

BrainWaves App Designs

November 2018

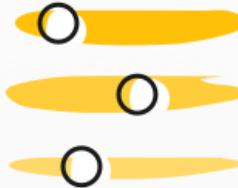
 RECENT NEW EXPERIMENTS PRACTICE



Faces/Houses

Faces contain a lot of important information that is relevant to our survival. It's important to be able to quickly recognize people...

[Review](#) [Start Experiment](#)



Custom

Custom allows you to create your own experiment from scratch. In selecting this option, you will be able to define the hypothesis, upload your own stimuli, etc.

[Start Experiment](#)

Page: Home, Recent

BrainWaves File Edit View Go Window Help

Mon 09:41

The screenshot shows the BrainWaves application window. At the top left is the Apple logo followed by the application name "BrainWaves". To the right are standard OS X menu items: File, Edit, View, Go, Window, and Help. On the far right of the top bar are system status icons for battery, signal, and volume, along with the date and time "Mon 09:41". Below the menu bar is a toolbar with three colored circular buttons (red, yellow, green). The main content area features the "BRAINWAVES" logo on the left. In the center, there are three tabs: "RECENT" (underlined in yellow), "NEW EXPERIMENTS", and "PRACTICE". Below these tabs, a button labeled "Open Workspace" is highlighted with a red border. To its right is the workspace title "Faces/Houses KB workspace". The rest of the screen is a large, empty white space.

Faces Houses  OVERVIEW BACKGROUND EXPERIMENTAL PROTOCOL PRE-COLLECTED DATA Start Experiment

Faces Houses Experiment

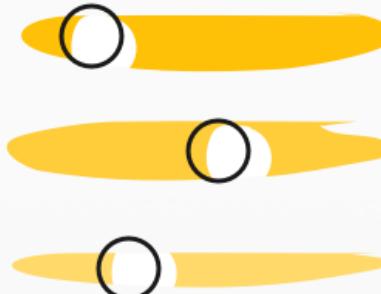
Faces contain a lot of important information that is relevant to our survival. It's important to be able to quickly recognize people you can trust and read emotions in both strangers and people you know.

Custom Design **OVERVIEW** BACKGROUND STIMULI DURATION PREVIEW

Save & Start Experiment

Experiment Title

Experiment Overview



Custom Design OVERVIEW BACKGROUND STIMULI DURATION PREVIEW

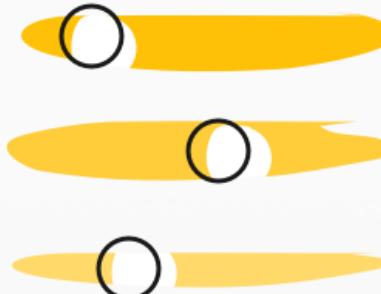
Save & Start Experiment

Experiment Title

Happy/Sad Faces

Experiment Overview

It's important to be able to quickly read emotions.
Lorem ipsum dolor sit amet, consectetur adipiscing elit.
Phasellus sagittis volutpat massa, rutrum rhoncus erat aliquam in. Curabitur



Custom Design

OVERVIEW BACKGROUND STIMULI DURATION PREVIEW

Save & Start Experiment



Research Question

Type your experiment research question here.

Hypothesis

Type your experiment hypothesis here.

Methods

Explain your experiment methods here.

Custom Design OVERVIEW BACKGROUND **STIMULI** DURATION PREVIEW **Save & Start Experiment**

Stimuli 1

Give your stimuli group a name, select the location of your images, and choose the correct key response.

Name	Correct Response
e.g. faces	1 ▾

Location

Select Folder

Stimuli 2

Give your stimuli group a name, select the location of your images, and choose the correct key response.

Name	Correct Response
e.g. houses	9 ▾

Location

Select Folder

Custom Design OVERVIEW BACKGROUND **STIMULI** DURATION PREVIEW **Save & Start Experiment**

Stimuli 1

Give your stimuli group a name, select the location of your images, and choose the correct key response.

Name	Correct Response
Happy Faces	1 ▾

Location

Happy Faces Images

Stimuli 2

Give your stimuli group a name, select the location of your images, and choose the correct key response.

Name	Correct Response
e.g. houses	9 ▾

Name stimuli 2

Location

Select Folder

Select stimuli location folder

Custom Design OVERVIEW BACKGROUND STIMULI DURATION PREVIEW Save & Start Experiment

ITI Duration

Select the intertrial interval duration. This is the amount of time between separate trials and is measured from the start of one image to the start of the next image.

