk.com/view/MAYAUL/2026/ENU/?guid=GUID-E8487A83-8786-4840-B13F-0392812A59B9> (accessed Dec. 12, 2025).