Jan Weber, Randolph Helfrich – WMATT

From KnightLab

Run on: Psychtoolbox

Age:

My info: jan.weber@student.uni.tuebingen.de

Contents

Equipment

1. Photodiode for trigger signals

Set Up

1. Make sure that the participant is approximately 90cm away from the screen.

2. In the master script (see below), you can indicate whether you want to position the photodiode for trigger signals on the **lower left** or **lower right** corner of the screen. Just make sure to place the photodiode really at the edges of the screen.

Script

• Master script that runs all sub-scripts/functions [*master_script_USA.m*]

• 5 subscripts (will run in the same order as listed)

- *determine_threshold_080621_USA.m* ***(no triggers are sent/needed)***

  → determines the participant's visual threshold that is used for the experiment.
- *instruction_Att_WM_USA_080621.m* ***(no triggers are sent/needed)***

  → provides a detailed instruction about the two different conditions with examples to the participant.
- *example_Att_WM_080621_USA.m* ***(no triggers are sent/needed)***

  → provides some example trials for both the Memory and Attention condition

- *run_WM_Att_080621_USA.m*

  → main experiment

- *functional_localizer_080621_USA.*

  → functional localizer

Instructions

Experimenter Instructions

1. **Checklist** prior to the experiment
   - Check the following settings (the rest are standard settings):
     - ***subID***: type subject ID
     - ***IDscreen*** = leave at 1
     - ***SaveData***: set to **1** such that data is automatically saved
     - ***checkside***: manually type **1** if the photodiode is placed on the **lower left** of the screen or **2** if the photodiode is placed on the **lower right** of the screen

```
%% Settings

% subject ID
subID           = '01';
% ID of the screen
IDscreen        = 1;
% Should the data be saved?
SaveData        = 1;
% Distance to Screen (try to keep ~90cm)
dist2screen     = 90;
% Placement of Photodiode (1 = left, 2 = right)
checkside       = 2;
```

   - Make sure to set the path correctly
     - ***path_out***: path where the data are stored later
     - ***path_in:*** same as path_out
     - ***path_code*:** path where the code is located

```
%% Path Settings

path_out  = '/Volumes/Elements/ECOG_WMATT/Data/Behavior';

path_in   = path_out; % path where data is stored

path_code = '/Volumes/Elements/ECOG_WMATT/Code/experiment_US_Version'; % path where code is located
cd(path_code);
```

##

When everything is done and the participant is ready, simple press "Run" from Matlab's 'Editor' tab or type "master_script_USA" into the command window. The master script calls all the sub-functions and scripts automatically, so that there is no need to do anything once the paradigm has started. The participant will get a detailed instruction during the "*instruction_Att_WM_USA" script.*

##

How to pause or stop the paradigm?

- *run_WM_Att_110521_USA:* When the participant is being asked to respond to the task (e.g. press the left or right arrow key during the WM condition or the down arrow key during the attention condition), simply **press "p" to pause** the task or **"ESCAPE" to stop the task**. When the task has been paused, the participant can just press the spacebar again to continue the experiment**. Please make sure to only press "ESCAPE" (stop) if the participant cannot continue the experiment at all.**
- *functional_localizer_110521:* In order to **pause** the localizer session, **press and hold the"p" button** for a couple of seconds. In order to **stop** the paradigm, **press and hold the "ESCAPE" button** for a couple of seconds. **Please make sure to only use the stop option if the participant cannot continue the experiment at all.**

Subject instructions

- **Instructions for "determine_threshold_080621_USA":**
  We will now try to evaluate your visual threshold. Therefore, you will be presented with black and empty circles. Your task is to roughly remember the position of the black circles because a brief flash will appear at one of those locations. Once you see the flash appearing at one of these locations, press the down arrow key as fast as possible. It is important to note that you won't see the circle in some trials. In that case, simply withhold your response. Throughout the task you are required to fixate on the cross in the middle of the screen, and requested that you do not shift your eyes. The threshold evaluation will take roughly 4 minutes.

- **Instructions for "instruct_Att_WM_USA_080621":**
  No instructions needed as the participant is directly instructed by the script.

- **Instructions for "example_Att_WM_080621_USA":**
  We will now familiarize you with the task by doing some example trials.

- **Instructions for "run_WM_Att_080621_USA":**
  We will now start the actual experiment that will take approximately 30 minutes. We can pause or stop the experiment at any time. You are required to always focus on the fixation cross at the center of the screen and to avoid shifting your eyes.

- **Instructions for "functional_localizer_080621_USA":**
  For the last part you can simply relax. You are only required to fixate on the cross at the center of the screen

as no input is necessary. You will again see circles in the periphery. This time, your task is to focus your attention towards the spatial location of the circle without shifting your eyes into that direction. You do not need to press any button.

Good luck and thank you!

Comments/Issues

[please report below]