SCI ART LAB + STUDIO

Sculpting with Digital Debris

In this workshop, we will learn how to compile digital sculptures using found 3D models and 2D images/animations, then exhibit our works by bringing them into the world of augmented reality. Once discussing how artists have and continue to transform objects into art, we will then think about the “digital debris” we consume and produce everyday using the internet, and encapsulate it into an interactive, AR sculpture.

Materials List

- ➔ Laptop/Computer
- ➔ Smart Phone

Important Links

Modeling

- ➔ Vectary

3D Resources

- ➔ Vectary Workspace
- ➔ Turbosquid
- ➔ Thingiverse

2D Resources

- ➔ Google Images
- ➔ GIPHY
- ➔ Lottie

✧･ﾟ: *✧･ﾟ:* Process ✧･ﾟ: *✧･ﾟ:*

Sketch and brainstorm.

- ➔ What digital debris have you accumulated? Come up with a list of things you use the internet for - News? Fashion? Recipes? Streaming? Memes? Socializing?
- ➔ *Keep it school appropriate - don’t include anything you don’t want your parents to see.*
- ➔ Your sculpture must have:
  - ◆ At least 3 3D objects
  - ◆ 1 animated (gif) texture
- ➔ Questions to ask yourself:
  - ◆ *Like Duchamp, how can we challenge art? What is normal?*
  - ◆ *What is your relationship with the internet?*
  - ◆ *How does one embody our personal digital consumption?*
  - ◆ *What is the impact of interacting with our art in AR?*

Create a Vectary account.

- ➔ Open Google Chrome and go to Vectary to create an account.
  - ◆ **Other browsers tend to have some glitches*
- ➔ Once you have an account, click “Open Vectary” and select “+ New Project”

Find 3D models.

- ➔ Take your list and start scrolling through Vectary’s model library by clicking “Workspaces” in the left window, and selecting the object you’d like to bring in
- ➔ You can also scrounge the web for 3D models and GIFS. When browsing Turbosquid or Thingiverse, make sure to download FBX or OBJ files - if the model also has a PNG texture you would like to include, be sure to download that as well.

Import them into Vectary.

- ➔ If you collected 3D objects outside of Vectary, import your files - click the hamburger icon on the top left, and select import.

Compile your objects.

- ➔ Referring to your sketches, bring your objects together to form an interesting sculpture.
- ➔ To position, scale, or rotate an object, click on it and a “gizmo” will pop up. Adjust one or more of the following:
  - ◆ **Position:** Click and drag the x,y, and z arrows
  - ◆ **Scale:** Click and drag the cubes (+SHIFT to scale only one axis)
  - ◆ **Rotate:** Click and drag the curves (+SHIFT to rotate in increments of 15°)
- ➔ If you want to adjust multiple objects at once, hold down SHIFT and select them all.
- ➔ To group your objects, select all your objects, right click on your sculpture and select “Group” (Shortcuts: CRT+A & CRT+G)
- ➔ Keep in mind these basic controls:
  - ◆ **Select Object:** Left Click
  - ◆ **Options Window:** Right Click
  - ◆ **Rotate Around Object:** Left Click + Hold + Drag
  - ◆ **Pan:** Right Click + Hold + Drag
  - ◆ **Zoom:** Scroll Wheel / Trackpad Pinch

Insert materials.

- ➔ When selecting your object, you’ll see that a list of materials pop up on the right. Click the one you want to adjust to see the options. You’ll notice that there’s a lot you can do - we’re gonna focus on “Color” (However, feel free to experiment with the other options as you please)

- ➔ To adjust the color, click on the icon to bring up a window. Here you'll see an image of the material, a drop down menu, and some other options. Click on the drop down menu to see the follow options:
  - ◆ **Solid:** Choose a solid color
  - ◆ **Linear:** Create a linear gradient
  - ◆ **Radial:** Create a radial gradient
  - ◆ **Texture:** Choose an image
  - ◆ **Animation:** Choose a GIF or Lottie file
- ➔ You can also scroll through Vectary's material library by clicking the book icon above the color icon.

Activate AR.

- ➔ Before exporting our sculpture, we want to make sure it'll have the option to be brought into AR. To do this, deselect your object and in the right window, click the plus sign next to "Advanced".
- ➔ Select "Augmented Reality", and click the refresh icon next to both GLTF (AR File for Android) and USDZ (AR File for IPhone) to sync your current iteration of your sculpture.

Change the project name.

- ➔ On the left of the screen, right click "Project Name" and click "Rename"
- ➔ Change it to the title to the title of your work

Set your camera.

- ➔ To center the camera on your main object, first, make sure you have entered the camera (indicated with a "+" icon next to the camera name).
- ➔ Then click on the object (or group of objects) and click on fit view icon in the toolbar on the bottom (shortcut key "a").
- ➔ This will center the pivot point of the camera to your selected objects (If nothing was selected it will center the camera to the middle of the scene).
- ➔ Scroll to zoom in/out, pan, rotate to adjust your view.
- ➔ Leave your object in this view for the next step!

Generate the link.

- ➔ Next, you'll need to generate a link. This will lead users to a page where they will be able to interact with your sculpture and view it in AR
- ➔ To generate the code, click "Share" on the top right, and copy the link.
- ➔ If you later need to edit your object, you can always do so - after making adjustments, make sure to set your object in the camera view and synchronize your object in the "Share" tab

Send us your code.

➔ Once you've got the link, post the following information in the #day-4-activities channel on Discord.

- Captured image of your digital sculpture in an interesting environment using AR
- Title of Your Work
- Firstname Lastname
- Link

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