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Voice Command Database Creation

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User Manual

1.Introduction

Managing and organizing large volumes of voice data can be challenging, especially in the context of smart home systems that rely on accurate audio datasets. Our group project aims to simplify this process by developing an innovative web platform designed to collect and manage voice data for creating datasets applicable to smart home technologies. This platform facilitates user-driven database creation through voice commands and manual uploads, ensuring seamless data entry and organization.

2.System Requirements

Operating System:

- Windows 10 (64-bit) or higher
- macOS 10.14 Mojave or higher

Processor:

- Dual-core 1.8 GHz or faster processor (Intel i3 or equivalent)

RAM:

- Minimum 4 GB RAM

Software Dependencies:

- Python: Version 3.12 or higher
- **Required Libraries:**
 - Django: Framework for building the web application
 - SQLite: Default database for data storage
 - PyAudio: For audio recording and processing
 - Pandas: For data manipulation

Web Browser:

- Latest version of Chrome, Firefox, or Safari for accessing the web application

Audio Format Support:

- Support for .mp3, .wav, .ogg, and .csv files for data storage and processing

Additional Hardware Requirements:

- Microphone: A standard microphone (either built-in or external) for recording audio

3.Installation guide

To access the project, please click on the link below:

Click here!!! 😊

cihanayindi.com

This link will direct you to the project web page.

If you don't have an account, click here.

4.User Interface Overview

The screenshot shows the login page of the application. At the top, there is a dark header bar with two buttons: 'Giriş Yap' and 'Kayıt Ol'. Below the header, the main content area is titled 'Giriş yap'. It contains two input fields: 'Kullanıcı adı' and 'Şifre'. At the bottom of the form, there is a blue button labeled 'Giriş yap', which is circled in red. A red arrow points from a green text box to this button.

After entering your username and password, click here to log in. (If you want to log in with an admin account, the username is "cihan" and the password is "123".

Figure 1: Log in Interface

The screenshot shows the sign-up page of the application. At the top, there is a dark header bar with two buttons: 'Giriş Yap' and 'Kayıt Ol'. Below the header, the main content area is titled 'Kayıt ol'. It contains several input fields: 'Ad', 'Soyad', 'E-posta', 'Kullanıcı adı', 'Şifre', and 'Şifre tekrar'. At the bottom of the form, there is a blue button labeled 'Kayıt ol', which is circled in red. A red arrow points from a green text box to this button.

Fill in the required details on the sign-up page and click "Sign Up" to create your account.

Figure 2: Sign up Interface

Clicking the microphone icon redirects you to the homepage.

A welcome message is displayed, and you can log out by clicking the "Log Out" button.



Dosyalarımın Ses Ekle

Ses Kaydederek Ekle

Sesleri Görüntüle

Figure 3: Main page Interface

Click here to add audio from your files.

You can add audio data by recording your voice.

Click here to view the audio files.



Ses Dosyası Yükle

İsim

Soyisim

Cinsiyet

Seste Söylenen Kelime

Ses Dosyası (.mp3, .wav, .ogg) Dosya seçilmedi

Figure 4: Upload Audio File Interface

First, select your full name, gender, and the word spoken in the audio, then click here to choose a file from your computer.

Click here to upload the file to the dataset.

