Project Synopsis

Project Group No.: 12

Project Guide Name: Prof B.S. Salve

Name of Students:

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1)Title:

VocalMail: An Accessible Email System for the Visually Impaired

2)Problem statement:

creating an email system that helps even new users or physically impaired people to use the system for communication without any previous practices. The person who is not literate can also send emails as it is based on speech recognition and text to speech. The system is completely based on responsive voice interaction to utilize the technology easy and hassle free manner. The system is well designed to send the mails quickly. There are all the options available to send emails and perform all the functions for the email system.

3)Motivation:

The main motive behind this project is that the user need not to remember the functions on keyboard since all operations will be performed based on voice.

The contribution made by this research has enabled to send and receive voice based e-mail messages in their native language with the help of a computer.

4)Objectives:

1. To enable Blind People to handle mail system.
2. Provide login security with Face detection.
3. Options to add, send, delete, and conduct all of the necessary functions.

4. To implement same framework in different languages.

5)Scope:

- **Enhanced Natural Language Understanding (NLU)**

Contextual Understanding: Develop systems that can understand the context of user queries, enabling more complex email management tasks like searching for emails with specific content, prioritizing emails, or scheduling follow-ups.

Sentiment Analysis: Incorporate sentiment analysis to identify the emotional tone of emails, aiding in prioritizing and managing correspondence.

- **Integration with Other Assistive Technologies**

Smart Home Devices: Integrate voice-based email systems with smart home devices to allow users to manage email using voice commands from anywhere in their home.

Wearable Technology: Explore the potential of voice-based email on wearable devices like smartwatches for increased accessibility and convenience.

- **Advanced Features and Functionality**

Priority-Based Email Management: Implement intelligent systems to prioritize emails based on sender, content, or urgency, helping users manage their inbox more efficiently.

Offline Capabilities: Develop offline functionality to allow users to access and manage emails even without an internet connection.

Enhanced Security: Implement robust security measures to protect sensitive email information from unauthorized access.

6)Literature Survey :

- 1. Paper name :- Voice Email Based On SMTP For Physically Handicapped (May 2021)

Author name :- Sunny Kumar; Yogitha R.; R. Aishwarya

Description :- In the present scenario, everybody needs communication technology to connect with each other. Communication technologies are significant these days for the betterment of social and personal interaction. The combination of technologies with the internet makes communication easy. However, the person who is physically challenged suffered a lot to utilize this technology due to visual and physical difficulties. There are many technologies advancements have come though it is not possible to use like normal users. This paper aims at creating an email system that helps even new users or physically impaired people to use the system for communication without any previous practices. There is no use of keywords, only with the help of mouse actions and voice conversion the email system works. The person who is not literate can also send emails as it is based on speech recognition and text to speech. The system is completely based on responsive voice interaction to utilize the technology easy and hassle free manner. The system is well designed to send the mails quickly. There are all the options available to send emails and perform all the functions for the email system.

2. Paper name :- Human computer interaction(HCI) based Smart Voice Email (Vmail) Application - Assistant for Visually Impaired Users (VIU)

(August 2020)

Author name :- Sherly Noel

Description :- Communication development is creating a revolution in the current digital era. A formal or casual communication is now sent through email. The growth in digital technology has given immense opportunity to visually impaired person. This application is developed to ease the process of email writing not only for visually impaired person but for everyone. Now human voices can also be given as input instead of typing on the keyboard. So, additional skill required for typewriting will not be necessary anymore. This application recognizes user voice and performs

comparisons with pre-sample voice stored in the database and executes the voice command. Common day-to-day spoken words are used as command language. It focuses on reducing the load incurred in human memory. The proposed work aims to develop a mechanism which converts Speech To Text (S TT) for email composing and also converts Text To Speech (TTS) for reading emails. Google web kit API (Application Programming Interface) is used in this application for speech recognition. Investigations made on the application proves its effectiveness by delivering a better performance when compared with the various parameters like audible distance, accent, pace, words per minute (WPM), accuracy, and homophone words. The graphical analysis depicts the accuracy in terms of word recognition.