ITI duration (seconds)



A horizontal slider with tick marks at 0.5, 1, 1.5, and 2. The first tick mark is gray, while the others are white. A teal circle is positioned at the second tick mark (1), indicating the selected value.

Image Duration

Select the image duration. This is the amount of time the image will appear during the experiment.

Image duration (seconds)



A horizontal slider with tick marks at 0.5, 1, 1.5, and 2. All tick marks are white. A teal circle is positioned at the first tick mark (0.5), indicating the selected value.

Custom Design OVERVIEW BACKGROUND STIMULI DURATION PREVIEW

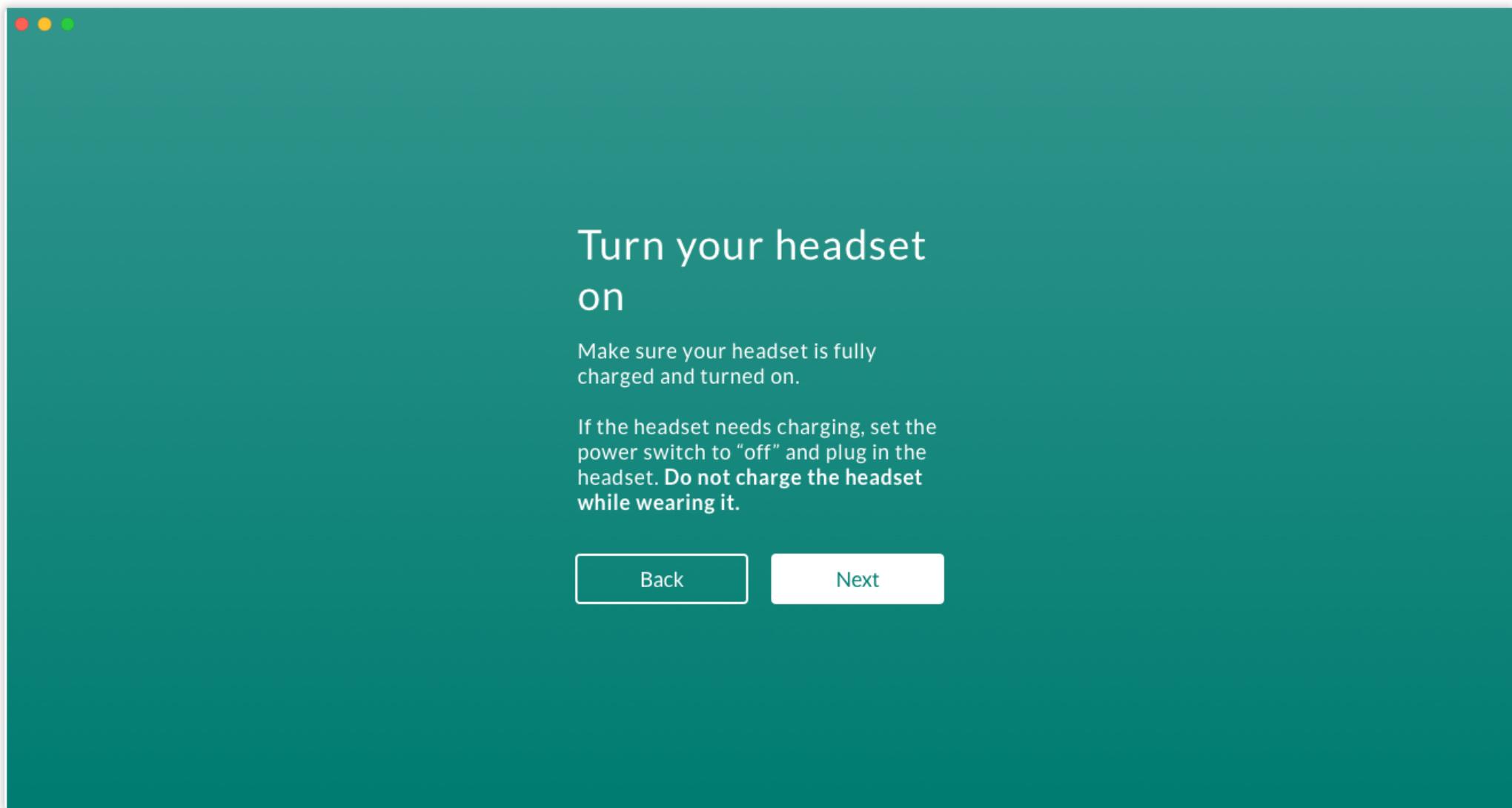
Save & Start Experiment

Experiment Intro Copy

You will view a series of images of happy faces and sad faces for 120 seconds.

