

Beyond QWERTY: Voice-Enabled Bank Form Application

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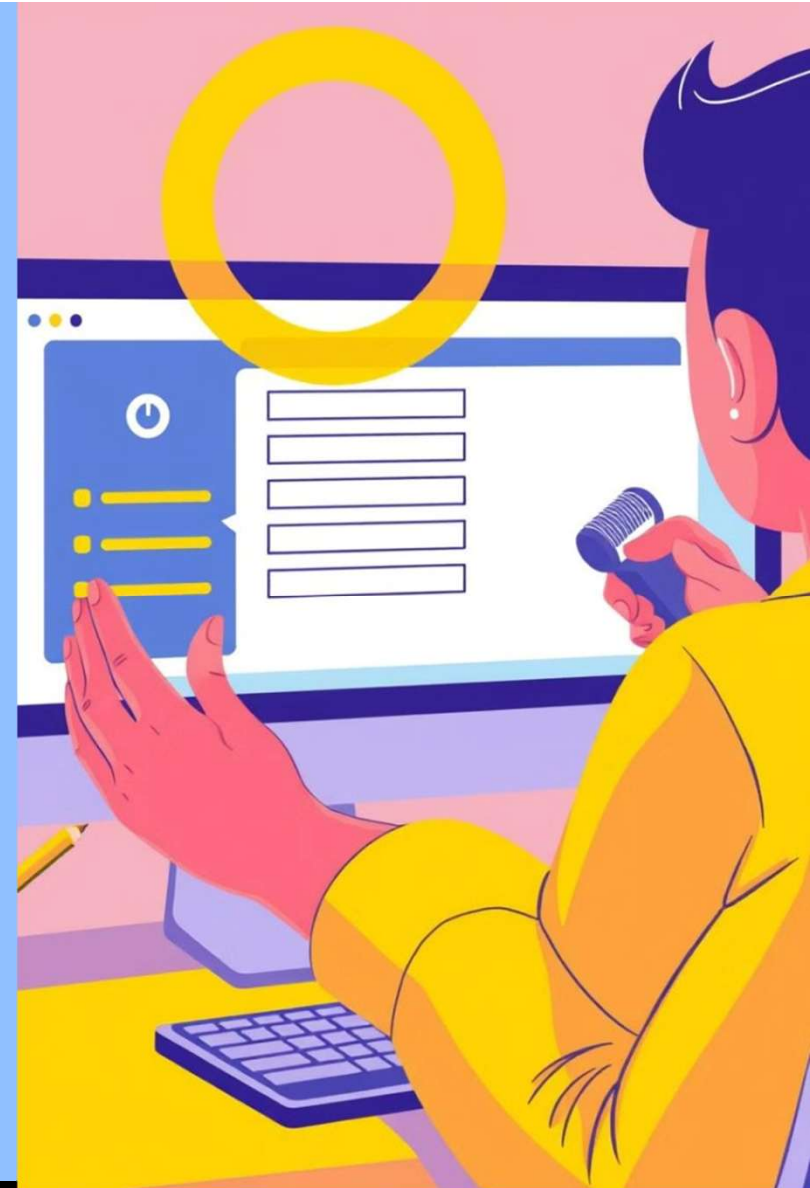
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Problem Statement



Time-Consuming

Manual form filling is slow and inefficient.



Error-Prone

Manual data entry is prone to errors, causing inaccuracies and wasted time.



Accessibility Barriers

Typing challenges hinder access to forms and services for people with disabilities.

Solution Overview



Voice Command Form Filling

Users can fill out forms by voice, reducing typing and errors.



Reduces Errors and Language Barriers

Voice recognition enables natural input, reducing errors and increasing accessibility.



Automatic PDF Generation

The system auto-generates PDFs, ensuring efficient and organized output.

Key Features

Secure Authentication

A robust authentication system ensures the safety and privacy of user data.

Speech Recognition Engine

A powerful engine that accurately converts spoken words into text.

Natural Language Processing

Interprets and understands the meaning of spoken language, allowing for natural interactions.



