Voice-Command User Manual

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- Github Link : https://github.com/turan1609/voice-record-filtering-app

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1. Introduction

a. The Aim of This Software

This software aims to enable users to:

- Record audio.
- Securely store the recorded audio.
- Filter recordings based on gender, name, language, and word.
- Access filtered recordings easily.
- Download data as a CSV file or audio files directly.
- View amplitude graphs of the recordings.

b. Target Audience

- **Individual Users**: Manage and analyze their audio recordings effortlessly.
- **Educators and Students**: Utilize audio data for language learning or speech analysis.
- **Researchers and Academics**: Perform audio data analysis and statistical evaluations.
- **Corporate Users**: Call centers, media teams, or businesses storing and processing audio data.

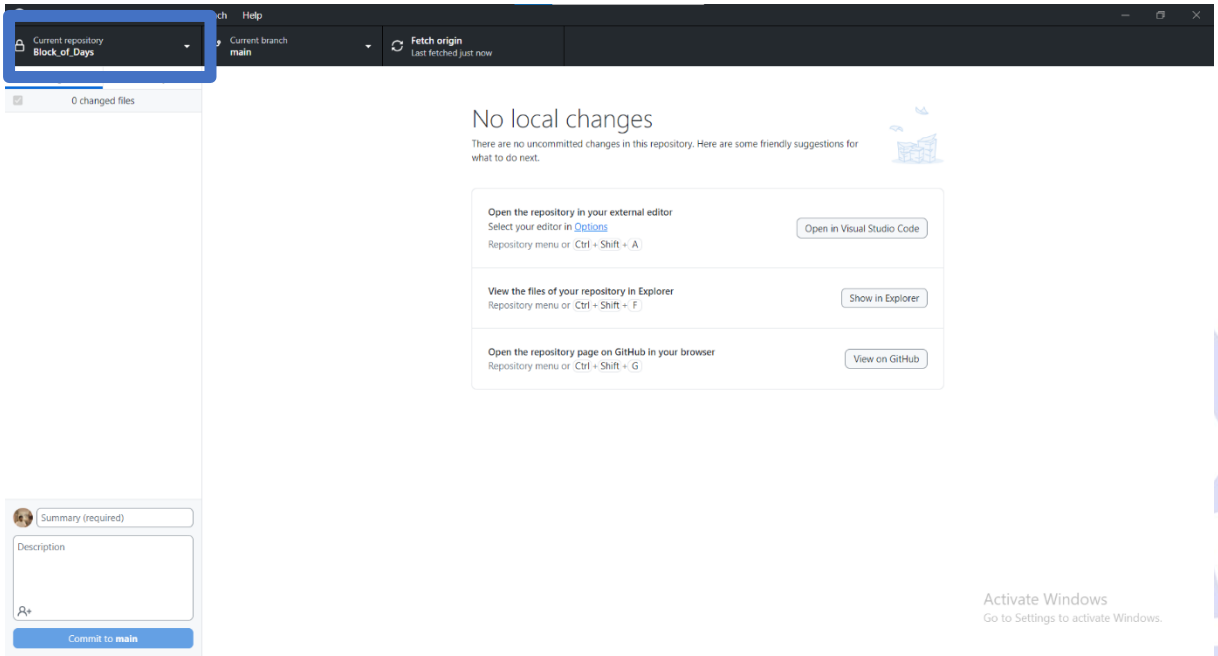
2. System Requirements

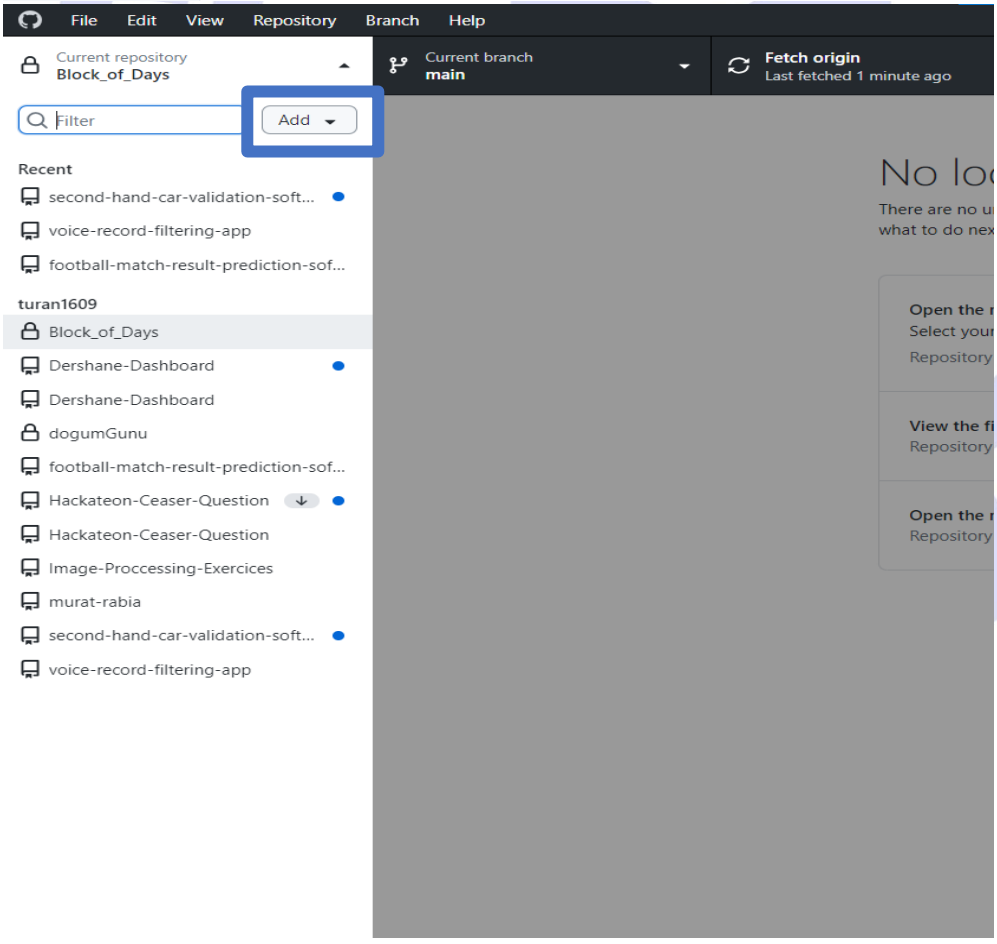
- **Software Dependencies**:
  - Python: 3.12.
  - Libraries: PyQt5, Matplotlib. numpy, pydub, shutil, wave, librosa.
  - Audio Format Support: Libraries for processing `.wav` and `.csv` files.
- **Additional Requirements**:
  - Microphone: A standard microphone (built-in or external) for audio recording.

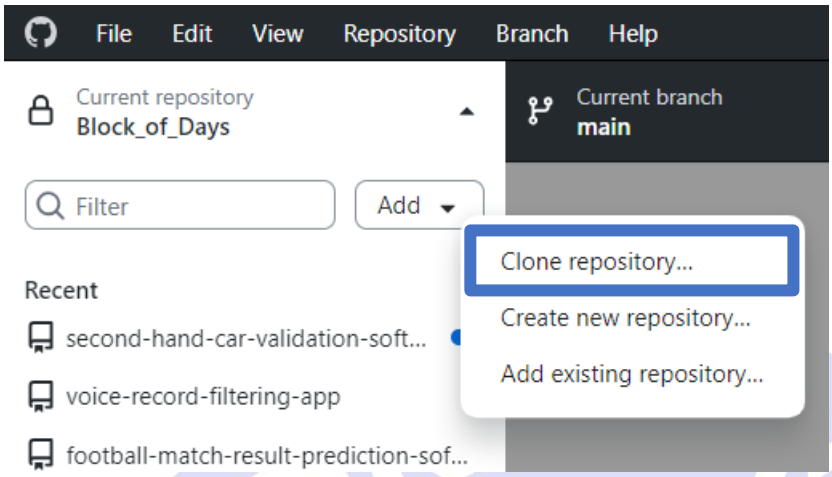
Note: These system requirements are based on the development environment. Compatibility with other systems may vary.

