Assignment 3

UCS636 3D Modelling & Animation

Software Used: Blender 2.8

Rendering Engine: Eevee

Output Format: Image format (PNG)

Submitted by

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Contents

Compatible Software(s) for enclosed file(s):

For PNG file

Windows Photo Viewer

Photos App for Windows

Any other software compatible of opening image files

For Blender (.blend) file

Compatible: Blender version 2.8 or above

Ideal: Blender version 2.8

Not compatible: Blender 2.79 or lower

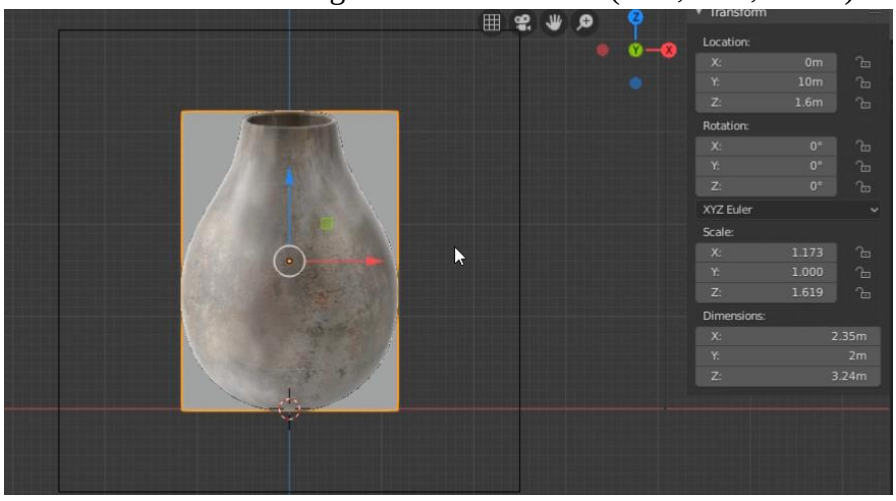
3D Model: Copper Jug

The model was created in blender version 2.8 and was rendered in PNG image format

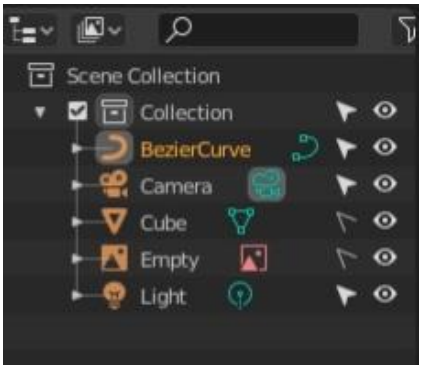
The rendered output in PNG Format looks like:

Steps for Modelling

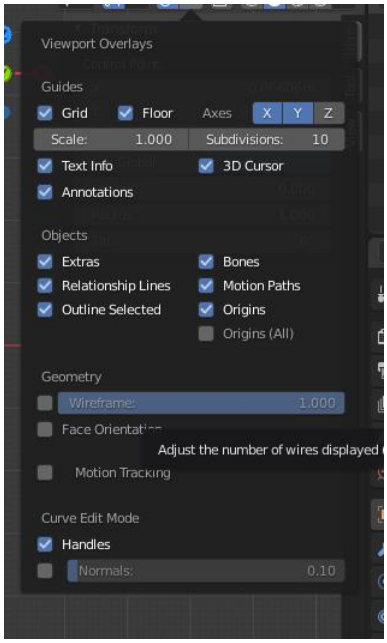
1. Download the reference image from https://drive.google.com/file/d/1ufvaeV7wMQ91nh-Aq8c3Y5LZlBE6K3vE/view?usp=sharing
2. Drag the reference image of jug in blender.
3. Shift to front orthographic view by pressing the sequence keys Num5 > Num1.
4. Set the location of background image to (X=0, Y=0, Z=0).
5. Set the 3D cursor to (X0, Y=0, Z=0).
6. Use Shift+A>Mesh>Cube to add a cube and set its location to (X=0, Y=10, Z=0) and scale to (X=1.173, Y=1.000, Z=1.619).
7. Now select both the cube and image and set location to (X=0, Y=0, Z=1.6).



