Instructions

Make sure you have the latest copy of the code. Download at <https://github.com/sarahawu/cPRL-rats> or run

:cPRL-rats $ git pull

from within the cPRL-rats folder in a command prompt.

Each MATLAB window can only run one box, but you can open up to four MATLAB windows at the same time and arrange them on the computer screen. For each window:

Open *init\_default\_env.m*. In the command window, run

>>> init\_default\_env(box)

for the box number to be tested. If testing on laptop screen, use box = 0. Verify that screenNumber is set to the proper monitor. Check all other parameters in the script (see below) and run again if you modify anything.

[optional] Run *setup\_screen.m* and *test\_screen.m*. This is just to verify that Psychtoolbox is working, two targets are drawn (or change the script as you like and verify that the right things show up).

Open Whisker server and make sure physical ABET box is on (no need to open ABET software).

In the command window, run

>>> main\_learning\_uncertainty(box, 0)

for the box number to be tested. For a test run (4 trials), set the second parameter to 1. Sometimes you’ll get errors connecting to Whisker server, in which case just quit and run the script again.

Specific parameters

Verify all of these before starting the task as they are specific to the computer, hardware setup, and experiment you would like to test.

|  |  |  |  |
| --- | --- | --- | --- |
| File | Variable name | Variable description | Where to look up value |
| env | screenNumber | which monitor | computer control panel |
| whiskerServer | server IP address | after opening Whisker |
| displayID | touchscreen display ID | Whisker >> Touchscreens |
| trayLightLine | digital line number for tray light | Whisker >> Digital Lines in Use |
| feederLine | digital line number for feeder |
| setup | deviceName | ‘key’, ‘eye’, or ‘touch’ | depends on subject |
| responseTime | how long subject is given to respond |
| ITI | inter-trial interval |
| expr | seq |  | depends on experiment |
| switchLength |  |
| prob |  |
| sideString |  |

Relevant files depending on the subject (setup.deviceName)

|  |  |  |  |
| --- | --- | --- | --- |
| **File name** | **Human (key)** | **Macaque (eye)** | **Rat (touch)** |
| check\_response\_2AFC | + | + | + |
| clean\_up |  | + | + |
| connect\_whisker |  |  | + |
| deg2px | + | + | + |
| draw\_initiation | + | + | + |
| draw\_stimulus | + | + | + |
| draw\_targets | + | + | + |
| get\_eye\_fixation |  | + |  |
| get\_touch |  |  | + |
| init\_default\_env | + | + | + |
| init\_expr | + | + | + |
| init\_input | + | + | + |
| init\_setup | + | + | + |
| ITI | + | + | + |
| key\_capture | + | + | + |
| main\_learning\_uncertainty | + | + | + |
| obtain\_initiation | + | + | + |
| present\_reward | + | + | + |
| present\_target | + | + | + |
| reward\_juice |  | + |  |
| reward\_pellet |  |  | + |
| setup\_coords | + | + | + |
| setup\_eyelink |  | + |  |
| setup\_pellet |  |  | + |
| setup\_screen | + | + | + |
| setup\_touchscreen |  |  | + |
| start\_check | + | + | + |
| test\_screen |  |  |  |
| test\_touchscreen |  |  |  |