

# Sketch Based Interface and Reference Imagery Study

Thank you for your interest in our study. We are researchers exploring novel interfaces for creative authoring, specifically examining how we can accommodate artists who use reference imagery as part of their creative workflow.

## **Brief Summary**

For this study participants will be tasked to create a three drawings using novel software we created. There will be a short follow-up interview with participants about their experience using the software.

Considering the current COVID-19 pandemic, we have done our best to design this study such that you can complete the majority of it independently on your own.

## **In order to participate you will require:**

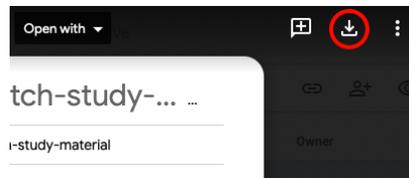
- Internet access
- A computer running macOS 10.13+
- A pen tablet, such as a Wacom Intuos, Wacom Cintiq, or similar...
  - *Note: our interface is not compatible with Apple Pencil+iPad*
- Experience and/or interest in creating drawings using reference imagery 🎨

If the above sounds fun, please read this document carefully and completely before beginning.

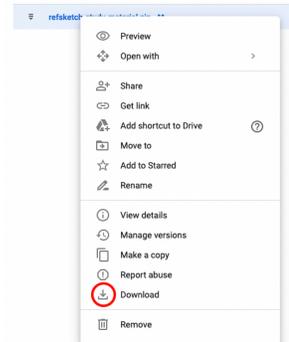
# Study Sequence of Events

You will be asked to create three drawings using a novel interface and then interviewed about your experience approximately two days after. We expect the entirety of this study to take approximately 60-90 minutes of your time. The 9 steps to take are as follows:

1. Download this ZIP containing all the study materials. In it you will find:
  - The RefSketch application
  - Three folders of reference imagery: named **task1**, **task2**, **task3**
  - A copy of the consent form
  - A copy of these instructions



Double click the ZIP in Google Drive and find the Download button in the top right corner...



...or right-click the ZIP file and select Download from menu

- **Note:** the first time you run the RefSketch app you will be prompted with a warning. This is normal behaviour for any application not downloaded from the AppStore. Simply click Open to begin using the interface.
2. Read, sign and complete the study consent form. Your participant ID has been emailed to you.
  3. Watch the short video overview of the RefSketch interface (YouTube link omitted from SIGGRAPH submission)
  4. Spend some time (5-10mins) exploring and getting comfortable with the interface. Have fun!
  5. Begin the three tasks described in the section below.
  6. Once you've completed all your tasks, navigate to the folder where the interface asked to save a few files and compress its contents into a ZIP by selecting all files => right clicking one of the selected files => and choosing "compress items."
  7. Complete this short 10 question survey here.
  8. Email your ZIP to us (omitted) along with the signed consent form.
  9. After submitting your material, we will contact you to schedule a short interview about your experience using the interface.

## Interface Overview

The basic concept behind RefSketch is a sketchpad interface that conveniently displays reference imagery to the artist. [The video overview of RefSketch](#) should provide you with all you need to get started using the RefSketch interface. Below is a written overview:

**TIP: E is not a keyboard shortcut for eraser. Instead, use the X key to swap between foreground and background.**

The interface has two modes, **Edit Mode** **enabled** and **disabled**. We'll quickly walk through what this means.

When **Edit Mode** is **enabled** you can create new reference regions or adjust the placement of your existing regions and images. If you click on the **Add Reference Region** button, Edit Mode will be *automatically enabled*.

You can add images to a region by dragging and dropping an image file onto the region while **Edit Mode** is **enabled**. Replace a region's existing image by dragging and dropping a new file onto it. Double click on a region to toggle the visibility of its associated image.

Images have a simple control panel which allow you to set a timer, flip the image, set its transparency, or add a distortion effect. To toggle the visibility of this control panel, simply double click on the presented image. The control panel will appear to the side of the image closest to its region.

When **Edit Mode** is **disabled**, you can draw on the canvas, and any active regions will respond to your input. Change the colour of your brush by clicking on a color swatch in the toolbar. The top "frontmost" swatch is the current foreground colour of your brush. The "backmost" swatch is the background colour of your brush. Your brush will always draw using the top foreground colour. To swap the two colours, click on the  button or use the keyboard shortcut [x].

## Interface Shortcuts

Here is a short list of keyboard shortcuts for the RefSketch interface.

- [ - decrease brush size
- ] - increase brush size
- ⌘-z - undo
- ⌘-Z - redo
- **option-click** - sample colour at mouse cursor (macOS 10.15+ only)
- **n** - add new region to canvas
- **e** - enter edit mode to edit existing regions
- **esc** - exit edit mode
- **x** - swap foreground and background brush colour

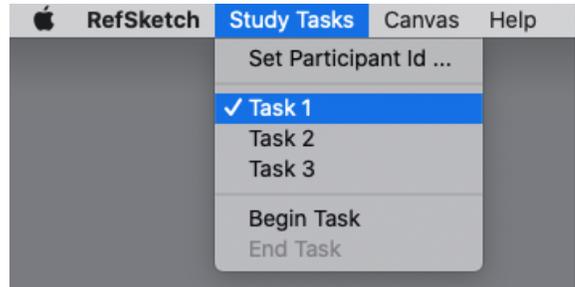
## Tasks Preparation

For each task, repeat the following steps.

