Dual Task Code Instructions

1. List of Scripts used in the Experiment

runExp1.m*: Main script to be executed in the experiment. Presents instructions, trials and collects responses. Saves all responses and settings in the structures TR and Cfg. Makes use of the scripts Exp_Parameters1.m, DrawResponseScreen1.m, and getMouseResponse.m.

Exp_Parameters1.m*: Sets all the experimental parameters for the task and initializes QUEST. The main structures used are Gral (General), Cfg (Configuration), and TR (Trials, contains all of the participants' responses).

DrawResponseScreen1.m*: Makes use of the definitions set up in Exp_Parameters1.m to draw a response screen depending on the current trials condition (1 = single central task, 2 = single peripheral task, 3 = dual task, 4 = dual task with partial response).

getMouseResponse.m: Called in runExp1*.m to collect the participants' mouse clicks.

* Change the numbers to 2 and 3 for Experiments 2 and 3 respectively.

2. How to use the code

Experiment 1

<u>Session 1:</u>

1. Training

Type in command line: runExp1(2,2,0,0)

- Subject_No: XX
- Subject_ID: YY
- Session: 1
- Run: 1

➔ This will run two blocks of the central and two blocks of the peripheral task that are used to estimate the SOAs

When finished go to the script Exp_Parameters1.m and change the number of trials (nTrials, line 9) to 20. Save!

Then type: runExp1(0,0,1,0)

- Subject_No: XX
- Subject_ID: YY

- Session: 1
- Run: 2

➔ This will run one block of 20 trials of the dual task to give the subjects a chance to get used to the task format.

When finished change the number of trials back to 48. Save!

2. Run 1

Type: runExp1(1,1,1,1)

- Subject_No: XX
- Subject_ID: YY
- Session: 1
- Run: 3

➔ This will run the first actual run of the task, consisting of one block single central, one block single peripheral, and one block dual task in random order.

3. Run 2

Type: runExp1(1,1,1,1)

- Subject_No: XX
- Subject_ID: YY
- Session: 1
- Run: 4

Session 2:

1. Run 1

Type: runExp1(1,1,1,1)

- Subject_No: XX
- Subject_ID: YY
- Session: 2
- Run: 1

2. Run 2

Type: runExp1(1,1,1,1)

- Subject_No: XX
- Subject_ID: YY
- Session: 2
- Run: 2

3. Run 3

Type: runExp1(1,1,1,1)

- Subject_No: XX
- Subject_ID: YY
- Session: 2
- Run: 3

Session 3:

1. Run 1

Type: runExp1(1,1,1,1)

- Subject_No: XX
- Subject_ID: YY
- Session: 3
- Run: 1

2. Run 2

Type: runExp1(1,1,1,1)

- Subject_No: XX
- Subject_ID: YY
- Session: 3
- Run: 2

3. Run 3

Type: runExp1(1,1,1,1)

- Subject_No: XX
- Subject_ID: YY
- Session: 3
- Run: 3

Experiment 2

Run Experiment 2 in the same way as Experiment 1 but use:

- runExp2(2,2,0,0,0)
- runExp2(0,0,1,0,0)
- runExp2(1,1,1,1,1)

Note that the number of trials in this experiment is 30 instead of 48, so when changing the number of trials back after the training, change it from 20 to 30 and save!

Important things to remember

- Make sure you change the number of trials in the script Exp_Parameters1.m before and after the dual task training in the first session and save the changes!
- Make sure you enter the correct subject number, subject ID, session, and run every time you start a new run. Otherwise it won't work.
- In the end of each run (when a prompt says "End of session") Matlab waits for a button press on the keyboard. If the computer connects to an external keyboard It might be that this one has to be used in order to close the screen.
- Just to be safe, type sca, clear all, clc after each run to start fresh.