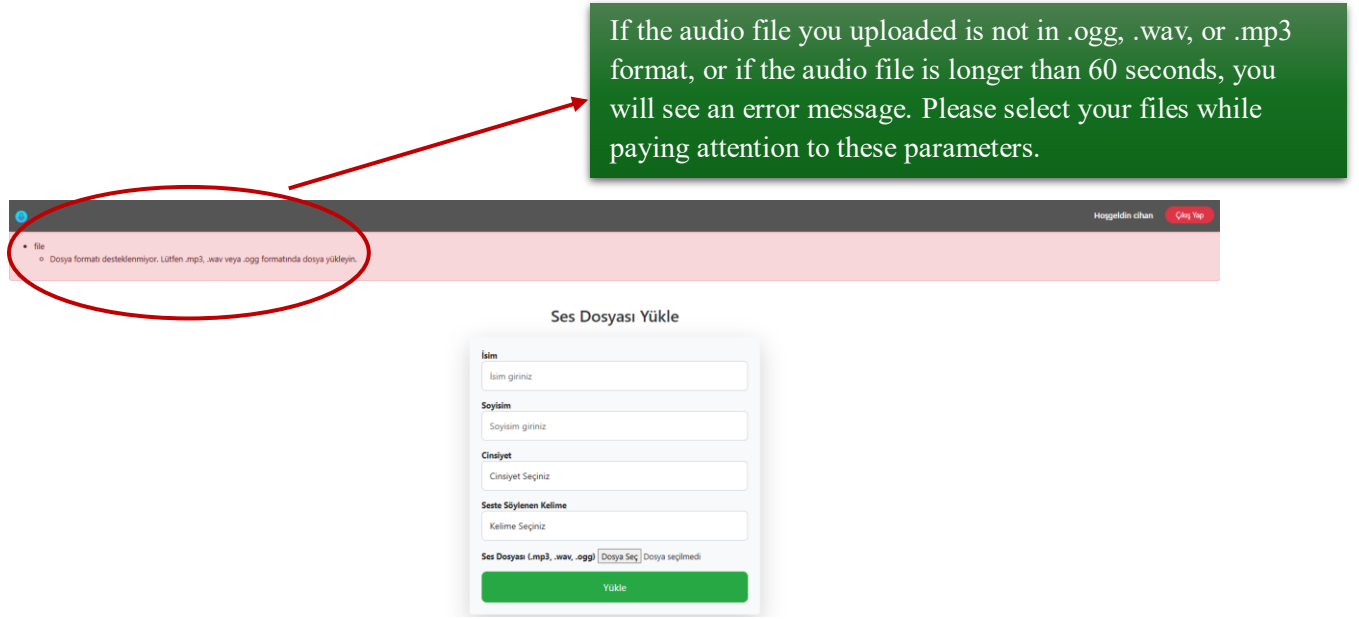


Figure 5: Record Audio Error Interface

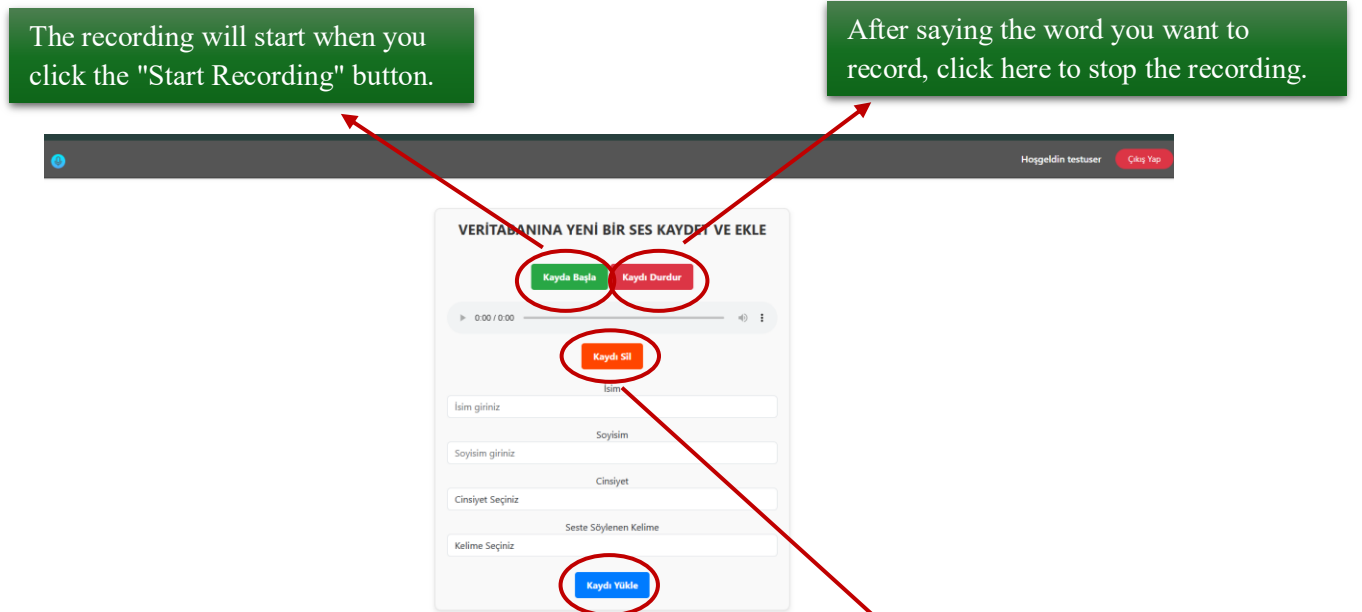


Figure 6: Record Audio Interface



You can filter the audio files by parameters such as the user who created the audio, gender, and the word spoken.

You can download the generated audio dataset to your computer in PDF or CSV format from here.

The screenshot shows the 'Audio Library Interface' with a header bar containing filters for 'Ses Oluşturan Kullanıcı', 'Cinsiyet', and 'Kelime', each with a 'Tümü' dropdown. To the right are 'PDF İndir' and 'CSV İndir' buttons. Below is a table with columns: 'Yükleyen Kullanıcı', 'Sesdeki Kelime', 'Ses Dosyası', 'Uzunluğu', 'Ses Sahibinin İsmi', 'Ses Sahibinin Soyadı', 'Ses Sahibinin Cinsiyeti', 'Eklenme Tarihi', 'Dinle', 'İndir', 'Düzenle', and 'Sil'. The table contains four rows of audio data. Red circles highlight the filter dropdowns, the download buttons, and the action buttons for the first row.

Yükleyen Kullanıcı	Sesdeki Kelime	Ses Dosyası	Uzunluğu	Ses Sahibinin İsmi	Ses Sahibinin Soyadı	Ses Sahibinin Cinsiyeti	Eklenme Tarihi	Dinle	İndir	Düzenle	Sil
cihan	alarm	recording_Ya0bHw.wav	4.0 saniye	cihan	asdad	male	Jan. 9, 2025, 5:37 p.m.				
cihan	istma	recording_MqAdEr.wav	4.0 saniye	Cihan	Ayındı	male	Jan. 9, 2025, 4:13 p.m.				
