Fantastical creature

⏱ 2h30 | 👥 10 | ❶❶❶❶○○

Public

12-15 y-o

adult

Software

Sculptris

Description

Learning goals:
- master the basics of Sculptris
- learn about sculpting

This workshop is an introduction to 3D modeling by using the a program inspired by the sculpting of clay.

Participants will use Sculptris, an intuitive digital clay-modeling program, to create organic forms of a fantastical creature. At the end of the workshop, each participant will have designed an original and printable sculpture. Depending on the scale at which the sculptures are printed, there may be enough time to print most scultpures.

Timing

1. Introduction and presentation of 3D printing - 15 mins

Introduction of the world of 3D printing with video (http://www.dragontape.com/#!/6319966877908992) and presentation.

2. Overview of the activity - 5 mins

Briefly explain the flow of steps for the day's activity.
What will the participants do? : Create a fantastical creature
Which software will be used? : Sculptris

3. Open Sculptris for all participants - 2 min

4. Introduction to Sculptris - 20 min

- Navigation
- Brushes
- Modify brushes
- Symmetry

Also, see the user guide and tips in the software resources page for Sculptris.

5. Finding inspiration - 5 min

Participants take a moment to imagine a fantastical creature or to explore online for inspiration on what to create with Sculptris.

6. Participants play with Sculptris - 45 min

Show the Sculptris Cheatsheet (http://members.casema.nl/jw.v.dronkelaar/sculptris_cheat_sheet.pdf) on your screen or distribute printed copies
Once they start playing with Sculptris, move around the room to assist and answer questions.
Demonstrate common questions or repeat challenging concepts to all participants (selecting, grouping, and subtracting objects).

Warning! If there is too much detail it may be difficult to slice the files. Ideally files are smaller than 25 Mb.

7. Saving the OBJ file from Sculptris

Ask participants to export their files and to name their files using their name. Click on the disk icon : Export [control + E]

8. Add a base to the sculpture with TinkerCAD

It will be much easier to print the sculptures if they have a flat base. Participants will add one in TinkerCAD.

Ask participants to log into TinkerCAD. Optionally, provide a common login and password.
Click on "Create new design".
Click on the Import button on the right.
Drag and drop the OBJ file (downloaded previously) into the import window.
Place a cylinder on the workspace
Reduce it's height to 1mm.
Place the creature over the cylinder.
Scale both objects to an appropriate size (consider the time you have available for printing).
Group the two objects (sculpture and base) together.
Ask participants to rename the file (top left) using their name.
Export (top right) as STL file.
Use a USB key to gather the STL files from participants.

9. Import the files in Tinkerine or Cura - 5 min

Open the preferred slicer software
Import the STL file
Adjust the print settings (fill, wall thickness, speed, height, ...)
Save the file (.Gcode) to the SD card

10. 3D Printing - 30–45 mins

Insert the SD card in the 3D printer
Select the previously saved file (.Gcode)
Start the print!

11. Feedback - 5 min

Ask the participants to provide feedback on the workshop while the models are being printed.

Partcipant's guide

1.Reminder

Sculptris Cheat Sheet

Brushes

Crease (e)		Rotate (r)	Scale (t)
Draw (d)		Flatten (f)	Grab (g)
Inflate (c)		Pinch (v)	Smooth (b)

Tools

Reduce (y) brush		Reduce selected	Subdivide all
Mask (m)		Wireframe (w)	Symmetry

Objects

New Sphere

New Plane

Files

Import Object (Ctrl + Shift + e)

Export Object (Ctrl + e)

Open (Ctrl + o)

Save (Ctrl + s)

A	Toggle Airbrush
L	Toggle Lazy brush
Q	Toggle detail (between zero and current value)
P	Enable or place pivot point
Ctrl + F	Fill selection mask
Backspace	Clear selection mask
Ctrl + I	Invert selection mask
Z	Snap to nearest axis
H	Click or drag to hide
Ctrl + H	Unhide all
1	Toggle brush alpha
2	Toggle brush texture (paint mode only)
3	Toggle pressure for size (tablet)
4	Toggle pressure for strength (tablet)
S	Color selector
C	Color picker (hold and click)

Lmousebutton	Sculpt	Mmousebutton	Orbit	Rmousebutton	Invert sculpting
Ctrl	Sculpt inversed	Shift	Pan	Alt	Pan
Shift	Smooth				
Alt	Orbit	Mousewheel	Zoom	Space	Brush controls
Ctrl + Alt	Zoom	Shift	Brush size	[ ]	Brush size
Shift + Alt	Pan	Ctrl	Brush strength		