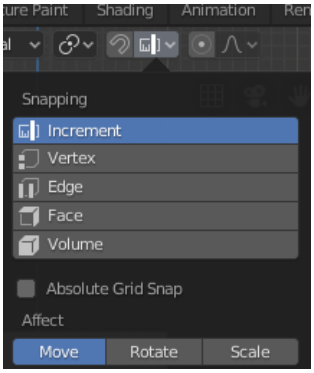
8. Now from the collections panel, disable the viewport selection for both cube and image.



9. Use Shift+A>Curve>Bezier Curve to add a Bezier curve.
10. Use the following sequence keys to rotate the curve.
    R > X > 90°
    R > Y > -90°
11. Scale the curve accordingly.
12. Select the curve and go in edit mode
13. From the Viewport Overlays, under curve display, uncheck normals.

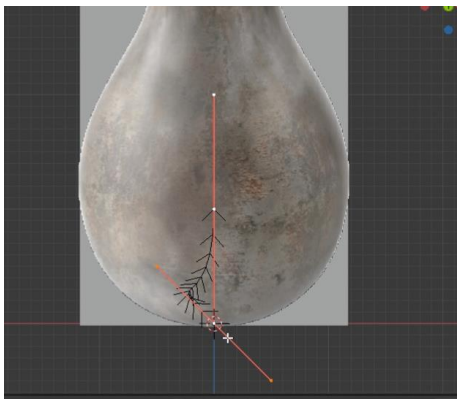


14. Set the snapping settings, snap to increment

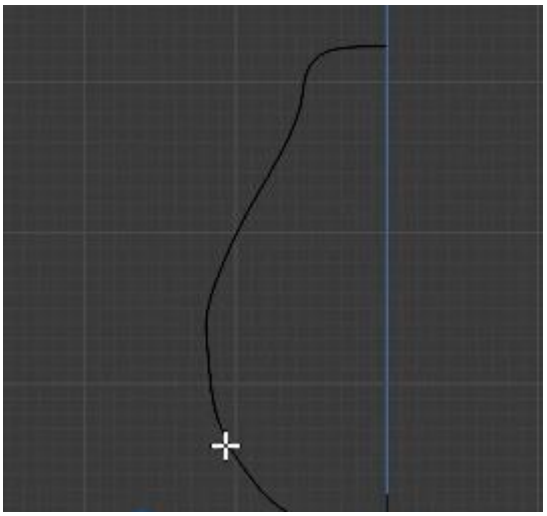


15. Make sure cursor position is at (X=0, Y=0, Z=0).
16. Select the bottom vertex and press Shift+S, then snap selection to cursor to take vertices to cursor position.

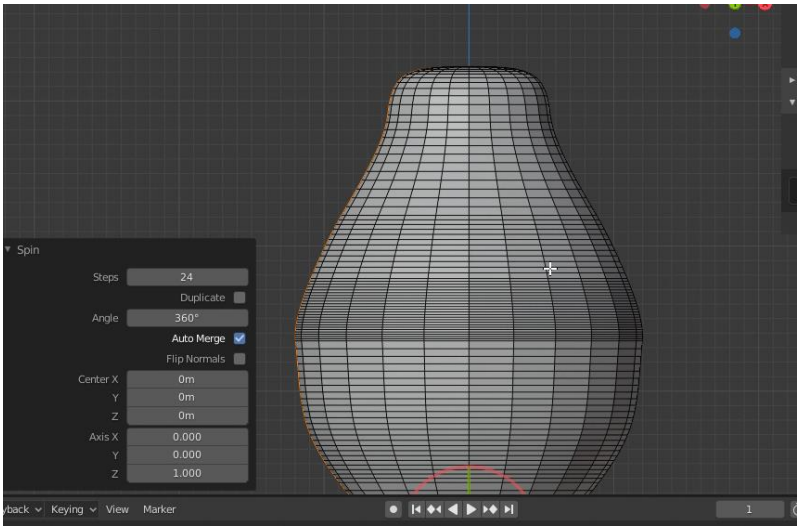
17. The curve looks like this



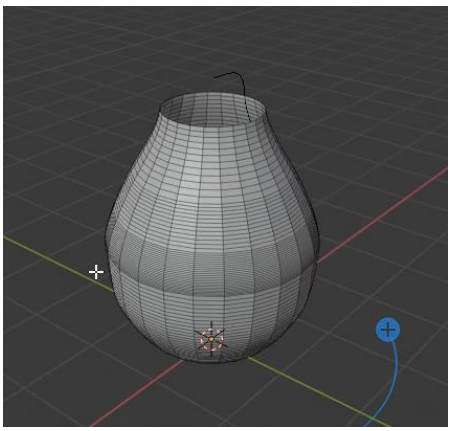
18. Hold the Control key and rotate the top and bottom vertices such that both handles of both the vertices are in horizontal direction.
19. Press W>subdivide to add vertices.
20. Use repeatedly subdivision and move the vertices and end up with a curve like this.



