interface requirements:

1. Functional Interface Requirements

. Audio-to-Text Interface

Audio Upload/Recording Button

Allows users to upload audio files (.mp3, .wav, etc.)

Alternatively, allows recording directly via the microphone.

Play/Pause Controls

To review the uploaded or recorded audio.

Speech-to-Text Engine Integration

Connect with APIs like Google Speech-to-Text, Whisper (OpenAI), or IBM Watson.

Text Output Display Area

Editable text box that shows transcribed text.

Download/Copy Options

Buttons to download or copy the text output.

2. UI/UX Requirements

Responsive Design

Adapts to mobile, tablet, and desktop.

Loading Indicators

For long audio/image processing.

Error Handling

Clear messages for unsupported files, timeouts, or API errors.

Accessibility

Keyboard navigable

Screen reader support

Language Selection

Users can select the spoken/written language for better accuracy.

3. Backend/Service Integration Requirements

Secure File Handling

Limit file size and type.

Rate Limiting

|  |  |
| --- | --- |
| streamlit | To build the web UI |

|  |  |
| --- | --- |
| Pillow | To handle image files |

|  |  |
| --- | --- |
| soundfile | To handle audio files |