Please mentally note which stimulus you are

Preview Experiment

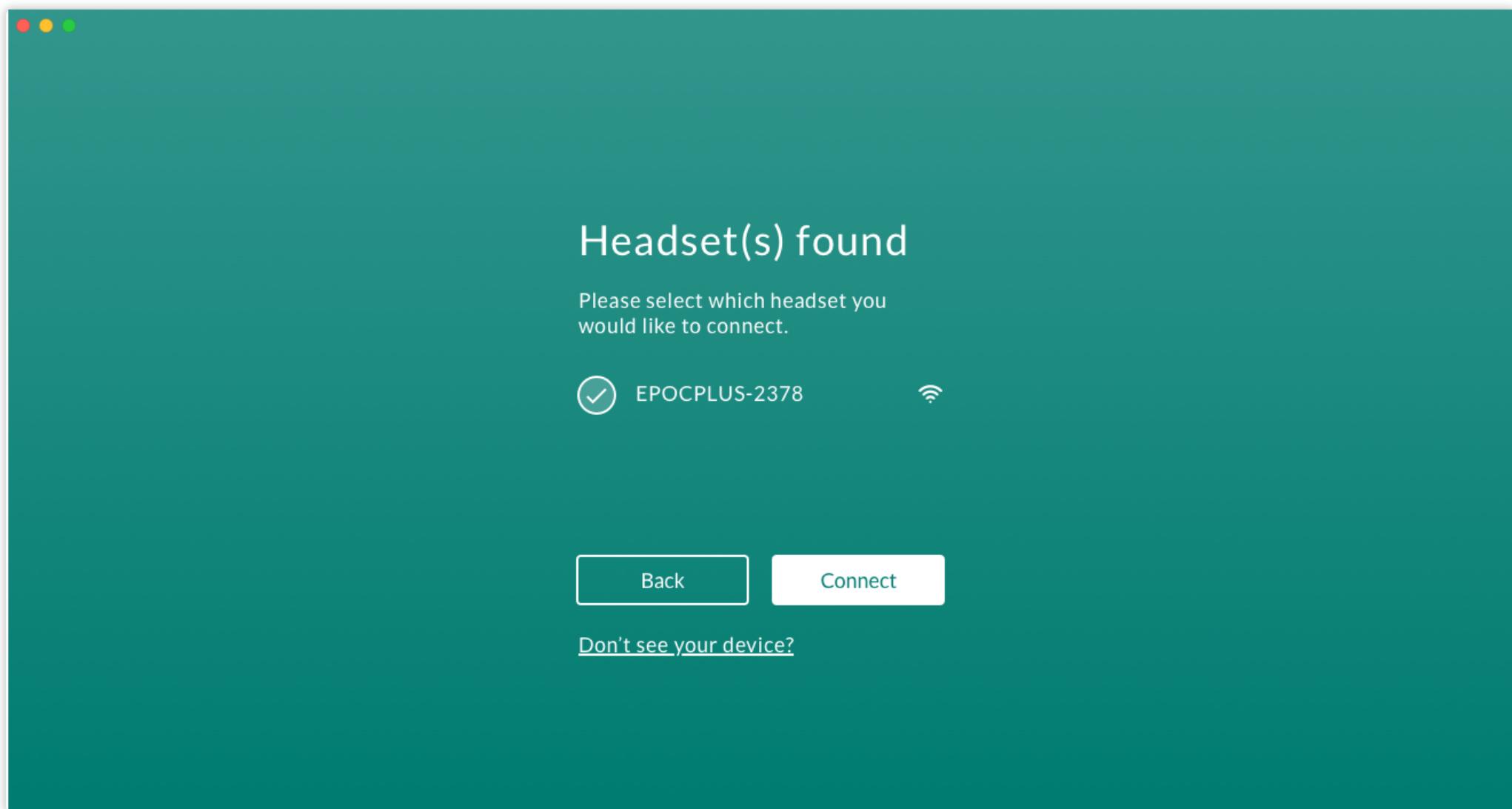


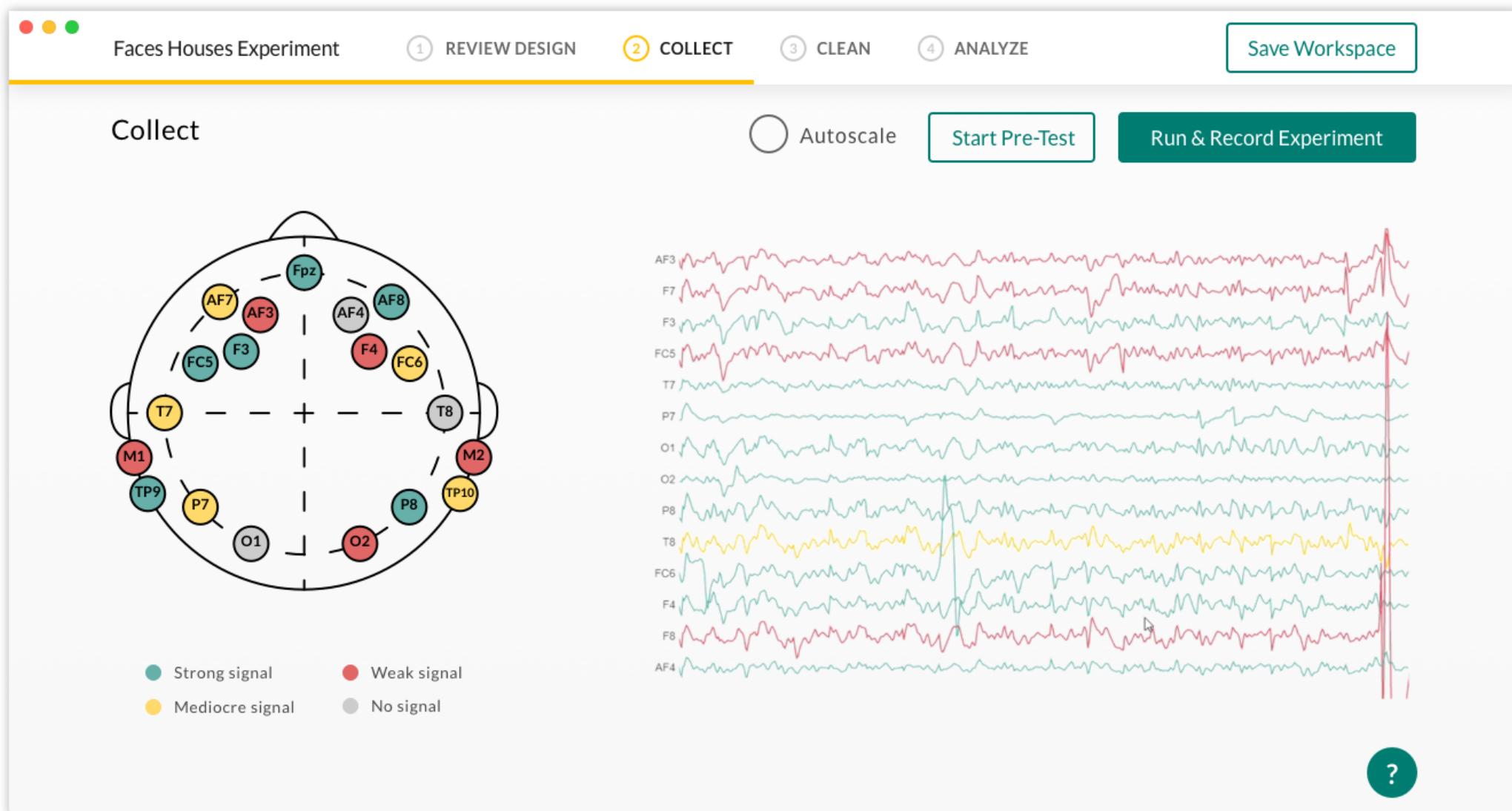


Insert the USB receiver

Insert the USB Receiver into a USB port on your computer. Ensure that the LED on the receiver is on continuously or flickering rapidly. If it is blinking slowly or is not illuminated, remove and reinsert the receiver.