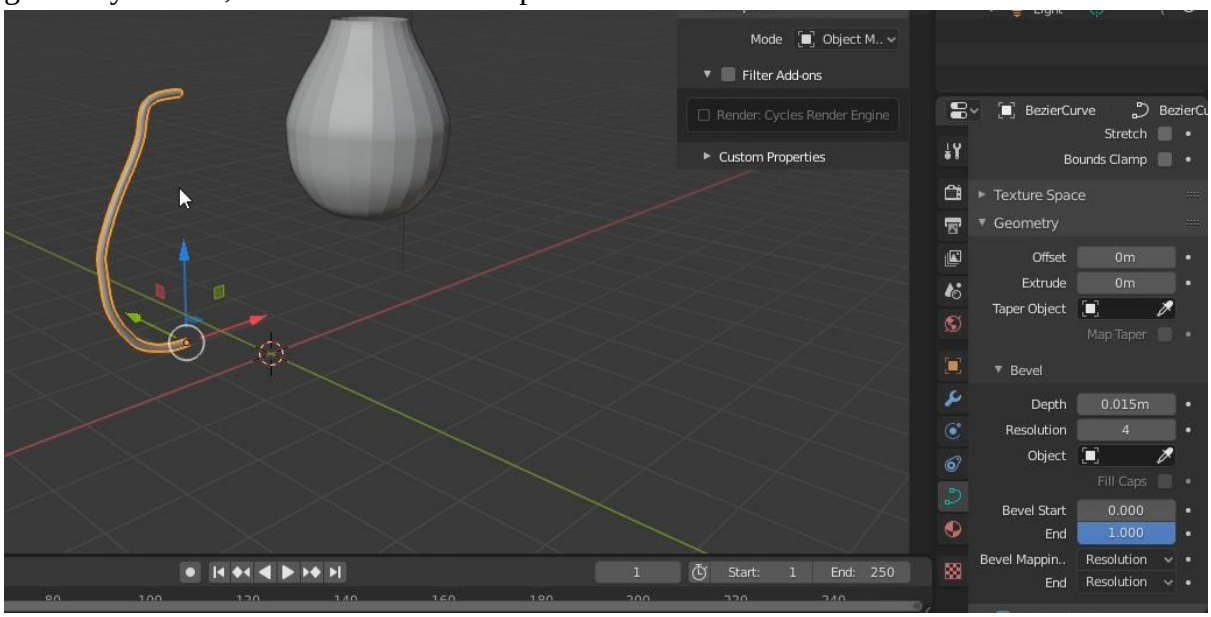
21. Now delete the cube and the reference image.
22. Go back in object mode, select the curve and press Alt+C, then Convert to Mesh. Make sure to keep original checked in the submenu.
23. Now in edit mode, press A to select all points and then use the spin tool, with steps to 24, angle to 360°, centre to (X=0, Y=0, Z=0) and axis to (X=0, Y=0, Z=1).



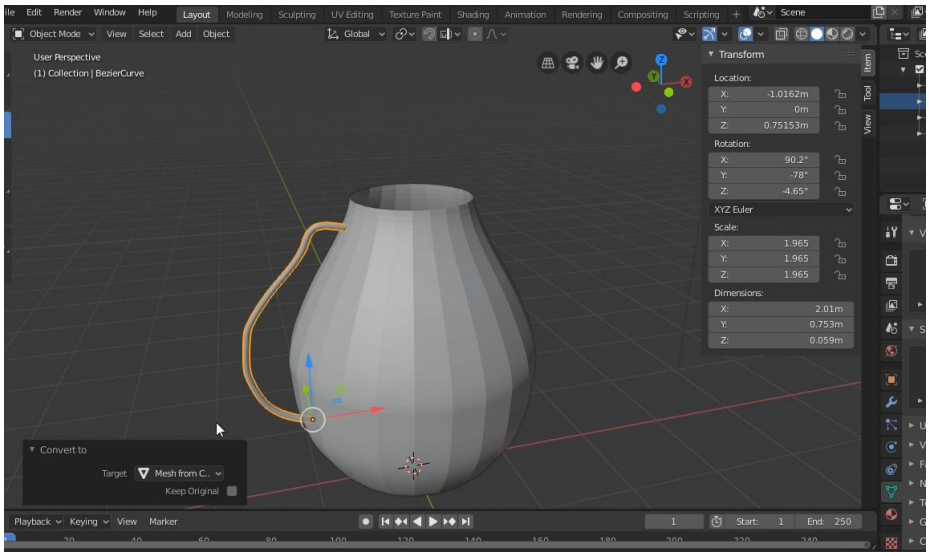
24. Now select the upper faces and delete.



