

Echo

Voice Based Email App for the Blind

Group - 9

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Agenda

Motivation

Problem Statement

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Challenges

Motivation

- Improve email accessibility
- Providing an all-in-one user-friendly email solution.
- Improve the quality of life
- Reducing Social Isolation
- Universal accessibility for all users regardless of disability status .
- Leverages the latest advancements in NLP

Problem Statement

- Challenges faced by blind people to access and use email.
 - Email accessibility solutions often lack integration with popular email providers.
 - Existing voice-based email solutions are either limited in functionality or not widely available.
 - A new voice-based email solution is needed to address these challenges and improve email accessibility for people with visual impairments.
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3.67%

that is , about 284 million people are visual impaired .

Solution

- ① voice-based email application that allows users to compose and read emails using voice commands
- ② Use NLP and STT technology to interpret the user's voice commands and generate text-based emails
- ③ User can also listen to incoming emails with the help of text-to-speech technology

4 Integrate with popular email providers to ensure access to existing email accounts

5 User interface will be designed to be simple and intuitive, with large buttons and clear audio feedback.

6 Application will be available for both iOS and Android devices

Literature Review

"A Survey of Automatic Speech Emotion Recognition: Tasks, Methods, and Datasets" by Wenqing Zhao, et al.

"Text-to-Speech Synthesis: A Review" by K. Sreenivasa Rao and K. Satya Prasad.

"Flutter: A Portable Framework for Building High-Performance Mobile Apps" by Eric Seidel, et al.

Yousif, S., Elyas, E., & Salih, M. (2019). A voice-based email system for the blind using natural language processing. *Journal of Computing and Information Technology*, 27(4), 185-194.

- Alapetite, A., Vermeulen, J., & de Graaf, M. (2015). Email access through voice for visually impaired and illiterate people. In International Conference on Computers Helping People with Special Needs (pp. 50-57). Springer.
- Singh, A., Mishra, S., & Goyal, A. (2021). Flutter for cross-platform mobile application development. International Journal of Recent Technology and Engineering, 9(3), 2083-2093.

Existing solutions

- Easy Voice Mail
- Gmail Voice
- HeyMail
- TalkMail
- Hound
- Voiceitt

Objectives

- Develop a voice-based email application that allows users to send and receive emails using voice commands
- Design a user-friendly interface that is accessible to people with visual impairments and easy to navigate using voice commands
- Ensure the application meets the principles of universal design, promoting accessibility for all users regardless of disability status
- Test the application extensively to ensure its reliability, accuracy, and usability.

Project Timeline

01

Research and Planning

Involves gathering information, defining project objectives, and developing a detailed plan for the project.

02

Learning and UI/UX Design

Learning the necessary skills and creating a user-friendly design for the app.

03

Development

Building the app's frontend and backend, integrating APIs, implementing voice commands, and enabling user authentication.

04

Testing and Deployment

Conduct tests, fix bugs, and deploy the app to a production environment.

Phase 1: Research and Planning

2 weeks

- 01 Conduct market research and user analysis
- 02 Define project scope and objectives
- 03 Develop a detailed Software Requirements Specification (SRS) document
- 04 Develop the project plan

Phase 2: Learning and UI/UX Design

2 weeks

01 Learn Flutter basics and Dart programming

02 Learn Flutter plugins for text-to-speech and speech-to-text conversions

03 Develop Wireframes and mockups

04 Review and Refine the app design

Phase 3: Development

6-8 weeks

- 01 Develop the app's frontend and backend
- 02 Develop email retrieval functionality
- 03 Develop Basic email functionalities
- 04 Develop user authentication functionality

Phase 4: Testing and Deployment

1-2 Weeks



Challenges

- Privacy and security
- Voice recognition accuracy
- Including current email systems in the integration
- UX design
- User training
- Providing access to attachments

THANK
YOU