3. Paper name :- Dynamic AI based Email Voice Assistant for Web Services (2022-03-25)

Author name :- K. G Maheswari; R. Meenakshi; G NaliniPriya; K Anandasayanam; B Hariram; G Maheswara Pandian

Description :- In recent years, voice assistant has shown significant process and its potential is growing. And billions of devices that incorporates them in domestic nowadays. Then, to communicate with one another, Email is one of the most prevalent way. In this paper, we are targeting to establish an AI based email voice assistant system. The voice assistant listens to the user's voice input and converts it as a text and then sends it as an email message to the recipient. Firstly, we have to provide user's email id and its Gmail account's password to authenticate and this can be executed using Python in PyCharm community IDE. SMTP is the most common and popular protocol of email which means Simple Mail Transfer Protocol. It is used for transmitting email from one account to other over the internet. Protocol means a list of instructions that validate

and manage the transfer of email and also it pushes the message from client to the server. MTA (Message Transfer Agents) is the client which should be present in the system to send and receive mail.

4.Paper name :- Design, development and implementation of a voice email system using next generation networks technology - a case study

(November 2022)

Author name :- G.S.V.R.K. Rao; E. Siew

Description :- More companies build the next generation networks for developing applications, it gives birth to more solutions and products for the needs of the market. The voice email system is definitely one of them and it becomes another trend for the technology savvy users. The voice email system becomes a starting point of the voice browsing technologies over the phone where there is a wide spreading of applications and services from different areas, such as stock trading and voice conferencing .

7)Feasibility study :

Technical Feasibility

Objective:

- Assess the technical requirements and capabilities needed to implement the project components.

Conclusion: The project is technically feasible with current technology, though it will require expertise in AI, IoT, and blockchain technologies.

Economic Feasibility

Objective:

- Determine the cost-effectiveness and financial viability of the project.

Conclusion: The project is economically feasible if the initial investment is justified by the long-term cost savings and revenue generation potential.

Operational Feasibility

Objective:

- Evaluate the practicality of implementing and operating the system within the current organizational structure.

Conclusion: Operational feasibility is high, provided there is a clear implementation plan, sufficient training, and ongoing support.

Schedule Feasibility

Objective:

- Assess the project's timeline and the likelihood of meeting deadlines.

Conclusion: The proposed timeline is feasible, given adequate resource allocation and efficient project management.

8)List of required hardware and software:

software

Coding Language : python

IDE : spyder

Software : Anaconda nevigator

Hardware

Processor : Pentium –IV

Speed : 1.1 Ghz

RAM : 512 MB(min)

Hard Disk : 40 GB

9)System Overview -proposed system and expected outcome:

In our system we make other modules like ,

1. Registration (Face Capture)

2. login(Face authentication)

3.Delete Mail

4.Compose mail

5. Read mail , Count Total Mail , Count Unseen mail.

• We give more functionality for handicapped Person Or blind Person and In this project used for face authentication Or authentication By using Haar Cascade algorithm. That system through they easily doing their work.

• They don't need other people for doing their work.

