The data was obtained using a psychtoolbox plugin on Matlab

Inside the Code folder you will find all the necessary scripts to conduct the experiment:

1. Experiment\_setup.mat
2. Clusters\_screen.mat
3. Clusters\_grid.mat
4. Circular\_grid.mat
5. Instructions.png

***IMPORTANT INFORMATION***

**--Experiment\_setup.mat**

* In order for the code to work properly, make sure that the screen resolution in **1920 x 1080**
* **Line 15:** Load the experiment instruction before the experiment starts; after reading the instructions, participants can hit any key on the keyboard to start the experiment.
* **Line 23 to 30:** Define the percentage of the target trials
* **Line 37:** The for loop represents how many trials will be in the session. For example for k = 1:90, the experiment will run for 90 trials.
  + ***NOTE:*** If you want to change the number of trials, make sure to re-define the percentage of the target trials (Line 23 to 30).
* **Line 39:** Define an imaginary border in which the centers of all clusters reside. In our experiment, 360 pixels away from the horizontal edges of the screen and 240 pixels away from the vertical edged on the screen.
* **Line 40:** Define the distance between the centers of the clusters. In our experiment, each cluster center is 300 pixels away from its nearby cluster center.
* **Line 56:** Define randomly the number of clusters that are going to appear in the trial.
* **Line 86:** Define randomly the number of objects that are going to appear inside each cluster.
* **Line 157:** Define randomly the size of all objects.

**--Clusters\_screen.mat**

* Return an array that defines the imaginary border in which the centers of clusters will be inside.

**--Clusters\_grid.mat**

* Return a 15 x 2 matrix
* Each row represent the x and y coordinates for a cluster center
* The eighth row represents the x and y coordinates for the center of the screen. The fixation cross will appear here.

**--Circular\_grid.mat**

* Return 20 x 2 x 14 matrix
* Each layer of the 14 layers represents a cluster
* Each cluster has two imaginary gridded circles.
* The inner grid is 50 pixels away from the cluster center and consists of 8 locations
* The outer grid is 100 pixels away from the cluster center and consists of 12 locations
* The first 8 rows in the 20 x 2 matrix represent the objects locations in the inner grid
* The last 12 rows in the 20 x 2 matrix represent the objects locations in the outer grid.