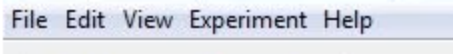
Experiment Builder Tutorial

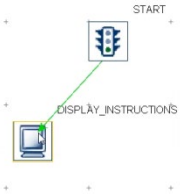
To programme a simple experiment (like the one I showed you) please follow these steps:

1. Click “File” then “New”



2. Enter a Project Name and select a file location for your experiment then click OK
3. Add any images (or sounds or videos) you want to use to library
    - Click “Edit” then “Library Manager”
    - Click the + button under the tab for the type of stimuli you want (e.g. under the image tab)
    - Select the files you want
    - Close the dialogue box
4. Create a display screen for Eyelink set up/ initial instructions:
    - Click and drag the ***Display Screen*** icon from the Action menu to under the start icon

    - Click and drag an arrow from the ***Start*** icon to the ***Display Screen*** icon



    - Double click on the ***Display Screen*** icon
    - Click Insert Multiline Resource (4th button across on the bar at the top)

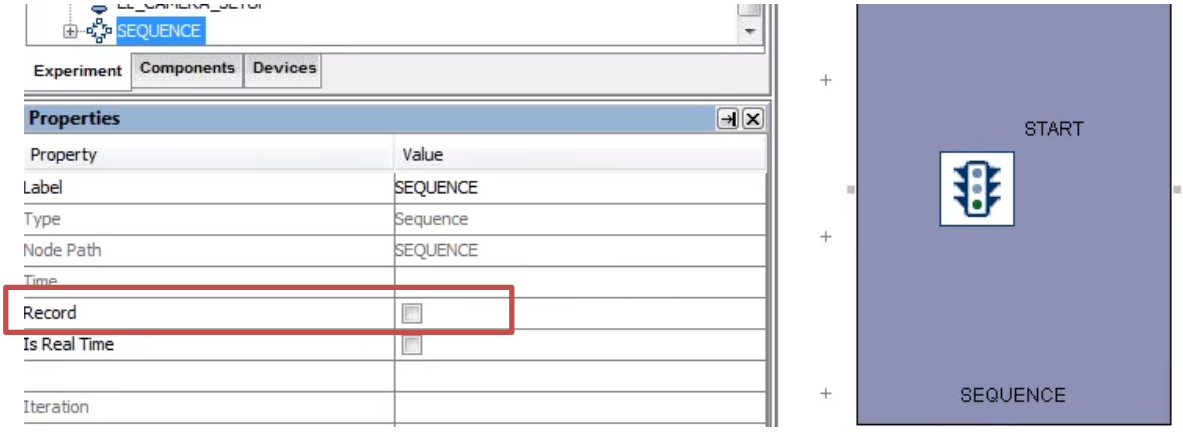
    - Type any instructions you want. Click “Center Align” and “Center Align Vertically” to centre the text in the screen.
    - Close the Multiline Resource box
    - Right click the Display Screen tab at the top to close, or click the tab that says Experiment

5. Create a keyboard input trigger
    - Drag the ***Keyboard Trigger*** Icon from the trigger menu

    - Click and drag an arrow from the ***Display Screen*** icon to the ***Keyboard Trigger*** icon
    - To make participants choose only one/specific keyboard key(s):
        1. Click on ***Keyboard Trigger*** icon
        2. Double click on the box next to where it says "Keys" (should currently say [any])
        3. Select which key you want (e.g. Enter) then close dialogue box
        4. It should now say "[Enter]" next to "Keys"
6. Create Eyelink setup break
    - Drag ***Camera Setup*** icon from the Action menu to under the ***Keyboard Trigger*** icon

    - Click and drag an arrow from the ***Keyboard Trigger*** icon to the ***Camera Setup*** icon
7. Create a display screen for experimental instructions
    - Repeat step 3, but drag arrow from the ***Camera Setup*** icon (step 5)
8. Create keyboard input trigger
    - Repeat step 4, but drag arrow from second ***Display Screen*** icon (step 6)
9. Create recorded sequence
    - Drag ***Sequence*** icon from the Action menu, and drag arrow from ***Display Screen***

    - Click the purple box that appears
    - ! Check "Record" in the left hand menu to make sure the Eyelink records the participant's eye movements and pupil diameter in response to anything in this box. **Box must be ticked to record any eye movements.**



- Double click the purple box to open. This will look like a new experiment, with a new start icon to connect icons to.

In this new sequence:

1. Create Display Screen:
    - Drag ***Display Screen*** from the Action menu
    - Connect to the ***Start*** icon
    - Double click the ***Display Screen*** icon
    - Click "Insert Image Resource" (1st button on the bar at the top)

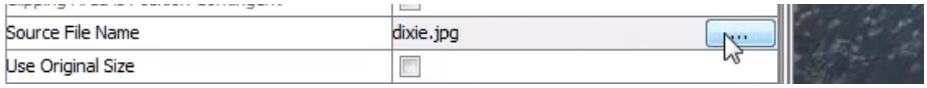
    - Select the image you want to insert from the library
    - To centre the image, click on it then click "Horizontal Center Alignment" and then "Vertical Center Alignment" on the bar at the top
    - Right click the Display Screen tab to close
2. Edit how long the image should stay on screen
    - Drag ***Timer Trigger*** icon from the Trigger menu to under ***Display Screen***, and drag arrow from ***Display Screen*** to connect.
    - Click on Timer icon and change "Duration" to the number of milliseconds you would prefer
3. Right click sequence tab at the top and close

10. Create screen to thank participants and how to close the screen / finish the experiment
    - Repeat step 3, but drag arrow from the purple sequence box
11. Create keyboard trigger to close the experiment
    - Repeat step 4, but drag arrow from the step 9 Display Screen

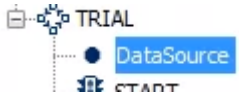
12. Click “Arrange Layout” to make it look nice and neat

Basic Randomisation *(basic but still a little bit complicated!)*

1. Edit the Data Source for the Sequence
    - Click the purple ***Sequence*** box then ***Data Source***
    - Click “Add Column” then choose a “Column Name” (can be anything, “Stimuli”, “Images” etc.) then choose “String” for “Column Type”
    - Add the same number of rows as you have images (3 images=3 rows)
    - Type the names of the images into the empty boxes e.g. “Image1.jpg” “Image2.jpg”, exactly as they are in the library
    - Click “Randomization Settings”
    - Check “Enable Runtime Randomization” and select your column name (e.g. “Images”) for Run Length Control. Then click OK.
2. Create an image that randomly changes
    - Double click the ***Sequence*** box to open it, then double click the ***Display Screen*** with the image you entered earlier (Step 1 within the sequence box in Step 9)
    - Click on the image in the display screen
    - In the menu on the left hand side, click “Source File Name”



    - Then scroll up to ***DataSource***



    - After selecting this, click the name of the column you created, and then click OK
    - Then “Source File Name” should then change to something like (if the columns name was “Image”) @parent.parent.SEQUENCE_DataSource.Image@