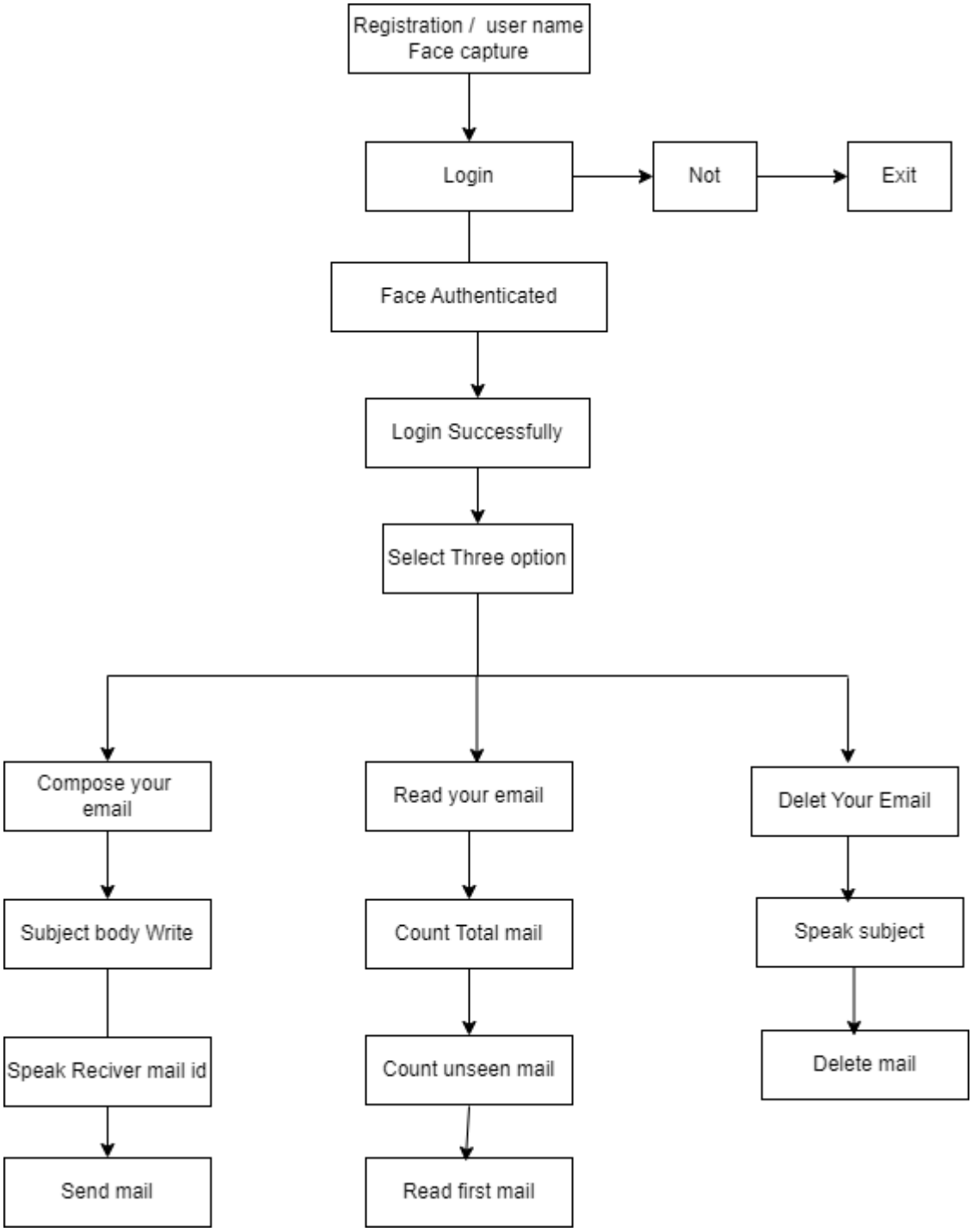
• This system make handicapped person independent for doing this work.

The system uses IVR (interactive voice response) in order to interact with the users.

When the users interact with the system it will automatically generate the voices to do the actions.

The present proposed system is completely based on the user's accessibility and easiness of the email system.

10)Architecture and initial phase of design(DFD)/UML:



11)References:

1) Conferencing, Paging, Voice Mailing via Asterisk PBX – Ale Imran and Mohammed A. Qadeer [2019]
2) • Finding with the design of a command- based speech interface for a voice mail system -S,Gamm and D.Langmann [2018]
3) • Design and implementation of voice mail in IP telephony based on Mediastreamer2- Xu Yue and Xu Bing[2021]
4) • On the integration of MPEG-4 video streams with voice and email data packet traffic over wireless picocell networks- P. Koutsakis, S. Psychic and M. Paterakis[2001]
5) • Performance analysis of Voice message service in CDMA cellular systems"- Song Liu, Zhisheng Niu and Dawei Huang [2020]

Approved by,

Name of Guide and Sign

Prof. B.S.Salve

Date: / / 2024

Place: Pune