[Back](#) [Next](#)





Faces Houses Experiment ① REVIEW DESIGN ② COLLECT ③ CLEAN ④ ANALYZE Save Workspace

Collect

Autoscale Start Pre-Test Run & Record Experiment

The interface shows a circular electrode placement map with 10 electrode positions labeled: Fp, AF, F, FC, T, M, TP, P, O. A legend indicates signal quality: Strong signal (teal), Weak signal (red), Mediocre signal (yellow), and No signal (grey). To the right, 14 vertical signal traces are displayed, corresponding to the electrode labels: AF3, F7, F3, FC5, T7, P7, O1, O2, P8, T8, FC6, F4, F8, AF4. The traces show varying degrees of signal quality, with some showing clear oscillations and others appearing noisy or flat.

What would you like to do? X

- ★ Improve the signal quality of your sensors
- ||||| Learn about how the subject's movement can create noise

Faces Houses Experiment ① REVIEW DESIGN ② COLLECT ③ CLEAN ④ ANALYZE Save Workspace

Collect

Autoscale Start Pre-Test Run & Record Experiment

The interface shows a circular electrode placement map with 10 electrode positions labeled: Fp, AF, F, FC, T, M, TP, P, O, and AF. A legend indicates signal quality: Strong signal (teal), Weak signal (red), Mediocre signal (yellow), and No signal (grey). To the right, 14 vertical EEG traces are displayed, corresponding to the electrode labels: AF3, F7, F3, FC5, T7, P7, O1, O2, P8, T8, FC6, F4, F8, and AF4. The traces show varying levels of signal quality and noise.

What would you like to do? X

- ★ Improve the signal quality of your sensors
- ||||| Learn about how the subject's movement can create noise

Page: Collect. Tutorial. Select “Improve signal quality”

BrainWaves File Edit View Go Window Help

Mon 09:41

Faces Houses Experiment ① REVIEW DESIGN ② COLLECT ③ CLEAN ④ ANALYZE Save Workspace

Collect

Autoscale Start Pre-Test Run & Record Experiment

The diagram shows a circular head with 19 electrode positions labeled according to the International 10-20 system. A legend indicates signal quality: Strong signal (teal), Weak signal (red), Mediocre signal (yellow), and No signal (grey). The electrode labels include Fp, AF, F, FC, T, M, TP, P, O, and Fz. To the right, a grid of 16 EEG signal traces is displayed, corresponding to the electrode locations. The traces show varying degrees of signal quality, with some showing clear oscillations and others appearing noisy or flat.

What would you like to do?

Improve the signal quality of your sensors

Learn about how the subject's movement can create noise

Faces Houses Experiment ① REVIEW DESIGN ② COLLECT ③ CLEAN ④ ANALYZE Save Workspace

Collect Autoscale Start Pre-Test Run & Record Experiment

The diagram shows a circular electrode layout with 19 numbered positions. A legend indicates signal quality: Strong signal (green), Weak signal (red), Mediocre signal (yellow), and No signal (grey). The visualization displays 19 vertical EEG traces corresponding to the electrode positions, showing raw signal amplitude over time. Most traces are green, indicating strong signals, though some show significant noise or baseline shifts.

Improve the signal quality X

In order to collect quality data, you want to make sure that the majority of the electrodes have a strong connection, e.g. green.

Back Next

Faces Houses Experiment ① REVIEW DESIGN ② COLLECT ③ CLEAN ④ ANALYZE Save Workspace

Collect Autoscale Start Pre-Test Run & Record Experiment

The image shows an EEG electrode placement map on a head model with 10-20 international system positions labeled. A legend indicates signal quality: Strong signal (teal), Weak signal (red), Mediocre signal (yellow), and No signal (grey). To the right, 16 vertical color-coded traces represent raw EEG data from AF3, F7, F3, FC5, T7, P7, O1, O2, P8, T8, FC6, F4, F8, and AF4 channels. Most traces show strong signals, except for a few with weak or mediocre signals.

Tip #1: Saturate the sensors in saline X

Make sure the sensors are saturated with saline. This means thoroughly saturating the felt.

Back Next

Faces Houses Experiment ① REVIEW DESIGN ② COLLECT ③ CLEAN ④ ANALYZE Save Workspace

Collect Autoscale Start Pre-Test Run & Record Experiment

The image shows an EEG electrode placement map on a head model with 10-20 international system positions labeled. A legend indicates signal quality: Strong signal (teal), Weak signal (red), Mediocre signal (yellow), and No signal (grey). To the right, 16 vertical color-coded traces represent raw EEG data from channels AF3, F7, F3, FC5, T7, P7, O1, O2, P8, T8, FC6, F4, F8, and AF4. Most traces show strong signals, except for a few red ones indicating weak signals.