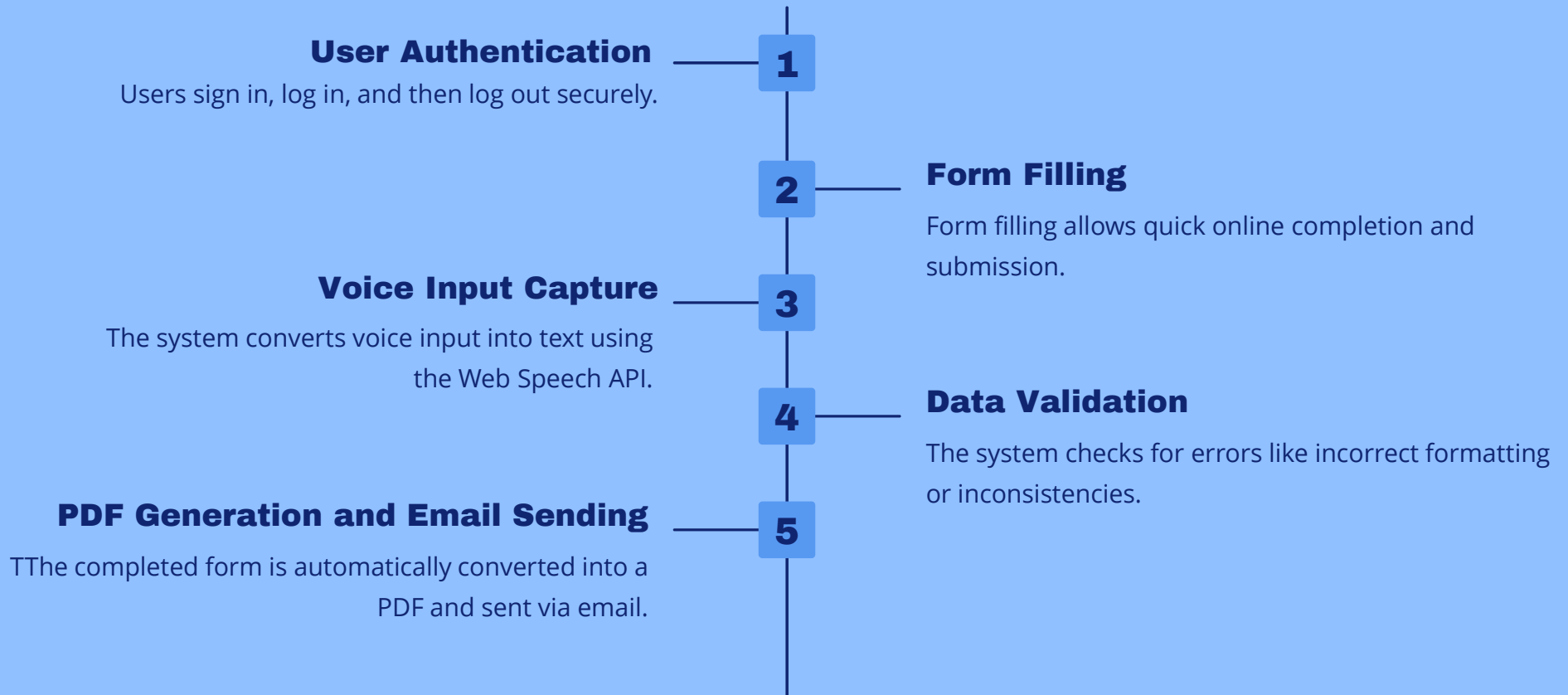
Real-Time Form Validation

Ensures data accuracy by verifying the information as it is being entered.

Automated PDF Generation

Generates PDF files from filled forms, eliminating manual formatting and reducing errors.