cihan	aydlatma	omekes.mp3	18.0 saniye	Ahmet	Selami	male	Jan. 9, 2025, 4:12 p.m.				
cihan	oda	recording_gVcBVC.wav	6.0 saniye	Örnek İsim	Örnek Soyisim	male	Dec. 25, 2024, 4:52 p.m.				

Figure 7: Audio Library Interface

From here, you can listen to the audio or download the voices.

From here, you can delete

You can edit the audio file from here.

The screenshot shows the 'Audio Editing Interface' with a modal window titled 'Ses Kaydını Düzenle'. The form contains fields for 'Kelime', 'Sıcaklığı', 'İsim', 'Soyisim', 'Cinsiyet', and 'Erkek'. There are 'İptal' and 'Kaydet' buttons at the bottom. The background shows a table with audio files and their details. A red circle highlights the 'Kaydet' button.

Sesdeki Kelime	Ses Dosyası	Uzunluğu	Ses Sahibinin İsmi
sıcaklık	recording_3XWnCUi.wav	7.0 saniye	mm
aydlatma	recording_yVfVbsx.wav	8.0 saniye	Örnek İsim

Figure 8: Audio Editing Interface

After making the desired changes to the audio, you can save it here. You can update the word spoken, full name, and gender. all fields.

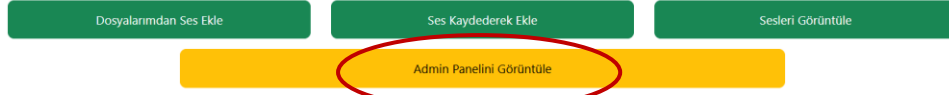


Figure 9: Admin User Interface

If you logged in with an admin account, you can go to the admin panel from here, where you can view the list of admins and users.