25. Now select the Bezier curve that was kept, and in the Object Data panel, under the geometry section, under bevel set the depth to 0.015.

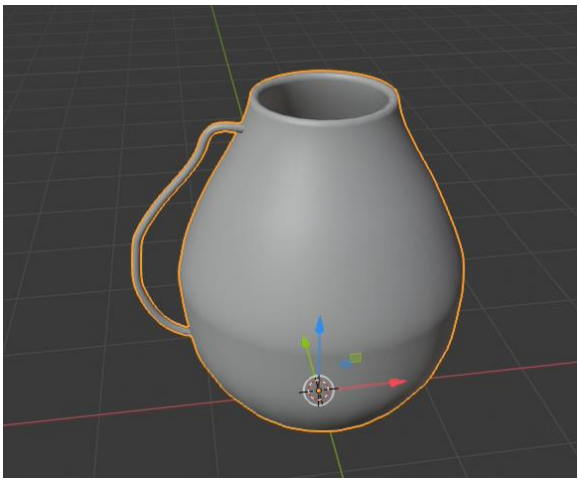


26. Set the curve as a handle of the jug. It should look like this

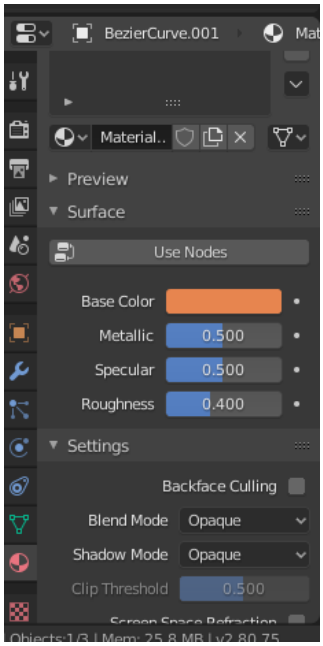


27. Then convert this curve to mesh by using Alt+C.
28. Then select both the handle and the jug and press Ctrl+J to join.

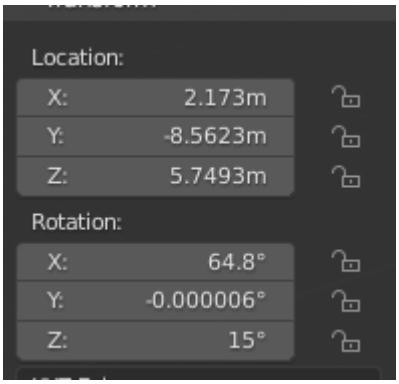
29. Then in Object Mode, in object Menu, click on Shade Smooth.
30. Then apply solidify modifier.



31. Then in materials panel, set the base colour to (R = 0.8, G = 0.235, B = 0.078), uncheck use nodes and set the value of metallic to 0.500.



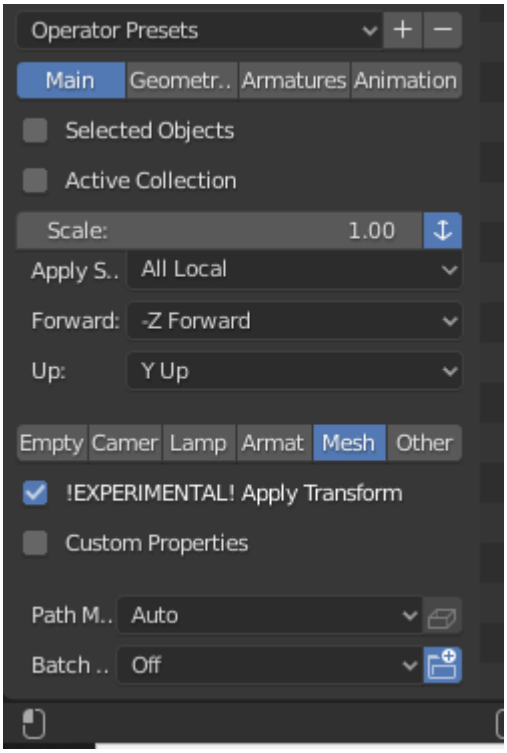
32. For the camera, set the location and rotation values as shown in the following figure