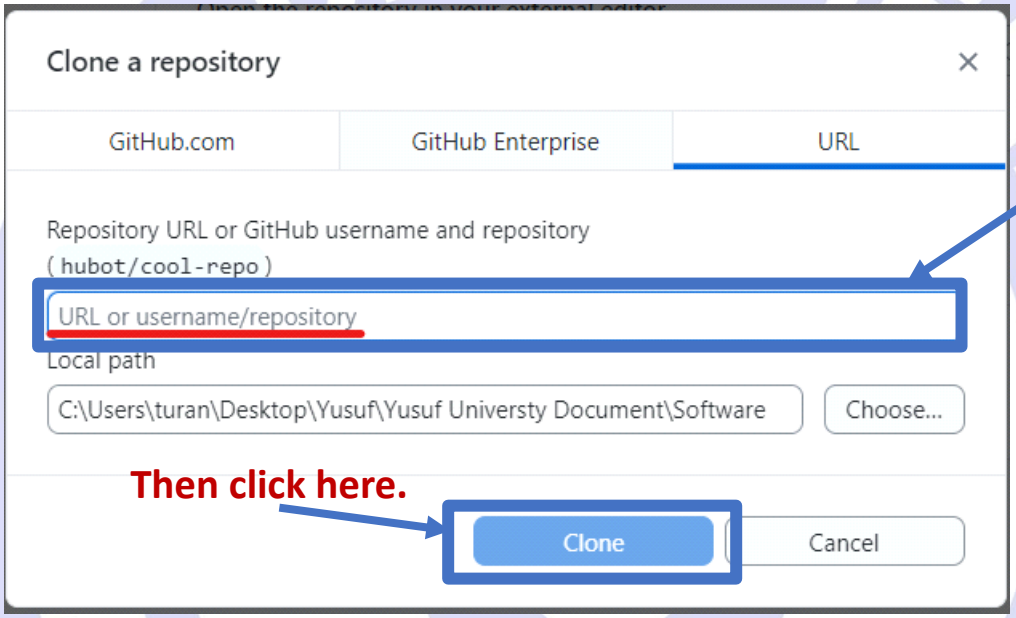
3. Installation Guide

1. Access the GitHub repository: [Voice Record Filtering App](#).
2. Clone (download) the source code using GitHub Desktop (Windows) or your terminal (Linux/macOS).









3. Compile the source code:
   - Open the folder containing the source code in your IDE.
   - In the main.py file, locate the "Libraries" section and install the listed libraries. Most IDEs provide an option to download missing libraries when hovered over.
4. Run the application using the IDE's "Run" button.

Note: For PyCharm users, refer to PyCharm's Library Installation Guide if you encounter issues.

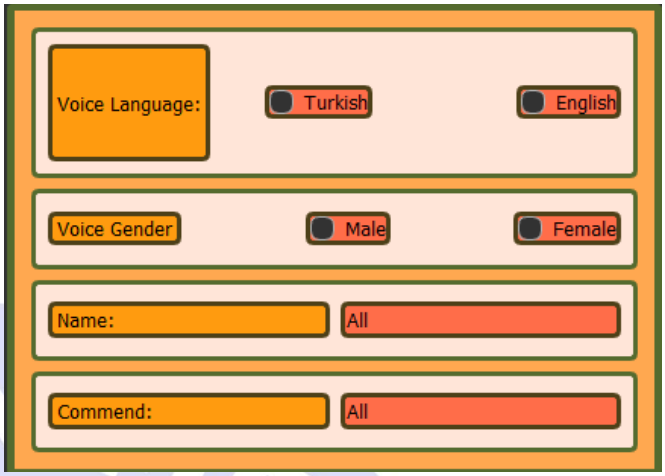
4. User Interface Overview

The user interface is designed for ease of use:

- **Top Left**: Filtering section.
- **Top Right**: Displays audio data.
- **Bottom Left**: Buttons for filtering actions.
- **Bottom Right**: Includes buttons for specific tasks and a label showing the number of displayed records.

