Week 39: Class exercises

Hopefully you all managed to successfully install OpenSesame on your computers! More realistically, let's hope that it works on at least one computer in each group.

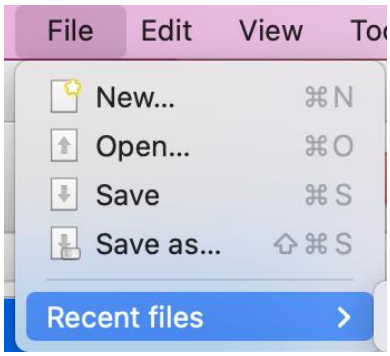
The purpose of this exercise today is 1) to briefly familiarise you with the OpenSesame software and 2) make some modifications to the demo-experiment.

Next week you will be collecting some data by running your modified experiment on a few classmates.

Step 1: Open "circle_square.osexp" in OpenSesame

On GitHub in the mousetracking/example_experiments directory a file named "cicle_square.osexp" can be found. Make sure that you have this locally on your computer.

Now open OpenSesame and using the file-tab open the forementioned file.



Step 2: Run the experiment

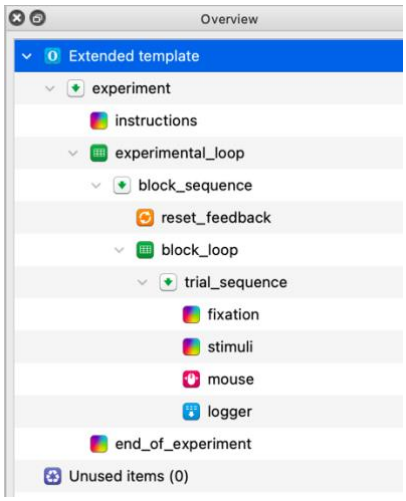
Start the experiment by clicking on the green arrow on the top and run the very few trials to remember the experiment.

Tip: If you would ever like to stop the experiment from full screen mode, press Escape and then finish the trial. Afterwards, a text message asks you to confirm exiting by pressing Q.

Step 3: Understanding the demo-experiment structure

Overview panel

The example experiment has a quite simple structure. You can see it in the Overview panel.



Sketchpads

The colorful items are called sketchpads (instructions, fixation, stimuli in this example). They allow you to present visual information to participants on the screen.

- Click on the *instructions* sketchpad and make a change to the text that is given to participants.

Block loop

The next interesting item is *block_loop*. It is a table that controls the underlying design of the experiment.

- Discuss how the *block_loop* fits to the experiment you've just tried out. What does each column relate to?

Trial sequence

Finally, we have the trial sequence.

- Click on it and have a look at the "run if" column. Discuss if the value in the column makes sense

Mouse

The MouseTrap item (pink mouse icon in the trial sequence) itself does not present any stimuli. It needs to be connected to a sketchpad. Click on the *mouse* item to open the settings.

The first setting is "number of buttons". As you saw when running the experiment, there are two locations on the screen at which the circles and squares are presented. These are the two response options where participants can click the stimuli.

The second setting is the sketchpad that the mouse item is connected to. Since we are interested in getting the response when the stimuli is present, “stimuli” is put in.

Next up we have the button names that refer to elements on the *stimuli* sketchpad (have a quick look): The thin squares around the green stuff there. Clicking one of the thin squares will show you information about it, including its name. We will return to that.

Back on the *mouse* item, the correct button name defines which response in each trial is coded as correct, with everything else being coded as incorrect.

- Discuss: Why might *[correct_response]* be in square brackets?
- Now look at the other options. Most should be quite self-explanatory. Feel free to change the settings, run the experiment again, and see what happened.

Note: In the *trial_sequence* list, you also find the item *logger*. It is the built-in OpenSesame logging function that stores all information in a csv-file. Very useful.

Step 4: Adjusting presentation times

Click on the *fixation* sketchpad. It shows you an option to adjust the amount of time the fixation point is shown.

- Try adjusting the amount of time the fixation point is shown for
- Discuss: The *stimuli* sketchpad item has a duration of 0. Why does this make sense?

Step 5: Stimuli and dependencies

For now, let’s focus on the stimuli and how they are defined in this experiment. We will be practicing by doing the following:

- Insert a new sketchpad after *fixation* and draw a square on the sketchpad
- Click on the square and look at the information about it. Note: You can also double-click on the item and view the same information in a slightly cryptic code inlet.
- Now go to the other sketchpad *stimuli*.
    - Move one of the thin lined squares out of the way and then double-click one of the green elements.
- Discuss: What are the differences between the square in the new sketchpad and the green elements in *stimuli*.
    - Among small other differences, you might recognize the square brackets again. These mark variables, i.e., references to items defined elsewhere. In this case, the information this refers to is location in the *block_loop* table.
- Discuss: How does all this fit together? What determines what the visual item looks like and whether it is shown at all?

Step 6: Controlling experiment procedure

Return to the *block_loop* item. It has several settings that you can change. For example, "repeat" determines how often all lines in the table (read as: individual trials) are repeated per block. (Note: We only have one block in this simple experiment.)

- Make a change somewhere and click on "Preview" to see how the trials in the experiment will look like.

Step 7: Removing unused items

Delete the *new_sketchpad* that you drew a square onto. You will see that this item is now moved to the unused items stack.

It is highly recommended that before you run your experiment with participants, you remove everything from the "Unused items" list so it is not logged.

Step 8: Simple modification of the circle_square experiment

When you are done with playing around with the demo experiment, try to come up with an easy (!) modification. For example, you can exchange the shapes with words or images. Or you can add further response options. Or adjust the color contrast. Implement these small changes in OpenSesame!