Tip #2: Ensure the sensors are contacting the head

Re-seat the headset to make sure the spot hits the head with some tension. You may need to sweep hair out of the way to accomplish this.

Back Next

Faces Houses Experiment ① REVIEW DESIGN ② COLLECT ③ CLEAN ④ ANALYZE Save Workspace

Collect Autoscale Start Pre-Test Run & Record Experiment

The interface shows an EEG sensor placement map with 10-20 international system electrode positions. A legend indicates signal quality: Strong signal (teal), Weak signal (red), Mediocre signal (yellow), and No signal (grey). To the right, 14 vertical EEG signal traces are displayed for channels AF3, F7, F3, FC5, T7, P7, O1, O2, P8, T8, FC6, F4, F8, and AF4. The traces show varying degrees of signal quality, with some channels showing clear oscillations and others appearing noisy or flat.

Tip #3: Sensor placement? X

Lore ipsum dolor sit amet, consectetur adipiscing elit. Fusce mollis massa nec dignissim consectetur.

Back Finish

Faces Houses Experiment ① REVIEW DESIGN ② COLLECT ③ CLEAN ④ ANALYZE Save Workspace

Collect Autoscale Start Pre-Test Run & Record Experiment

The image shows an EEG electrode placement map on a head model with 10-20 international system positions labeled. A legend indicates signal quality: Strong signal (teal), Weak signal (red), Mediocre signal (yellow), and No signal (grey). To the right, 19 vertical color-coded traces represent raw EEG data from AF3, F7, F3, FC5, T7, P7, O1, O2, P8, T8, FC6, F4, F8, and AF4 channels. A prominent red vertical line marks a sharp artifact in the signals.

What would you like to do? X

- ★ Improve the signal quality of your sensors
- ||||| Learn about how the subject's movement can create noise

Faces Houses Experiment ① REVIEW DESIGN ② COLLECT ③ CLEAN ④ ANALYZE Save Workspace

Collect Autoscale Start Pre-Test Run & Record Experiment

Your brain produces electricity X

Using the EEG device you or your subject are wearing, we can detect the electrical activity of the brain.

The diagram shows a circular head with 16 electrode positions labeled with abbreviations: Fp, AF, F, FC, T, M, TP, P, O, and Z. A legend indicates signal strength: Strong signal (teal), Weak signal (red), Mediocre signal (yellow), and No signal (grey). To the right, 16 vertical EEG traces are displayed, corresponding to the electrode labels. The traces show varying degrees of noise and signal amplitude, with a prominent vertical red line indicating a specific event or reference point.

Back Next

Faces Houses Experiment ① REVIEW DESIGN ② COLLECT ③ CLEAN ④ ANALYZE Save Workspace

Collect Autoscale Start Pre-Test Run & Record Experiment

Try closing your eyes X

Does the signal quality change? Eye movements can create noise in the EEG signal quality.

The diagram shows a circular head with 16 electrode positions labeled with abbreviations: Fp, AF, F, FC, T, M, TP, P, O, and Z. A legend indicates signal quality: Strong signal (teal), Weak signal (red), Mediocre signal (yellow), and No signal (grey). To the right, 16 vertical EEG traces are displayed, corresponding to the electrode labels. The traces show varying degrees of signal quality, with some showing clear oscillations and others appearing noisy or flat. A prominent red vertical line marks a sharp artifact in several traces, particularly around electrode AF4.

Strong signal Weak signal
Mediocre signal No signal

Back Next

Faces Houses Experiment ① REVIEW DESIGN ② COLLECT ③ CLEAN ④ ANALYZE Save Workspace

Collect Autoscale Start Pre-Test Run & Record Experiment

Try clenching your jaw X

Does the signal quality change?

The diagram shows a circular head with 16 electrode positions labeled with abbreviations: Fp, AF, AF, AF, F, FC, FC, T, M, TP, P, O, O, T, M, TP, P. A legend indicates signal quality: Strong signal (teal), Weak signal (red), Mediocre signal (yellow), and No signal (grey). To the right, 16 vertical EEG traces are displayed, corresponding to the electrode labels. The traces show varying signal quality and noise levels, with a prominent vertical red artifact at the end of the traces.

