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Voice based E-Mail System

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Abstract: ***The development of computer systems has made communication much simpler. Many communication features, like texting and voice calling, are available on a mobile device. We have put forth a system that will benefit people with physical disabilities. This utility allows voice to text conversion as well as text to voice conversion. With the help of this technology, we won't be able to access anything at all using keyboards—we'll only be able to utilise speech and mouse clicks. This system is also accessible to the average individual for reading purposes. It is easy to use and effective as well.***
Keywords: ***Google API, microphone, Mouse click event, IVR (Interactive voice response), speech to text convertor,***

I. INTRODUCTION

The development of the internet has simplified life.The internet is used for almost all activities; without it, work cannot be done. The internet has made communication easier by providing a variety of tools like Facebook, WhatsApp, Skype, and other platforms.We have adjusted our communication style.In this project, speech to text conversion is used so that during chat or texting, the user can utter anything and it will instantly be converted to text.There are some situations in which users are unable to type or text; in those specific situations, this system would be highly beneficial. Using a microphone, the system records speech during runtime and analyses it to identify the pertinent text. We'll type this text in

II. OBJECTIVES

To upgrade technology.

1) To offer a reliable and effective alternative technique.
2) To develop an application that helps people to send emails and document files easily.

III. LITERATURE SURVEY

In this section, we present the detailed literature survey of the present similar techniques. [1] A voice based email architecture is proposed which will help blind people to access email. The existing system is not user friendly for blind people as it does not give any audio feedback to readout contents for them. The proposed system makes use of Speech Recognition, Interactive Voice Response and Mouse Click events. Also, for additional security purposes voice recognition is used for user verification This is done through voice commands. [2] Proposed the system that relies on a voice command based system unlike the existing mail system. The complete system is primarily based on speech to text commands. This application makes use of IMAP (Internet Message Access Protocol). The Main activity Screen will be the First screen to be displayed on start of the app. This screen waits for the user to press the button so that the system will start accepting voice commands. And this is a full sized button so they can press anywhere on the screen. Then using Voice commands users can send, read emails. [3] The system uses mainly three technologies: Speech to text, Text to Speech, Interactive Voice Response. When the user visits the site for the first time he/she would need to register through voice commands. Also after registration, the user's voice will also be recorded and stored in the database. And the user will get an Id and password. After login, the user can access the mail option. In this system. The user interface is designed using Adobe Dreamweaver CS3. The complete website mainly focuses on efficiency in understanding. Also there is a contact us page where the user.

IV. SYSTEM MODELING

The application is web based and uses Interactive Voice Response (IVR) technology. Users manage their email accounts using commands only. Basic tasks include reading, emailing, and other tasks. The system guides the user with voice commands and the user responds verbally. Its biggest advantage is that the use of the keyboard is completely eliminated. In this system, there are two modes admin and user, in this system we will send emails using the microphone and give different types of commands such as read, reset, repeat, delete and we will use the system to add new information. We can use this system to convert text to speech and speech to text

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A. Block Diagram

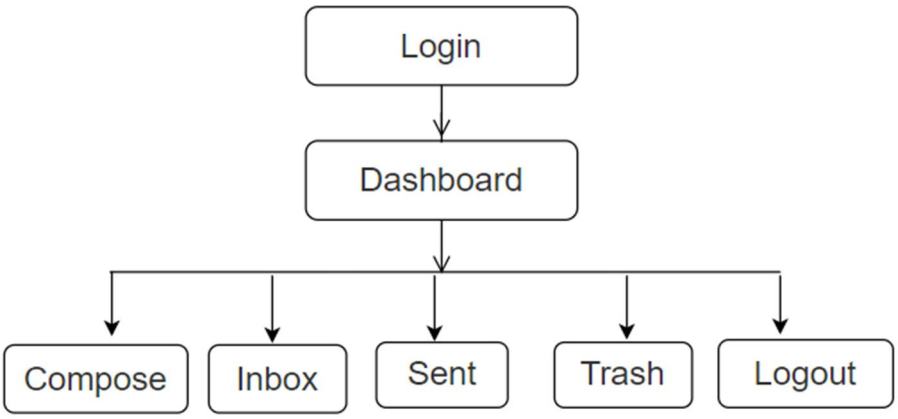


Fig. Block Diagram

B. Description of Programming Languages

1) Python: It is a general-purpose coding language which means that, unlike HTML, CSS, and JavaScript, it can be used for other types of programming and software development besides web development. Additionally, Python is widely utilized in various domains, including Natural Language Processing (NLP) and Artificial Intelligence (AI).

2) NLP (Natural Language Processing): Natural language processing (NLP) refers to the branch of computer science—and more specifically, the branch of artificial intelligence or AI—concerned with giving computers the ability to understand the text and spoken words in much the same way human beings can.

3) Flask: Flask is a micro web framework written in Python. It is classified as a microframework because it does not require particular tools or libraries.

4) Django Framework: Django is a high-level Python web framework that encourages rapid development and clean, pragmatic design. It follows the "batteries-included" philosophy and includes many built-in features for web development, making it suitable for building complex, database-driven websites and applications.

5) Artificial Intelligence: Artificial Intelligence (AI) involves the development of computer systems that can perform tasks that typically require human intelligence. Python is a popular choice for AI development due to its simplicity, versatility, and extensive libraries and frameworks tailored for machine learning, deep learning, and other AI applications.

C. Description of Libraries use

1) Numpy: NumPy, which stands for Numerical Python, is a library consisting of multidimensional array objects and a collection of routines for processing those arrays. Using NumPy, mathematical and logical operations on arrays can be performed.NumPy is a Python package. It stands for ‘Numerical Python’. It is a library consisting of multidimensional array objects and a collection of routines for processing of array.

