Anaconda & Psychopy Environment Installation Guide
2/28/22
Jeff Kravitz
Curtis Lab
New York university

1. Install Anaconda 3

- Anaconda is an environment manager for Python and R. It can create distinct Python environments that allow for different versions of Python and its packages on the same machine. This is useful for programs that rely on specific versions of Python, and adds convenience for easy installation via yml or txt configuration files.

- Install the correct version of Anaconda for your system. On Mac, when asked, "Do you wish the installer to initialize Anaconda by running conda init?", you should click yes. Further instructions can be found here: https://docs.anaconda.com/anaconda/install/

- To use conda commands on Mac, ensure that Anaconda is in your PATH. To test this, you can open your terminal, and enter:
  conda env list
  If this is successful, the terminal will print a list of your Anaconda environments. If it fails, you will receive a 'command not found' error. If Anaconda is not in your PATH, do not manually add it; instead, navigate to <path to anaconda>/bin/ and run
  ```
  source activate
  conda init
  ```
  Further instructions can be found here:
  https://docs.anaconda.com/anaconda/user-guide/faq/
- To use conda commands on Windows, use the Anaconda Prompt. The Anaconda developers recommend that you do not add Anaconda to your PATH on Windows, as this can cause problems with other software.

2. Install required Python and package versions

- Next, navigate to your yml configuration file, which can be found in the RSVP_pRF/Installation/ directory.
- For Mac installation, enter the following command in your terminal:
  ```
  conda env create --file clayspace_psychopy_env_mac.yml
  ```
- For Windows installation, enter the following command in your Anaconda Prompt:
  ```
  conda env create --file clayspace_psychopy_env_windows.yml
  ```

3. Install PyLink 3.6 and EyeLink Developers Kit / API

- This program uses SR's Pylink package (EyeLink for Python) to track eye movement. If you don't already have a copy of EyeLink Developers Kit / API, you should install it now. To install from SR's website, you must register for a free account. Further installation instructions can be found here: https://www.sr-support.com/

- Next, you should install the pylink3.6 into your newly created python environment. You should make sure that your copy of EyeLink is recent enough to support pylink3.6. You can find the supported python versions by navigating to Applications/EyeLink/SampleExperiments/Python/3.6/pylink. If there is no 3.6/ in the Python/ folder, you'll need to update your EyeLink version, which you can do here: https://www.sr-support.com/

- For Mac, you can activate your environment, and then call the shell script located in RSVP_pRF/Accessory/setup_pylink.sh by entering the following in your terminal:
  ```
  conda activate clayspace_psychopy_env
  source setup_pylink.sh
  ```
- Instead, you may manually copy the pylink folder to the environment. On Mac, you should move it to */anaconda3/envs/clayspace_psychopy_env/lib/python3.6/site-packages/ On Windows, you should move it to */anaconda3/envs/clayspace_psychopy_env/lib/site-packages/

- To change the eye-tracker display from your first monitor to a second monitor, open the file */anaconda3/envs/clayspace_psychopy_env/lib/python3.6/site-packages/psychopy/iohub/devices/display/default_display.yaml and change device_number: 0 to device_number: 1. On Mac, instead you can activate your environment and then run the following script found in RSVP_pRF/Accessory/ by entering the following commands:
  ```
  conda activate clayspace_psychopy_env
  source et_display.sh
  ```
  On Windows, this file is located in */anaconda3/envs/clayspace_psychopy_env/lib/site-packages/psychopy/iohub/devices/display/default_display.yaml

4. Add Terminal to Accessibility (Mac only)

- To allow the program to access keyboard presses on Mac, open System Preferences > Security & Privacy > Privacy > Accessibility, and add Terminal to the list. You may also receive a prompt to do this when running for the first time.

Other important info

- When using conda, it is important to make sure that your commands are actually using the Python version in your environment. In bash, you can check this by entering the following commands into your terminal:
  ```
  conda activate clayspace_psychopy_env
  which python
  ```
- If your system points to a version of python that is not located in that environment, you should fix this before proceeding. In your terminal, enter:
  ```
  $PYTHONPATH
  ```
- If this points to another version of python, you should override it. To do this for your instance of bash, you can enter the following into your terminal (or add this line to your .bash_profile to set automatically – do this only with abundant caution, as changing your bash configuration may possibly break other installations of python on your system)
  ```
  export PYTHONPATH=''
  ```