Neurocognition & Mobility Lab:
Time Sync App

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Contents

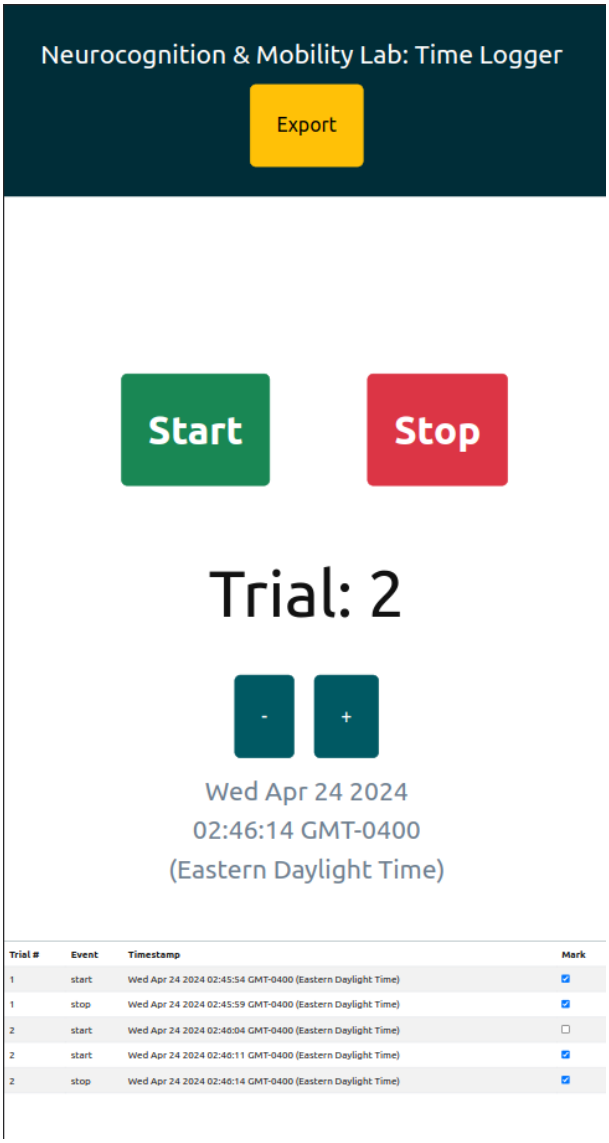
1 Overview

The following sections outline the use of the Time Sync App for obtaining timestamps for trial start/stop times, in order to synchronize across multi-modal datasets.

2 Time Sync App

The Time Sync App can be run through any web browser using this link: https://neurocog-mobility.github.io/app-trial-sync/

The following is the layout of the app interface, as viewed from a mobile device:



1. The trial counter in the center of the screen starts at a default of 'Trial: 1'. The trial number can be increased or decreased by 1 using the '+'/'-' buttons immediately under the trial counter.

2. The 'Start'/'Stop' buttons above the trial counter should be pressed at the start/stop of a trial, respectively. Upon pressing the 'Start'/'Stop' buttons, the timestamp underneath the trial counter will update and

well as the addition of a new row in the timestamp table at the bottom of the screen.

3. The timestamp table can be reviewed to examine the timestamps recorded for each trial start or stop. The checkbox under the column 'Valid' is by default checked as 'True', however in order to mark invalid timestamps the corresponding checkbox can be set to 'False'. In the example screenshot above, there are two timestamps for the start of Trial 2 with the first timestamp marked as an invalid timestamp.

4. Once all timestamps are collected for each trial, the data in the timestamp table can be exported into a .csv file by pressing the 'Export' button at the top of the screen.

3 Use Case: Parsing Axivity data

The following steps will demonstrate how to use the Time Sync App to produce a sync file of timestamps in order to generate individual trial files from Axivity .cwa files.

3.1 Python setup

Ensure that the computer has Python 3 installed. Open the command prompt (Windows) or terminal (Max/Linux) and type (without '>>'):

```
>> python3 --version
```

If a Python version is displayed then proceed to the next steps; if an 'unknown command' error is shown then install Python from: https://www.python.org/downloads/

Note: When installing Python there is a checkbox to 'Add to PATH variables', make sure that this checkbox is checked 'Yes'.

3.2 Installing Python libraries

Once Python is installed, download the *requirements.txt* file from: https://github.com/neurocog-mobility/scripts/blob/main/parse_axivity/requirements.txt

Open the command prompt or terminal in the folder containing *requirements.txt* and type the following command:

```
>> pip install -r requirements.txt
```

3.3 Run parse_axivity_trials.py

Download the script to split axivity data (using timestamps produced from the Time Sync App in Section 2) from here: https://github.com/neurocog-mobility/scripts/blob/main/parse_axivity/parse_axivity_trials.py

Open the command prompt or terminal in the folder containing *parse_axivity_trials.py*, and run the following:

```
>> python3 parse_axivity_trials.py $DIRECTORY$ $AXIVITY.CWA$ $TIMESTAMPS.CSV$
```

Here, replace *$DIRECTORY$* with the full path to the folder containing all data. Replace *$AXIVITY.CWA$* with the name of the axivity file to be parsed, and replace *$TIMESTAMPS.CSV$* with the name of the .csv file of timestamps produced by the Time Sync App

Note: both $AXIVITY.CWA$ and $TIMESTAMPS.CSV$ files should be in the data directory specified.

The terminal should output the filenames of the exported .csv files for each trial, which should be located in the data directory, as follows:

```
>> Trial 1 exported to: /data/axivity_trial_001.csv
>> Trial 2 exported to: /data/axivity_trial_002.csv
>> Trial 3 exported to: /data/axivity_trial_003.csv
```