Workflow Structure



Technical Implementation

1. Frontend Technologies

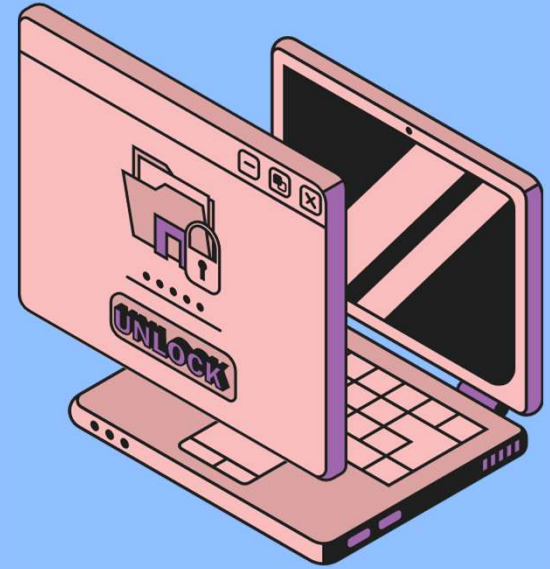
HTML, CSS, and JavaScript create the UI and handle interactions.

2. Backend Technologies

Flask (Python) handles backend processing and data management.

3. Database

Supabase stores user data, form templates, and submissions securely.



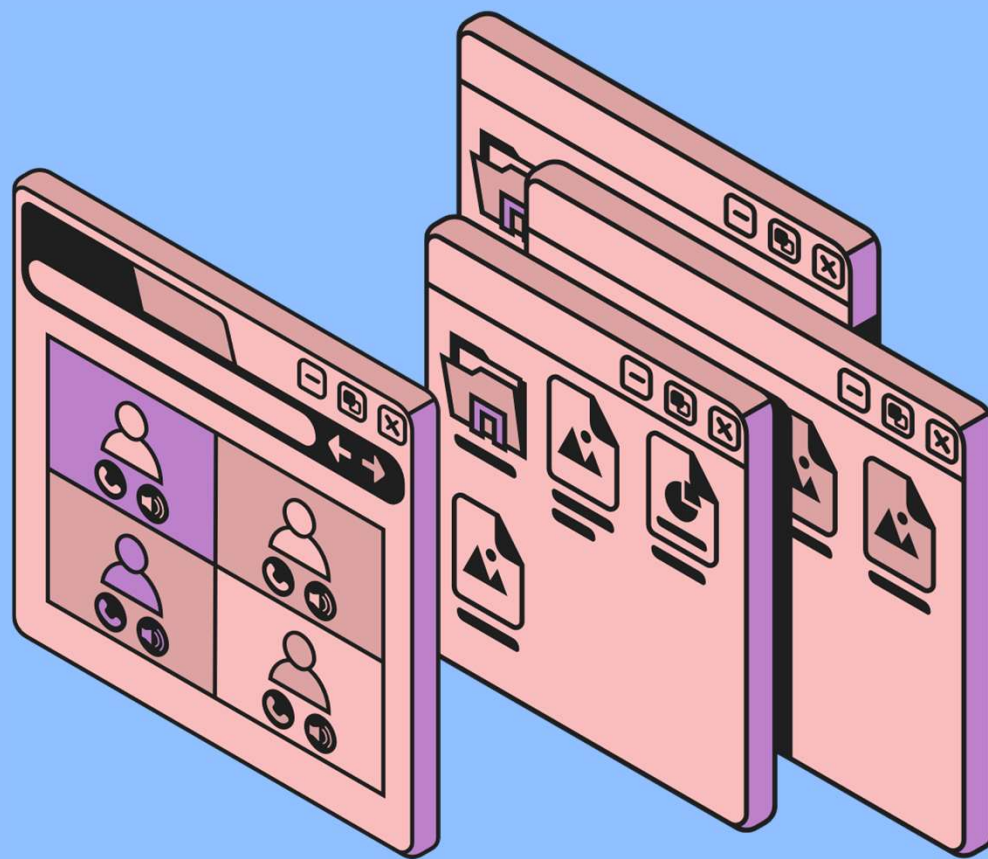
Technical Implementation

4. API

The Web Speech API converts voice input into text.

5. Android Application

A PWA builder is used to create the Android application.