Yönetici Listesi				
ID	Kullanıcı Adı	Ad	Soyad	Email
1	cihan			ornek@gmail.com
Kullanıcı Listesi				
ID	Kullanıcı Adı	Ad	Soyad	Email
2	testuser	Örnek İsim	Örnek Soyisim	ornek@gmail.com
3	testuser2	Örnek İsim2	Örnek Soyisim2	ornek2@gmail.com

Figure 10: Admin Dashboard

5.Features and Functionalities

- **Login and Account Creation:** Users can log in securely by entering valid credentials or create a new account. Login is required to access the platform, and users cannot enter without it.
- **Upload Audio Files:** Users can upload audio files to the system and process them within the platform.
- **Record Audio:** Users can record their own voice directly through the platform. The recording process can be initiated with a voice command.
- **Audio Library:** Uploaded and recorded audio files can be viewed and managed by users. These files can be filtered and listed by gender or keywords.
- **Editing Audio File:** Users can edit, trim, and modify their uploaded or recorded audio files.

- **Delete and Download Audio Files:** Users can delete, download, or edit their audio files. Additionally, audio files can be downloaded in PDF or CSV format.

6.Usage Instructions

Login or Create an Account:

- If you already have an account, log in using your username and password.
- If you don't have an account, you can create one by clicking the "**Sign Up**" button in the top-right corner of the page. On the sign-up page, you can create your account by entering your name, surname, email address, username, and password.
- You must log in to access the platform, so ensure your credentials are entered correctly.
- To test the admin panel, use the username "**cihan**" and the password "**123**" to log in as an admin.

Main Interface:

- After logging in, you will be directed to the main interface, which includes a **navbar** at the top and various action buttons on the main screen.
- The **navbar** displays a "Welcome, [username]" message, a logout button, and a microphone icon. The microphone icon redirects users to the homepage at any time.
- The main screen offers the following options:
 - **Upload Audio File:** Upload audio files to the dataset.
 - **Record Audio:** Record and save audio directly on the platform.
 - **View Audio Files:** View, filter, and manage uploaded or recorded audio files.
 - **Access Admin Panel:** Open the admin panel (for authorized users).

Upload Audio File:

- Before uploading an audio file, enter your **full name** (first name and last name) and **gender** in the provided fields.
- Select the **word or phrase** spoken in the audio from the dropdown list.
- Click the "**Choose File**" button to select the audio file from your computer.
- Accepted formats: **.mp3**, **.wav**, and **.ogg**. Files in other formats will trigger an error message, and the upload will not proceed.
- After selecting the file, click the "**Upload**" button to complete the upload process.

Record Audio:

- Before starting the recording, enter your **full name** (first name and last name) and **gender** in the provided fields.
- Click the "**Start Recording**" button to begin recording.
- Click the "**Stop Recording**" button to end the recording.
- Once the recording is complete, fill out the required fields and click the "**Upload Recording**" button to save the audio file to the platform.

View Audio Files:

- This page displays a list of all saved audio files.
- Use the dropdown menus at the top of the page to **filter audio files** by the word spoken, gender, or the user who created the audio.
- Click the **PDF Download** button to export the audio file data in PDF format.
- Click the **CSV Download** button to export the data in CSV format.
- In the list of audio files, you can:
 - **Play:** Listen to individual audio files.
 - **Download:** Save a single audio file to your computer.
 - **Edit:** Update the word spoken, full name, or gender for a specific audio file.
 - **Delete:** Remove the audio file from the platform.

Admin Panel:

- The admin panel provides a list of all registered **admins** and **users**.
- For each user, you can view their **full name**, **email address**, and **username**.
- Admins can monitor user activity but cannot edit or delete user accounts.
- The admin panel is designed for viewing basic user information and managing platform oversight.

7. Troubleshooting and Maintenance

Issue: Unable to Upload Audio File

- **Solution:** Ensure the file is in one of the supported formats: **.mp3**, **.wav**, or **.ogg**. If the format is correct, try re-uploading the file or check your internet connection.

Issue: Audio File Not Playing

- **Solution:** Ensure that the audio file is not corrupted. Try opening the file on another media player. If the issue persists, re-upload the audio file.

Issue: Admin Panel Access Denied

- **Solution:** Ensure you are logged in with an **admin account**. Only admin users have access to the admin panel.

Issue: Audio Editing Not Working

- **Solution:** Ensure that the audio file is selected properly. If editing does not work, refresh the page and try again.

8.References

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