

SimpleGM - A graphical user interface for simple ground motion processing

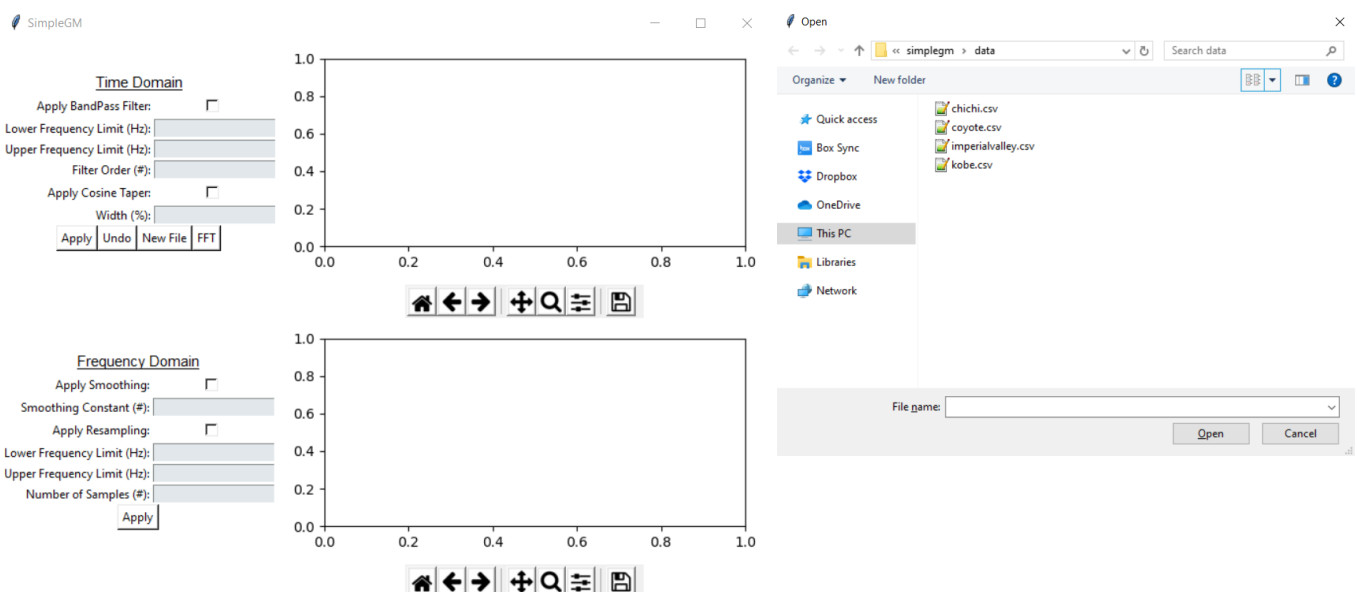
Copyright (C) 2019 Joseph P. Vantassel (jvantassel@utexas.edu)

SimpleGM is a graphical user interface for *SigProPy*, an open-source digital signal processing module for Python. *SimpleGM* was built as an easy-to-use interface for performing some of the most common methods of ground motion processing.

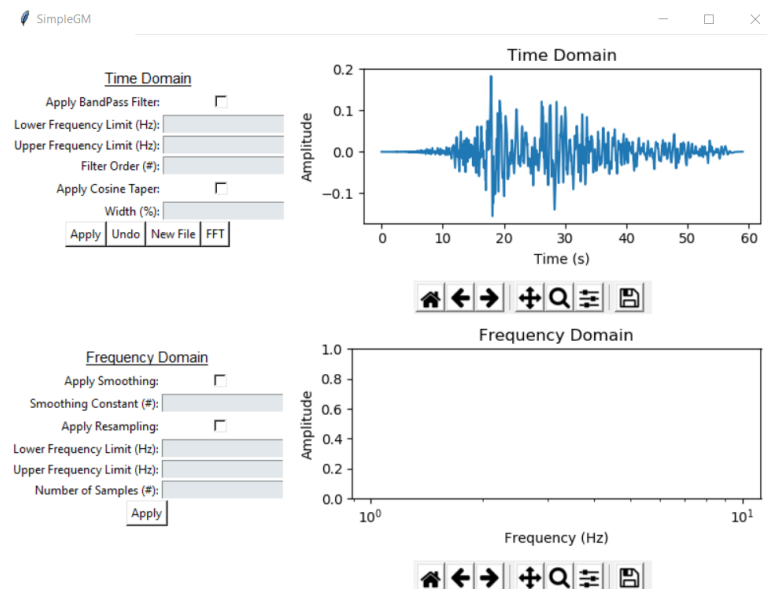
Getting Started

After downloading and unzipping the repository:

