1. Audio Filtering with PsychoBox

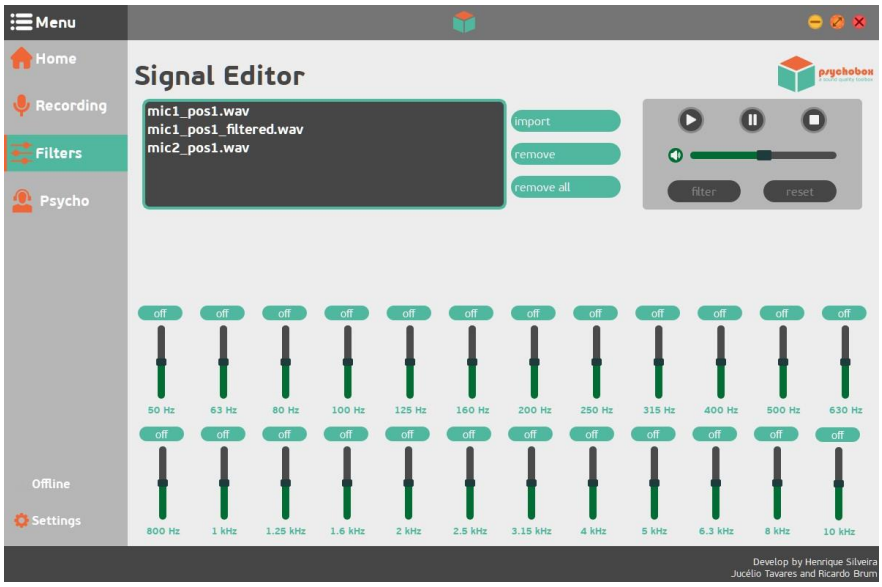
The filtering functionality in PsychoBox allows you to edit audio files by applying specific frequency filters and adjusting the intensity of each band. Follow the steps below to use this tool:

Step 1: Accessing the Filter Mode

1. Open the app and click on the **Menu** in the upper left corner.
2. Select the **Filters** option in the side navigation bar to enter the audio editing interface.

Step 2: Importing an Audio File

1. Click the **import** button to select and load an audio file (.wav) into PsychoBox.
2. Once imported, the file will appear in the audio bank located at the top of the interface. You can import multiple files, which will be listed for easy access.



Step 3: Applying Filters

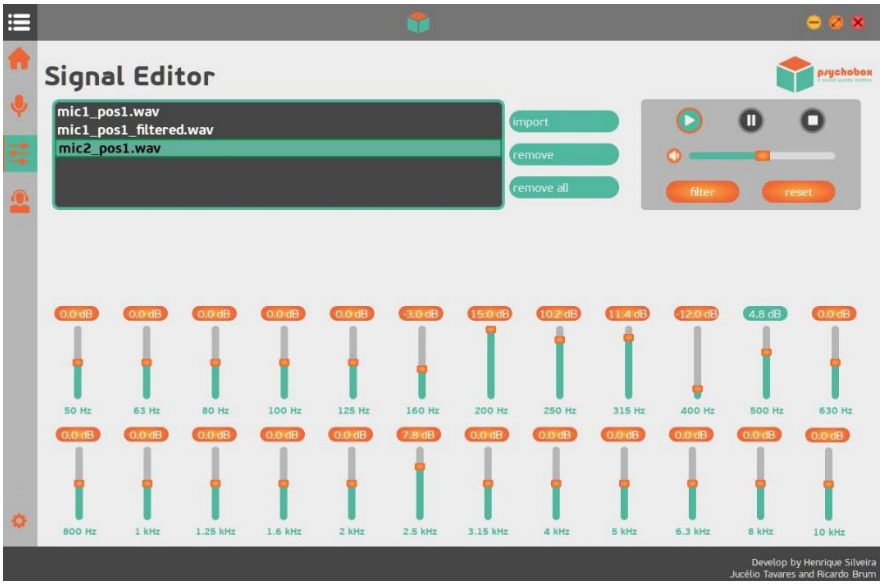
1. With the audio loaded, the frequency sliders below the audio list will be activated.
2. Use the sliders to adjust the intensity of each frequency band as desired. Each slider represents a specific frequency range (from 50 Hz up to 10 kHz), allowing precise control over the sound spectrum.
3. To enable or disable a frequency band, click the "on/off" button above each slider.

Step 4: Applying the Filter

1. After adjusting the sliders as desired, click the filter button located next to the playback controls.
2. A dialog box will appear, allowing you to choose where to save the new filtered audio file. The file will be saved in .wav format.

Step 5: Playing and Managing Audios

1. You can play any audio in the bank, whether it's the original or a filtered file, using the playback controls (play, pause, and stop) next to the filter button.
2. To remove an audio file from the bank, select it and click remove. To remove all loaded audios, click remove all.