User Authentication Process

1 Login

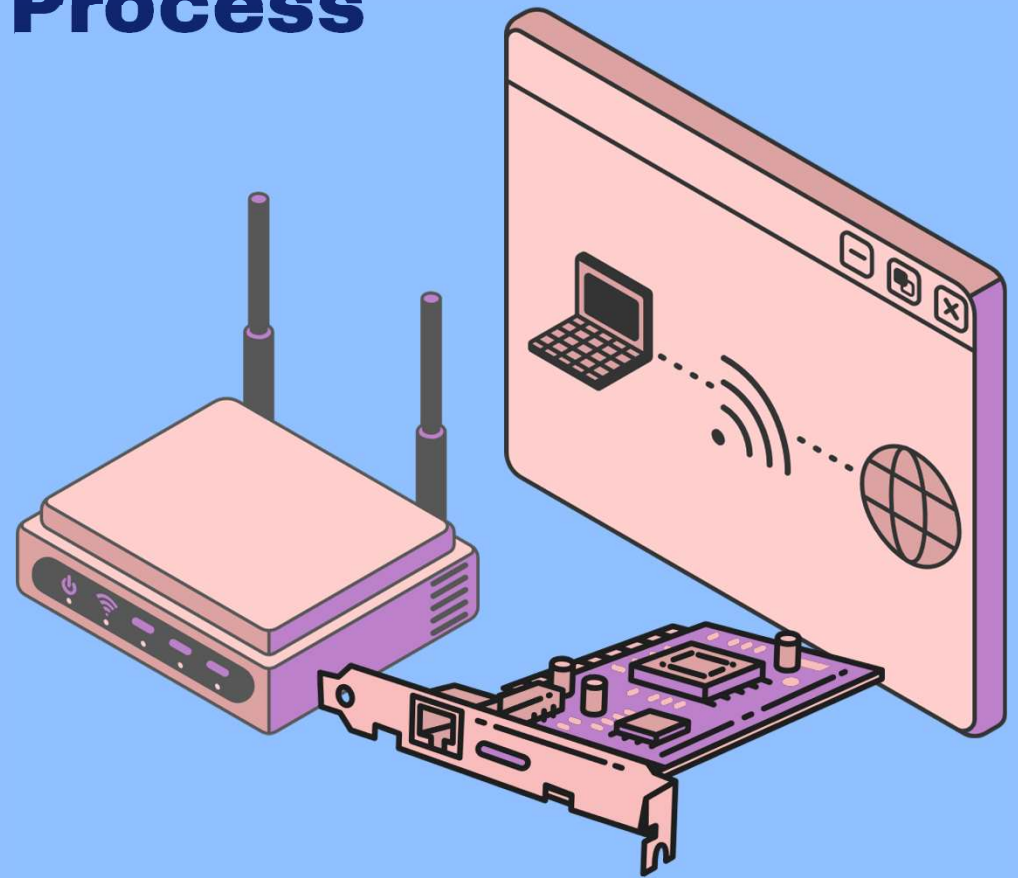
Users authenticate with their username and password.

2 Sign In

Users authenticate to access their accounts and data securely.

3 Session Management

Secure session management protects user data and ensures authorized access.



Voice Input Functionality

Speech Recognition



The app uses speech recognition to convert speech into text.

Language Support



The application supports multiple languages for user convenience.

Noise Cancellation



Noise cancellation ensures accurate transcription in noise.