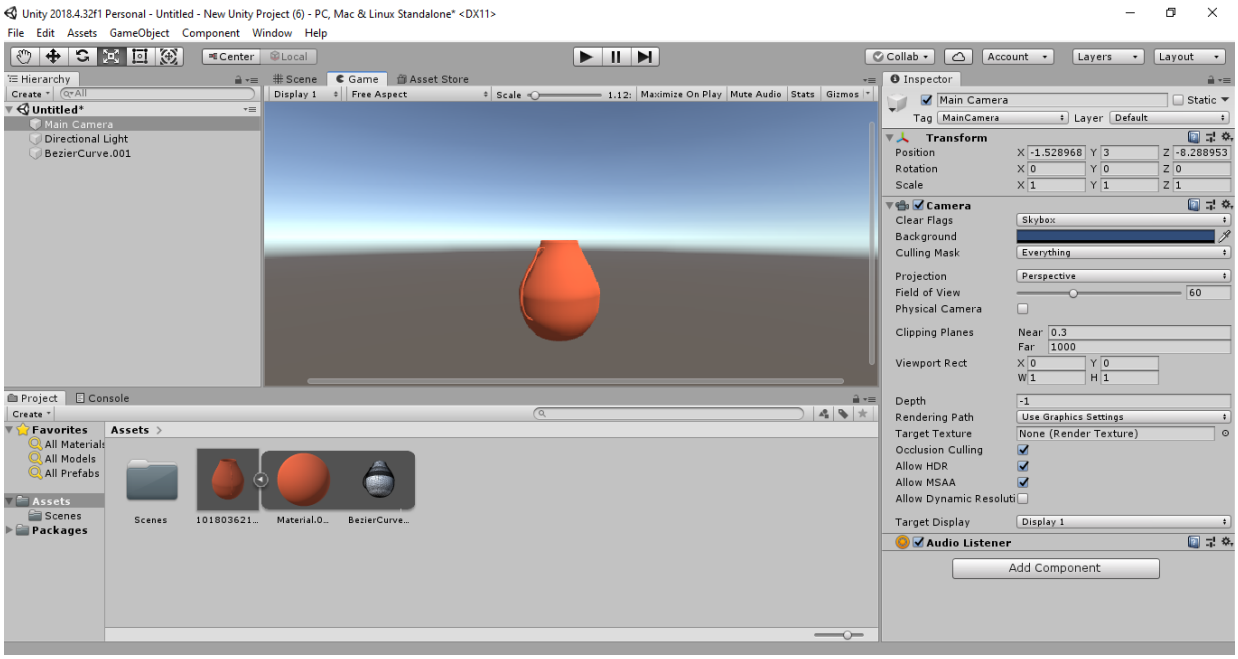
33. Render PNG image using Eevee Rendering Engine.
34. The output is ready

Steps for Importing into Unity

1. Delete the camera and lamps.
2. Select the object
3. Press Ctrl+A and apply transforms rotation and scale.
4. Recalculate normals for the object
5. Export the object as an FBX file with the following settings.



6. Drag and drop the FBX file in Unity.
7. Set the scale in X to -1 to adjust it with the left hand coordinate systems of unity.


Unity 2018.4.32f1 Personal - Untitled - New Unity Project (6) - PC, Mac & Linux Standalone* <DX11>
File Edit Assets GameObject Component Window Help
Hierarchy
Untitled*
Main Camera
Directional Light
BezierCurve.001
Scene
Game
Asset Store
Inspector
Main Camera
Transform
Position
Rotation
Scale
Camera
Clear Flags
Skybox
Background
Culling Mask
Everything
Projection
Perspective
Field of View
Physical Camera
Clipping Planes
Near
Far
Viewport Rect
Depth
Rendering Path
Use Graphics Settings
Target Texture
None (Render Texture)
Occlusion Culling
Allow HDR
Allow MSAA
Target Display
Audio Listener
Add Component
Project
Console
Favorites
All Materials
All Models
All Prefabs
Assets
Scenes
Packages

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