Readme 'GMT'

Output description

The most important variable from the Guitard_Masip.m script is **output.** This variable is also saved at the end of script execution as

→ "GMT_[Study_identifier]_[subject ID]_S[Session ID]_R[Run ID].mat"

e.g. *GMT_TUE007_000001_S1_R1.mat* for Subject 1, Session 1, Run 1, TUE007 Study

This matlab data structure has 12 fields that are described in the following.

1. **Pobabilities_matrix:**
   Matrix with the probabilities (0, 0.2, 0.8) to determine feedback (win, neutral, lose) dependent on GMT conditions (go to win, go to avoid punishment, no go to win, no go to avoid punishment) and the given answer (Go, No Go). This matrix is fixed throughout the study and does not change per subject, session or trial.

Condition	Answer	Feedback		
		Win	**Neutral**	**Lose**
Go Win	**Go**	0.8	0.2	0
	No go	0.2	0.8	0
Go to Avoid	**Go**	0	0.8	0.2
	No Go	0	0.2	0.8
No Go Win	**Go**	0.2	0.8	0
	No Go	0.8	0.2	0
No Go Avoid	**Go**	0	0.2	0.8
	No Go	0	0.8	0.2

2. **Cue_conditions:**
   Assignment of the different stimuli (i.e. fractals) to the respective conditions. This assignment is randomly determined in the beginning of every session.

   1 = Go to win condition
   2 = Go to avoid punishment condition
   3 = No-Go to win condition
   4 = No-Go to avoid punishment condition

3. **Time:**
   Structure with 9 fields flagging different timepoints of the experiment

   3.1 paradigm_onset: time of the beginning of the paradigm

   Furthermore, different time points are saved for each trial:

   3.2 Trial_onset: timepoint of trial start

   3.3 Cue: timepoint of stimulus (i.e. fractal) presentation

   3.4 Fix1: timepoint of 1st fixation cross presentation

   3.5 Target_circle: timepoint of target circle presentation

3.6 Fix2: timepoint of 2nd fixation cross presentation

3.7 Feedback: timepoint of feedback presentation

3.8 Response: timepoint of reaction (button press)

3.9 RT: reaction time

4. **Number_responses:** (0/1)
   Indicates whether a button was pressed or not.

   0 = no button pressed
   1 = button pressed

5. **Key_pressed:** (0/1/2)
   Indicates which button was pressed.

   0 = no buttons pressed
   1= left button pressed
   2 = right button pressed

6. **Cue_presented:** (1/2/3/4)
   Indicates which stimulus (i.e. fractal) was presented during the trial.

   1 = Fractal 1
   2 = Fractal 2
   3 = Fractal 3
   4 = Fractal 4

7. **Cond_presented:** (1/2/3/4)
   Indicated which condition was presented.

   1 = Go_to_win
   2 = Go_to_avoid_punishment
   3 = No_go_to_win
   4 = No_go_to_avoid_punishment:

8. **Circle_side:** (1/2)
   Indicates on which side the target circle was presented

   1= left side
   2 = right side

9. **Correct_answer:** (0/1)
   Indicated whether the given response (no, left or right button) was correct for the given condition.

   0 = incorrect answer
   1 = correct answer

10. **Probabilities:** (1-8)
    Indicates for each trial which probabilities were used. This depends on the condition as well as the response. The index 1-8 refers to the row in the Pobabilities_matrix.

11. **Feedback_cond:** (1/2/3)
    Indicates which feedback was presented.

    1 = win (green arrow, points up)
    2 = neutral (yellow line, horizontal)
    3 = lose (red arrow, points down)

12. **Accuracies:**
    Structure that saves overall as well as condition-specific accuracies

    12.1 **overall:** proportion of correct answer across all trials and conditions

    12.2 **Go_to_win**: proportion of correct answers in this condition

    12.3 **Go_to_avoid_punishment:** proportion of correct answers in this condition

    12.4 **No_go_to_win:** proportion of correct answers in in this condition

    12.5 **No_go_to_avoid_punishment** proportion of correct answers in this condition