5. Features and Functionalities

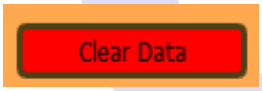
1. Filtering Section



- Four filtering criteria:
  - **Audio Language**
  - **Audio Gender**
  - **Name**
  - **Word**

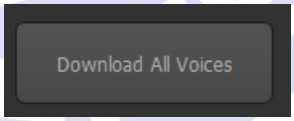
- **Fields must not be empty when applying filters; otherwise, an alert is displayed.**
- **Example:**
  - Select "Yusuf" (name).
  - Choose "Turkish" (language).
  - "Male" (gender) is auto-filled.
  - Select "Evet" (word).
  - Click "Filter Data" to display relevant results.

2. Clear Data



- Clears the data display area. Automatically clears old data when applying new filters.
- *Note: Keep in mind that when you apply a new filter, the previously displayed data will automatically be cleared. This button is only for those who wish to see the area cleared.*

3. Download All Voices



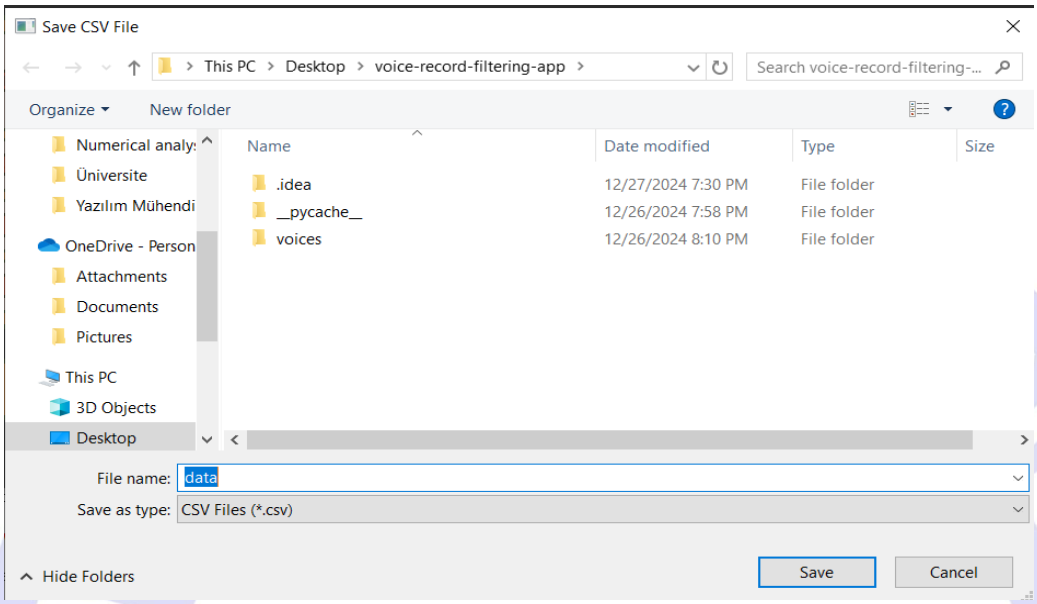
- Downloads all audio files as `.wav` format.

4. Record Voice Button

- Opens a new window for recording audio.