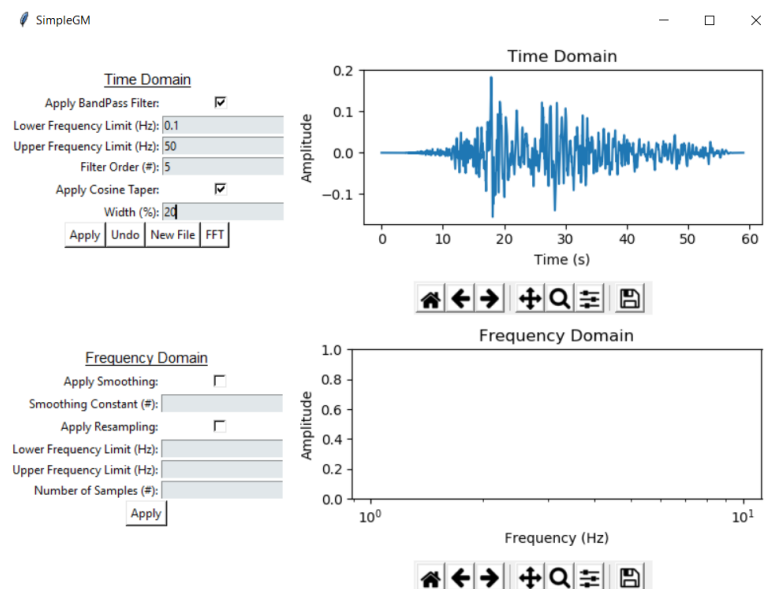
1. Open the command prompt.
2. Create a virtual environment called `env` by entering the command `virtualenv env`.
3. Active the virtual environment by running the file `activate` inside of `env` with `source env/bin/activate`. Note that the path to the `activate` file is installation dependent and may vary.
4. Once the virtual environment is running, install dependencies with `pip install -r requirements.txt`.
5. Navigate to the directory containing the file `simplegm.py`.
6. Enter `python simplegm.py` to launch the program using python.
7. The main and folder navigation windows will appear below.



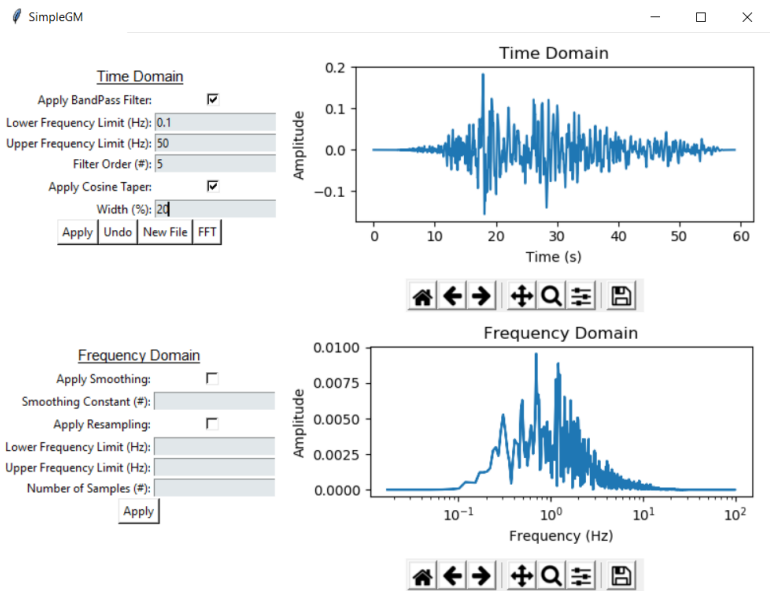
8. Navigate to the folder named `data` included in the repository download. You will see four comma-delimited ground-motion record files. These files are shown in the example navigation window above.
9. Select the `chichi.csv` ground-motion record. The main window will update to appear as below.



10. Apply a butter worth filter and cosine taper by editing the dialog boxes on the top left and then pressing **Apply**. To apply a different filter or taper to the time record, press **Undo** to return to the original time record, enter the new settings, and press **Apply**.



11. Perform the Fast-Fourier Transform on the filtered and tapered record by pressing **FFT**.



12. Apply smoothing and resampling to the Fourier tranform by using the dialog boxes on the bottom left and pressing **Apply**. To apply a different set of smoothing and resampling to the Fourier transform, press **FFT** to return to the a clean version of the Fourier transform, enter the new settings, and press **Apply**.