Back Next



Enter subject name

Subject

Cancel

Next



Faces Houses Experiment

Intro copy describing the experiment to the subject. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In in massa viverra, consequat nunc at, sollicitudin est. Quisque eu turpis sit amet ex faucibus finibus

Start Experiment

Page: **Collect. Run. House Stimuli Presentation**

BrainWaves File Edit View Go Window Help

Mon 09:41

X





Thank you!

Final copy thanking the subject for participating in the experiment. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In in massa viverra, consequat nunc at,

[Close Experiment](#)

Faces Houses Experiment ① REVIEW DESIGN ② COLLECT ③ CLEAN ④ ANALYZE Save Workspace

Clean Export Cleaned Dataset

Select & clean

Ready to clean a dataset? Load the dataset below and launch the editor.

Dataset

Select Dataset

Launch Editor

?

The screenshot shows the BrainWaves software interface with the following details:

- Top Bar:** Includes the Apple logo, window controls (red, yellow, green), the title "BrainWaves", and menu items: File, Edit, View, Go, Window, Help. On the right are system icons for battery, signal, volume, and time ("Mon 09:41").
- Experiment Title:** "Faces Houses Experiment" with three colored dots (red, yellow, green) to its left.
- Workflow Step:** A horizontal bar with four steps: 1 REVIEW DESIGN, 2 COLLECT, 3 CLEAN (highlighted with a yellow border), and 4 ANALYZE.
- Save Button:** A button labeled "Save Workspace" in a green box.
- Main Area:** A large white area titled "Clean".
- Section Header:** "Select & clean".
- Text:** "Ready to clean a dataset? Load the dataset below and launch the editor."
- Dataset Section:** "Dataset" with a "Select Dataset" button.
- Editor Section:** "Launch Editor" button.
- Help Sidebar:** A sidebar titled "What would you like to do?" with two items:
 - A hand icon next to the text "Learn how to clean data using the BrainWaves editor".
 - A noise wave icon next to the text "Learn about how to recognize noise".

The screenshot shows the BrainWaves software interface. At the top, there is a menu bar with options: Apple icon, BrainWaves, File, Edit, View, Go, Window, Help, followed by system status icons (Wi-Fi, battery, volume) and the text "Mon 09:41". Below the menu is a toolbar with four steps: REVIEW DESIGN (step 1), COLLECT (step 2), CLEAN (step 3, highlighted with a yellow circle), and ANALYZE (step 4). To the right of the toolbar is a "Save Workspace" button. The main workspace is titled "Faces Houses Experiment". On the left, under the "Clean" section, there is a heading "Select & clean" and a sub-instruction: "Ready to clean a dataset? Load the dataset below and launch the editor." Below this are two buttons: "Select Dataset" (in a white box) and "Launch Editor" (in a dark green box). On the right side of the workspace, there is a sidebar titled "What would you like to do?" with two items: "Learn how to clean data using the BrainWaves editor" (with a hand cursor icon) and "Learn about how to recognize noise" (with a vertical bars icon).

BrainWaves File Edit View Go Window Help

Faces Houses Experiment

① REVIEW DESIGN ② COLLECT ③ CLEAN ④ ANALYZE

Save Workspace

Clean

Select & clean

Ready to clean a dataset? Load the dataset below and launch the editor.

Dataset

Select Dataset

Launch Editor

What would you like to do?

- Learn how to clean data using the BrainWaves editor
- Learn about how to recognize noise

The screenshot shows the BrainWaves software interface with the following details:

- Top Bar:** Includes the Apple logo, window title "BrainWaves", and menu items: File, Edit, View, Go, Window, Help. On the right are system icons for battery, signal, volume, and time ("Mon 09:41").
- Project Title:** "Faces Houses Experiment" with three colored dots (red, yellow, green) to its left.
- Workflow Step:** A horizontal bar with four steps: 1 REVIEW DESIGN, 2 COLLECT, 3 CLEAN (highlighted with a yellow circle), and 4 ANALYZE.
- Save Workspace:** A button labeled "Save Workspace" in a green-bordered box.
- Main Content Area:**
 - Title:** "Clean" (underlined).
 - Section:** "Select & clean".
 - Description:** "Ready to clean a dataset? Load the dataset below and launch the editor."
 - Dataset:** A section with a "Select Dataset" button in a green-bordered box.
 - Editor:** A "Launch Editor" button in a green box.
- Right Panel:** A sidebar titled "Learn how to recognize noise" with a close button (X). It contains descriptive text about recognizing noise in data.
- Bottom Buttons:** "Back" and "Next" buttons in green boxes.