5. Download Data

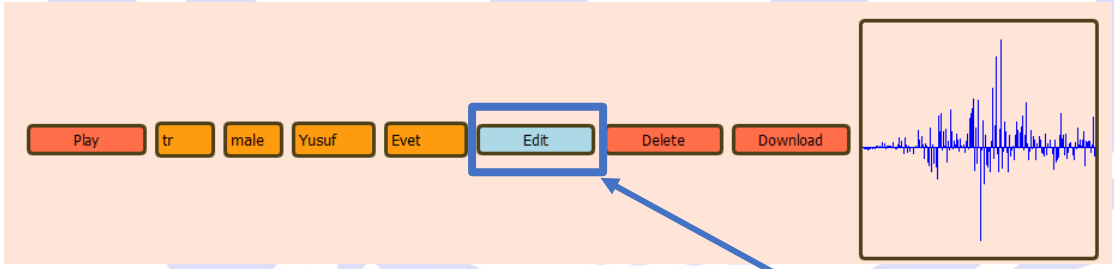
- Downloads visible files in CSV format.
- Allows choosing file name, type, and save location.



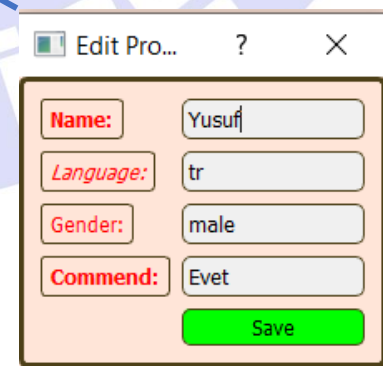
6. Voice Card

- Displays language, gender, name, word, and amplitude-time graph.

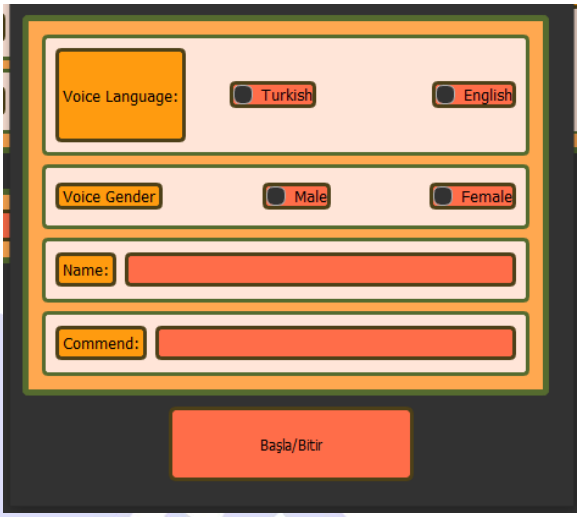
You can play the audio using the 'Play' button.



- The label 'tr' indicates the language of the audio.
- The label 'male' shows the gender of the person who recorded the audio.
- The label 'Yusuf' indicates the owner of the audio.
- The label 'Evet' represents the word in the audio.
- You can change these labels using the 'Edit' button.



6. Usage Instructions



Record a Voice

1. Select audio properties.
2. Click "Start/Stop" to record/stop recording.
3. New names create new entries; subsequent recordings under the same name are appended.

7. Troubleshooting and Maintenance

Common Issues and Fixes

1. **Application Does Not Start**:
    - Verify required libraries are installed: `pip install -r requirements.txt`.
2. **Amplitude Graph Not Displayed**:
    - Confirm `Matplotlib` is installed: `pip install matplotlib`.

8. References

- https://stackoverflow.com/questions/tagged/pyqt5
- https://www.youtube.com/watch?v=97jyCxczg1Q&list=PLyaHWDDfgBPMQUBW95__P4KT3JcVclx4n
- https://medium.com/datarunner/librosa-9729c09ecf7a
- https://www.youtube.com/watch?v=iCwMQJnKk2c&list=PL-wATfeyAMNqIee7cH3q1bh4QJFAaeNv0
- https://www.sqlite.org/docs.html
- https://doc.qt.io/qtforpython-6/
- https://www.youtube.com/watch?v=uyYfnnye7qE
- https://pandas.pydata.org/docs/