**Step One** - Click on the **Study Task** menu, and select a task.

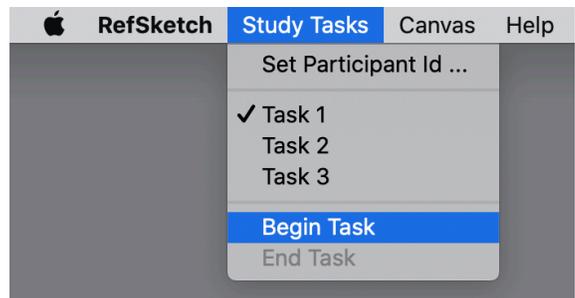
**Optional:** If you are comfortable doing so, and your computer can handle it, we would be eternally grateful if you are able to record your screen while completing each task, as well as “thinking out loud.” It may feel weird talking to yourself while using the interface, but much insight can be gained by observing *and* listening to participants while they use new interfaces. See this link to find out [how you can easily record your screen using QuickTime](#).

If you are recording your session, begin recording **BEFORE** you select Begin Task.



Step One - Select a task from the Study Tasks menu.

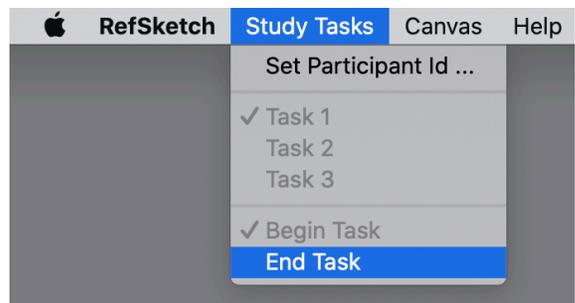
**Step Two** - When you are ready to officially begin, select **Study Tasks > Begin Task**. Any existing drawing on your canvas will be cleared along with any existing regions. The red warning bar will also disappear and RefSketch will begin collecting your task session data. You will be asked to set your participant ID if you have not done so already. (If you incorrectly entered your ID, you can enter it again by selecting Set Participant ID from the study tasks menu.)



Step Two - Select Begin Task to begin

**Step Three** - Have fun drawing the task at hand.

**Step Four** - When the task at hand is complete, select **End Task**, (end any screen recording if applicable) and a prompt will appear asking you to choose a folder on your computer to save a few files. Remember this location for later.



Step Four - Select End Task when you are finished the task at hand.

## Tasks

So, without further ado, here are your tasks. You are required to complete all three tasks but you may choose to do them in any order you wish.

It's important to note that we don't expect you to create fully realized and finished masterpiece artworks in such a short amount of time. If your drawing is not "complete" after 15-20mins of drawing, that is 100% OK. Simply end the task there and move on.

- **Task 1 - portrait**

Draw a portrait of our subject referencing only the images found in the **task1** folder. Your goal is to create a drawing that looks as similar in likeness to the model as possible. Only use the images found in the **task1** folder. You are not required to use all of the images in this folder.

- **Task 2 - imaginary machine**

Draw an "imaginary mechanical machine," using only the images found in the **task2** folder. You are not required to use all of the images in this folder.

- **Task 3 - style match**

Draw a sofa/couch that attempts to stylistically match the images of furniture found in the **task3** folder. Use the images however you feel they would best accommodate your creative workflow.

*Note: The use of colour is optional. Draw however you feel comfortable.*

## Tasks Completed

After you've completed your tasks, navigate to the folder that you selected at the end of each task. In this folder you should find 9 files, 3 for each task. They will be in the format of:

```
YourID-TaskNumber (timestamp).json  
YourID-TaskNumber (timestamp).png  
YourID-TaskNumber-regions (timestamp).png
```

Select all of these files, compress them into a ZIP, and e-mail them to us.

If you created any screen recordings of your session, you can upload the Google Drive folder we created for you. Screen recordings can sometimes create large files, and there is a great free tool out there called [Handbrake](#) to reduce video sizes (I recommend the **Fast 720p30** preset). This URL will be provided in the same e-mail that included your Participant ID.

After we receive your files, we will be in contact to schedule a short interview (15mins) about your experience with the interface. Our goal is to schedule this interview approximately 2 days after you've completed the tasks and submitted the study materials.

## **Thank You**

We want to sincerely thank you again for taking part in this study.

## **Contact info**

If at any point you have any questions or concerns, please do not hesitate to get in touch by contacting  
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