Impact on Productivity and Efficiency

Time Savings

60%

Voice input speeds up
form completion

Error Reduction

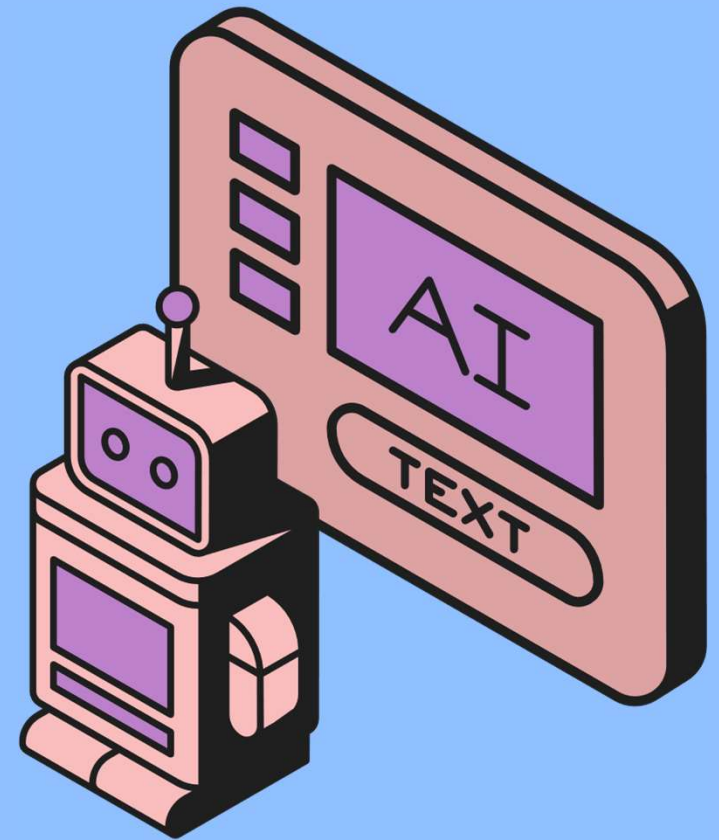
85%

Speech recognition reduces
typing errors

User Satisfaction

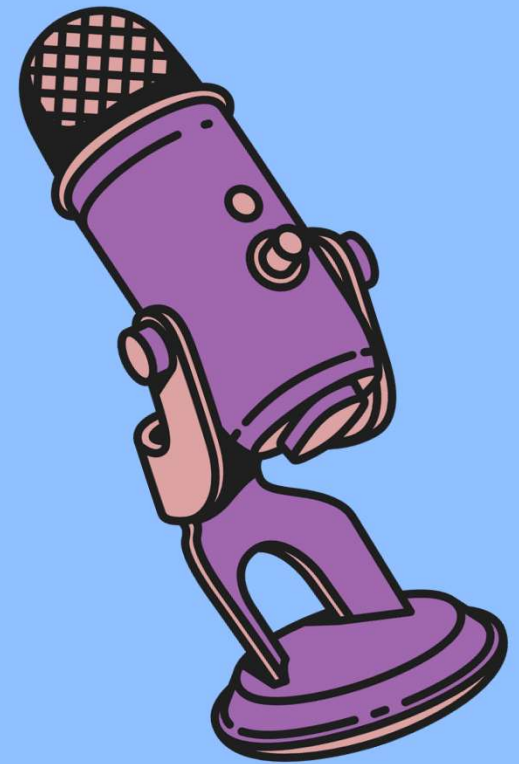
92%

Voice interaction enhances
accessibility and user satisfaction

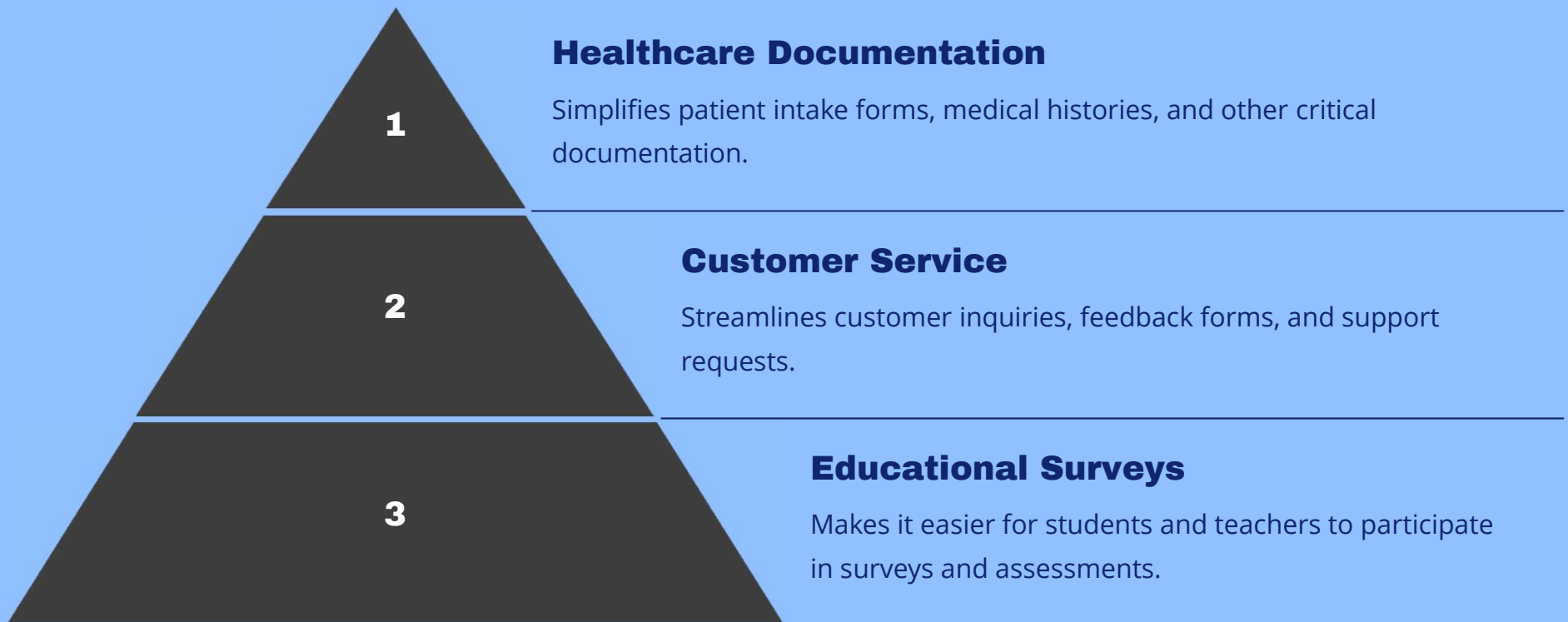


Advantages of the Voice-Enabled Bank Form Application:

- **Faster Form Completion** – Voice input accelerates the process by eliminating manual typing.
- **Error Reduction** – Speech recognition minimizes typing mistakes and incorrect entries.
- **Improved Accessibility** – Voice interaction makes forms accessible to users with disabilities.
- **Enhanced User Experience** – Streamlined, hands-free interaction makes form-filling more convenient.
- **Higher User Satisfaction** – Easier and faster form submission increases overall satisfaction.



Real-World Applications



Future Improvements

1

Adaptive AI Learning

The system continuously learns and adapts to improve speech recognition accuracy and user experience.

2

Expanded Language Support

Support for additional languages and dialects will make the system more inclusive and accessible globally.

3

Personalized User Settings

Users can customize the system to match their preferences, such as voice recognition settings and form layouts.

Project Demo

Voice-Enabled Bank Form

Secure and convenient banking at your fingertips.

Sign Up

Username:

aryan

Email:

aryan@gmail.com

Password:

SIGN UP

By signing up, you agree to our terms and conditions.

Already have an account? [Sign In](#)

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Voice-Enabled Bank Form

Secure and convenient banking at your fingertips.

Sign In

Email:

aryan@gmail.com

Password:

Forgot your password? [Reset Password](#)

SIGN IN

By signing up, you agree to our terms and conditions.

