Brain Waves *Repository* Step-by-Step Guide

This guide walks you through the entire process of setting up and running the `gui_stimulus.py` Streamlit application on a local computer. Following these steps will enable you to pull code from different branches of the `brain-waves-2.0` repository and learn how to import and call functions from the `eeg_auditory_stimulus` package.

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1. **Clone the Repository**

Make sure you have Git installed on your computer.
Open a terminal and type:

```
git clone https://github.com/EEG-project-capstone/eeg-auditory-stimulus.git
```

To navigate into the newly created folder:

```
cd eeg-auditory-stimulus
```

(If you are working in the `brain-waves-2.0` directory instead, you can perform a similar pull or fetch of the latest changes there.)

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2. **Create and Activate a new python environment**

Conda is recommended, but you can also use Python's venv.

Create a new Conda environment:

```
conda create -n eeg python=3.9
```

Activate the environment:

```
conda activate eeg
```

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3. **Install Dependencies & EEG Auditory Modules**

MAIN BRANCH INSTALLATION
If you want the main branch of the `eeg_auditory_stimulus` package, run:

```
pip install --upgrade --force-reinstall
git+https://github.com/EEG-project-capstone/eeg-auditory-stimulus.git
```

DEV / PACKAGE BRANCH INSTALLATION
If you want the dev/package branch (newer or experimental code):

```
pip install --upgrade --force-reinstall
git+https://github.com/EEG-project-capstone/eeg-auditory-stimulus.git@dev/package
```

Either command installs the `eeg_auditory_stimulus` package (and its dependencies) into your current environment.

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4. **Importing and Calling Functions**

Once installed, you can import modules or call functions from Python scripts or notebooks. For example:

```
import eeg_auditory_stimulus

from eeg_auditory_stimulus import claassen_analysis
```

Example function call:

```
print(claassen_analysis.plot_permutation_test())
```

You can also reference these functions inside your Streamlit app code. For instance, in `gui_stimulus.py`:

```
if st.button("Run CMD Analysis"):

 from eeg_auditory_stimulus import claassen_analysis

 claassen_analysis.run_analysis()
```

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5. **Configure Settings**
    - Our project stores parameters (like data paths or filter frequencies) in config files, such as those in a `configs/` folder.

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6. **Run `gui_stimulus.py` via Streamlit**

In the project's root folder (or wherever `gui_stimulus.py` is located), type:

```
streamlit run gui_stimulus.py
```

Streamlit starts a local server, typically at http://localhost:8501.