[DCC] EEG: Scene-based Stimulation in the Context of a Visual BCI | 37.5 euro / 2.5 ppu

Thank you for being a participant in this project!

The guidelines below give you an indication of what to expect during the experiment. There is no need to memorize everything. The experimenter will always explain you of necessary points. When you are done reading this document, feel free to ask for clarifications at any point throughout the experiment.

Preparation

Figure 2 shows the experiment setup. You will be seated in front of a computer monitor and eight real objects (from left to right: bottle, bandage, remote, can, candle, box, book, cup) placed on a table. The computer screen displays pictograms that best represent the objects (see Figure 1). During the experiment, the real objects on the table will be highlighted using laser pointers and the pictograms on the screen will be highlighted by a color change on screen. These will be referred to as **laser condition** and **screen condition** respectively**.**

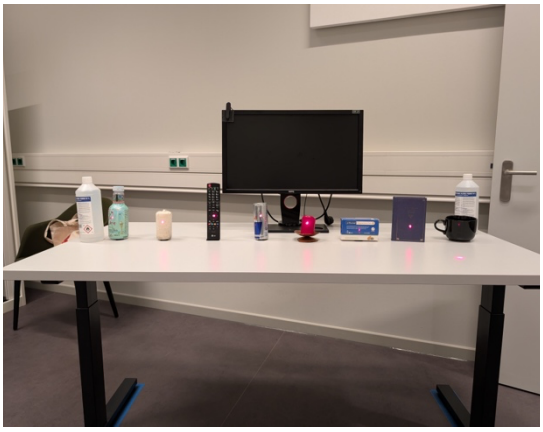

Figure 3. Participant view.

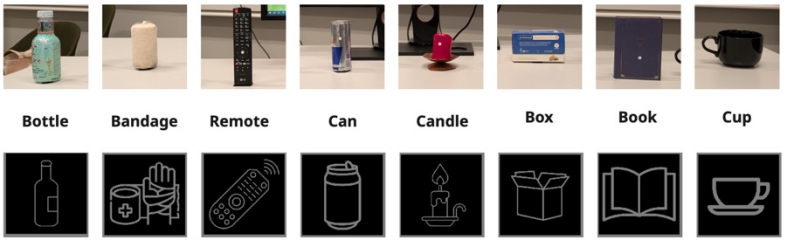

Figure 2. Objects and their corresponding pictograms

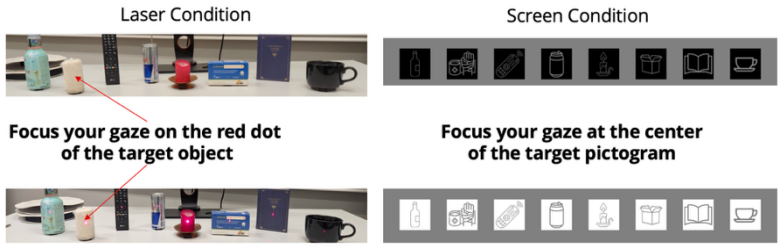

Figure 1. Focus point for each condition

Your task

In this study, your task is to select an object based an audio cue. Once you have located the target (either the physical object or its pictogram) you must:

1. gaze at the target (see Figure 3)
2. press a button
    - objects or pictograms will be highlighted for 12 or 24 seconds after a brief pause
3. Continue gazing at the target object/pictogram until an audio plays “stop”.
4. Repeat

Your goal is to simply to maintain focus on the target throughout the highlighting period.

The experiment

The experiment will proceed as follows:

1. Familiarization:
   The experimenter will explain the setup and task, followed by a short practice run to make sure everything is clear.
2. Resting-State Recording:
   We will record your baseline EEG activity while you have eyes open and eyes closed.
3. Main Experiment:
   As explained in **Your task** section.
4. Resting-State Recording:
   We will record your post-experiment baseline EEG activity while you have eyes open and eyes closed.

Questionnaire

A quick refamiliarization by the experimenter will remind you of the **laser condition** and **screen condition.** After this you will be asked to fill in a workload questionnaire for each condition.