Don't have an account? [Sign Up](#)

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SIGN OUT

BANK APPLICATION FORM

1. Personal Information

First Name

John

Middle Name

Michael

Last Name

Doe

Date of Birth

DD-MM-YYYY

Gender

e.g., Male, Female

Marital Status

e.g., Married, Single

Nationality

e.g., Indian

Mother's Maiden Name

For security purposes

4. Account Details

Type of Account

e.g., Savings, Checking

Initial Deposit Amount (₹)

e.g., 1000.00

Account Purpose

e.g., Savings, Payroll

Mode of Operation

e.g., Single, Joint

5. Nominee Information

Nominee Name

e.g., Jane Doe

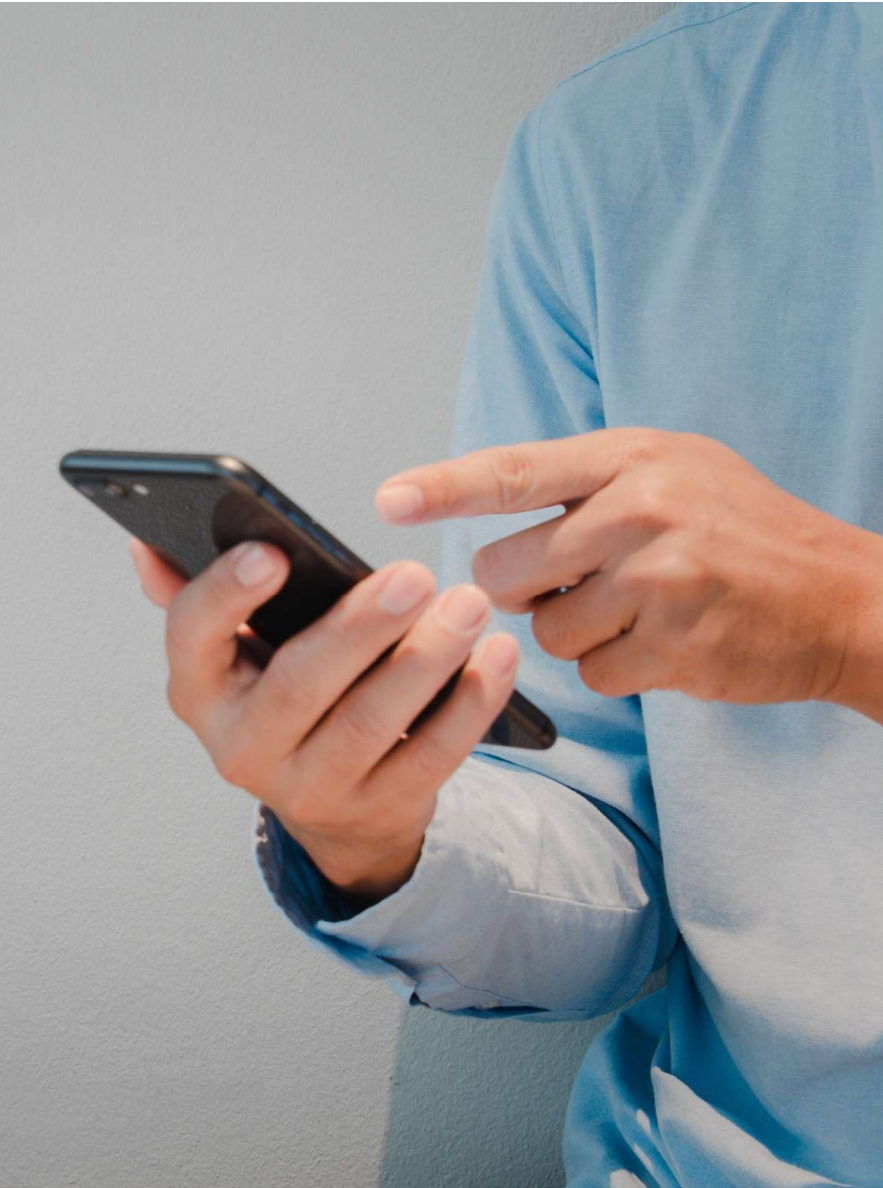
Relationship

e.g., Spouse, Child

Nominee Contact Information

e.g., 9876543210

Submit Application



Conclusion

1

Transformation

Voice-based form filling streamlines data entry, making it faster and more efficient.

2

Productivity

Enhances accuracy, saving time and boosting productivity.

3

Experience

Provides a user-friendly and accessible experience, empowering users to complete tasks with ease.

THANK YOU