2. Analyzing Audio Signals with PsychoBox

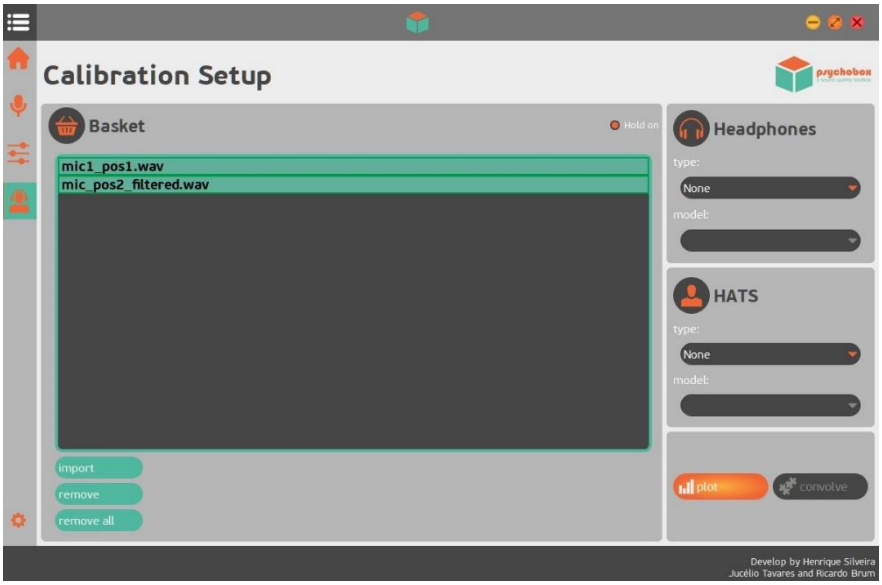
The **Audio Signal Analysis** feature in PsychoBox enables objective evaluation of audio signals, with options for time-domain, frequency-domain, and psychoacoustic metrics analysis. Follow the steps below to use this tool effectively:

Step 1: Accessing the Psycho Analysis Mode

1. Open the app and click on the **Menu** in the upper left corner.
2. Select **Psycho** from the side navigation bar to enter the analysis interface.

Step 2: Importing an Audio File

1. Click the **import** button to load an audio file (.wav) for analysis.
2. Once imported, the file will appear in the audio bank at the top of the interface.
3. Select the audio file you want to analyze, and the **plot** button will become enabled.



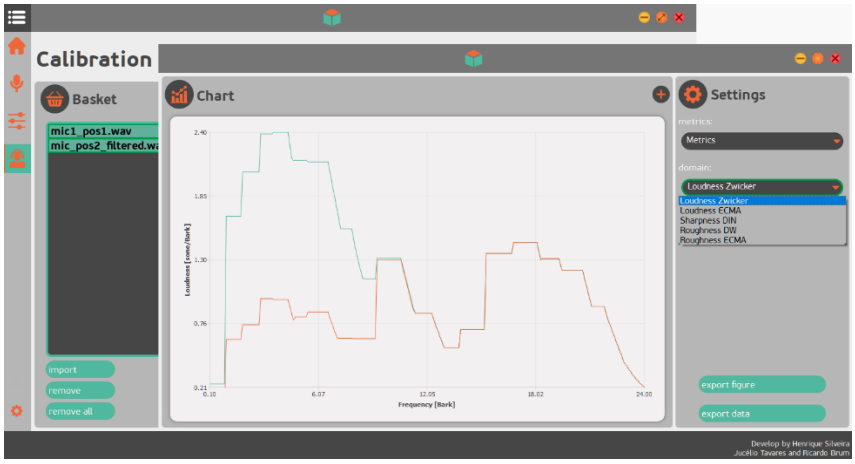
Step 3: Configuring Plot Settings

1. Click the **plot** button to open a new window with plot configuration options.
2. In this window, you will see a **ComboBox** labeled **Metrics** where you can select the type of analysis you want to perform: **Time Domain**, **Frequency Domain**, or **Psychoacoustic Metrics**.

Step 4: Choosing the Analysis Type

- **Time Domain Analysis**:
    - By default, the first analysis displayed will be in the time domain, showing the waveform of the audio signal.

- **Frequency Domain Analysis**:
    - To switch to frequency domain analysis, change the **domain** ComboBox to **Frequency**.
    - The system will automatically apply a Fast Fourier Transform (FFT) to the signal, allowing you to view the spectral content.
    - Additionally, a new ComboBox will appear, allowing you to choose between **Linear Spectrum** or **Third-Octave Bands** for spectral display.
- **Psychoacoustic Metrics Analysis**:
    - To analyze the signal using psychoacoustic metrics, select **Metrics** in the **Metrics** ComboBox.
    - The available psychoacoustic metrics currently include:
        - **Loudness Zwicker**
        - **Loudness ECMA**
        - **Sharpness DIN**
        - **Roughness DW**
        - **Roughness ECMA**



Step 5: Exporting Data and Figures

1. After configuring and viewing your desired analysis, you can export the data as a .csv file by selecting the **export data** option.
2. To save the plotted figure, use the **export figure** option to save it as a .png file.

Note: The **Convolution Functionality** is currently under development and will be available soon.

With these steps, you can analyze and export audio signal data using PsychoBox in various domains, including psychoacoustic metrics.