Healthcare Translation Web App - User Guide & Feature Reference

1. Introduction

The **Healthcare Translation Web App** is designed to bridge communication gaps between patients and healthcare providers by offering real-time multilingual translation. It converts spoken input into text, provides a live transcript, and offers translation with audio playback.

2. Key Features

- **Speech-to-Text Conversion**: Uses AI-powered speech recognition to convert spoken words into text.
- **Real-Time Translation**: Supports multiple languages for seamless healthcare communication.
- **Audio Playback**: The translated text can be played back to aid verbal communication.
- **User Authentication**: Secure registration and login system.
- **Mobile-Friendly UI**: Designed with responsiveness for both desktop and mobile users.
- **Data Privacy & Security**: Ensures user data protection and confidentiality.

3. How to Use the App

Step 1: Login/Register

- New users can register by providing a name, email, and password.
- Existing users can log in using their credentials.

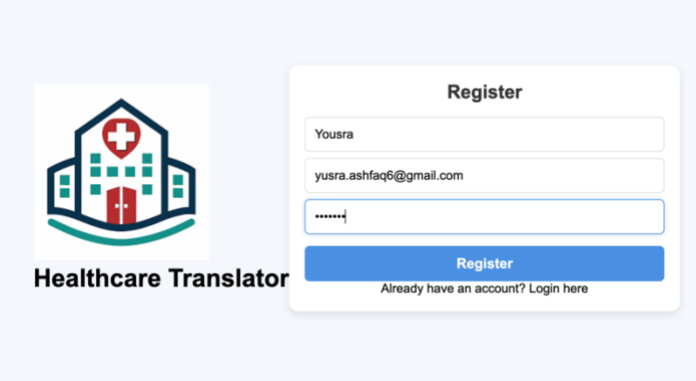

Figure 1 Registration page

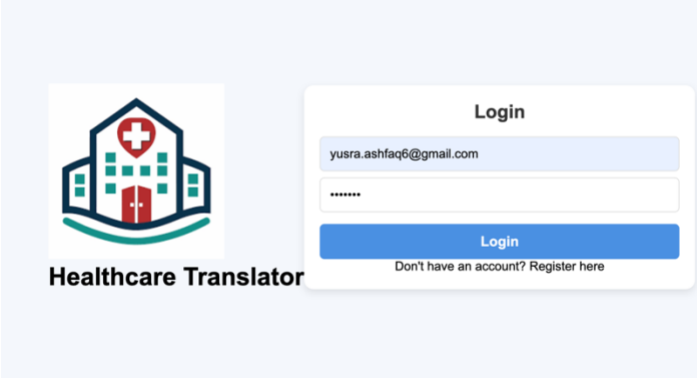

Figure 2 Login page

Step 2: Select Language Preferences

- Choose the input language (spoken language).
- Select the output language (translation target).

Step 3: Speak & Translate

- Click the "🎤 **Speak**" button to start voice input.
- The recognized text will appear in the transcript box.
- Click "**Translate**" to see the translation.
- Use the "🔊 **Play**" button to hear the translated output.

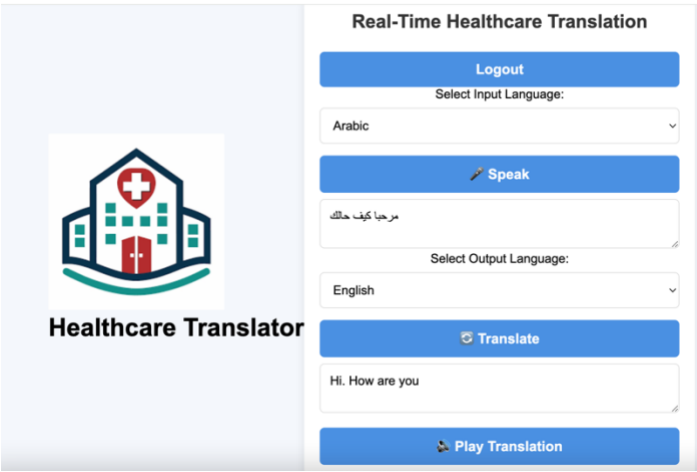

Figure 3 Arabic to English translation

Figure 4 English to French transaltion

Step 4: Logout

- Users can log out securely using the **"Logout"** button.

4. Supported Languages

The app currently supports:

- English (en)
- Spanish (es)
- French (fr)
- German (de)
- Italian (it)
- Arabic (ar)
- Hindi (hi)
- Chinese (zh-CN) *(support may vary)*

5. Technical Implementation

- **Backend**: Flask API hosted on Railway
- **Frontend**: Deployed on Netlify
- **Database**: PostgreSQL for user authentication
- **Translation API**: Uses MyMemory
- **Speech Recognition**: Web Speech API

6. Deployment & Hosting

- **Backend:** Deployed on Railway with a PostgreSQL database.
- **Frontend:** Deployed on Netlify with updated API endpoints.

- **CORS Handling:** Configured to allow requests between Netlify frontend and Railway backend.

7. Known Issues & Future Improvements

Current Limitations:

- Limited language support for certain dialects.
- Some browsers may have speech recognition restrictions.

Future Enhancements:

- **Better Medical Terminology Support**: AI-powered NLP enhancements.
- **Offline Mode**: Allow translation without an internet connection.
- **Expanded Language Support**: Adding more supported languages.
- **Improved UI/UX**: Enhanced accessibility and design improvements.

8. Conclusion

This **Healthcare Translation Web App** simplifies multilingual communication in medical settings. It ensures accurate translations while maintaining a user-friendly interface. Future improvements will focus on expanding language support, refining AI accuracy, and optimizing performance.

For Support & Contributions: GitHub Repository:
[https://github.com/YousraAshfaq/Healthcare-Translation-App]