2) Pandas: Pandas is an open source Python package that is most widely used for data science/data analysis and machine learning tasks. It is built on top of another package named Numpy, which provides support for multi-dimensional arrays. As one of the most popular data wrangling packages, Pandas works well with many other data science modules inside the Python ecosystem, and is typically included in every Python distribution, from those that come with your operating system to commercial vendor distributions like ActiveState’s ActivePython.

3) Matplotlib: Matplotlib is a plotting library available for the Python programming language as a component of NumPy, a big data numerical handling resource. Matplotlib uses an object oriented API to embed plots in Python applications.

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D. Implementation

Utilize a speech recognition API or library to convert spoken words into text. Popular options include Google Cloud Speech-to-Text, Microsoft Azure Speech Services, or open-source libraries like Mozilla DeepSpeech. Integrate with an email service provider's API (e.g., Gmail API, Outlook API) to send and receive emails programmatically.Develop functions to compose, send, receive, and manage emails based on user commands. Design the system to handle a large number of concurrent users and scale as the user base grows.Optimize performance to minimize latency and ensure a smooth user experience.

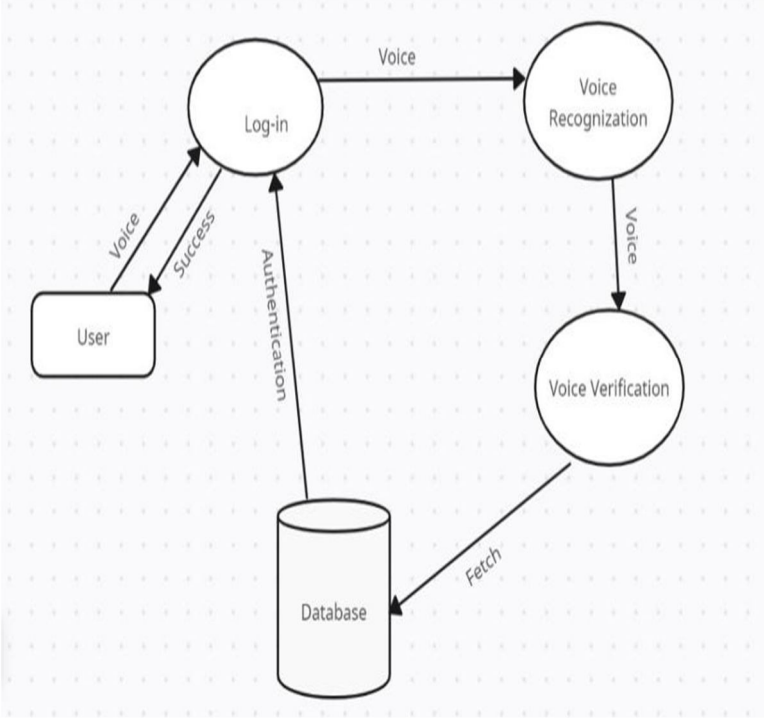


Fig.1 database connectivity

E. Project Outcome Image

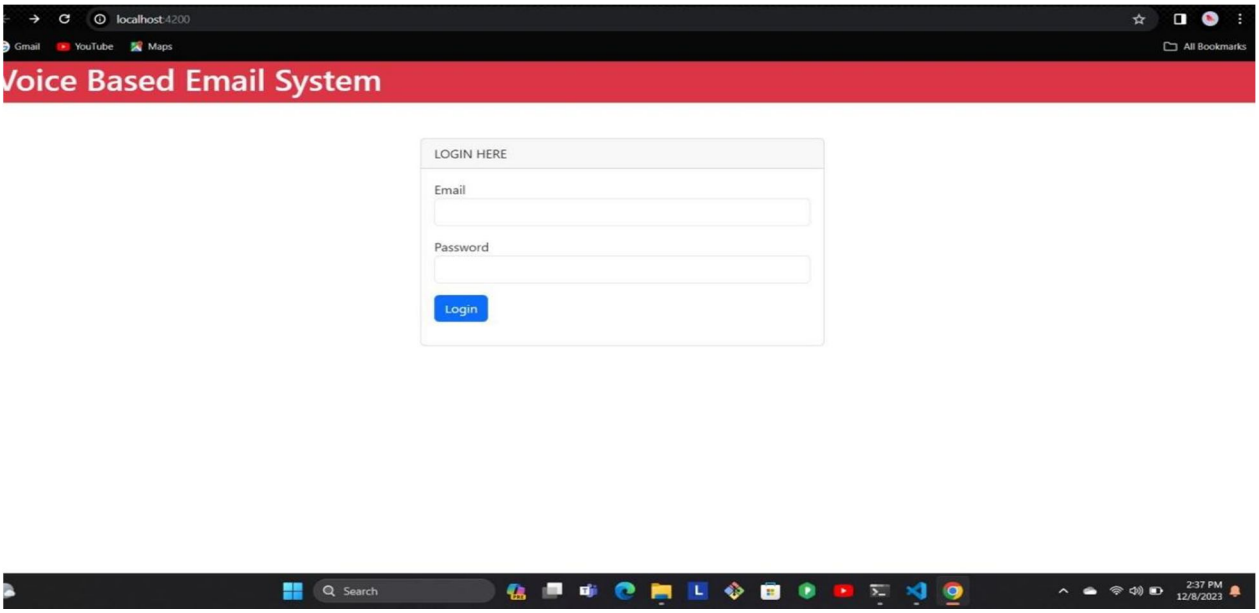


Fig. Login Page

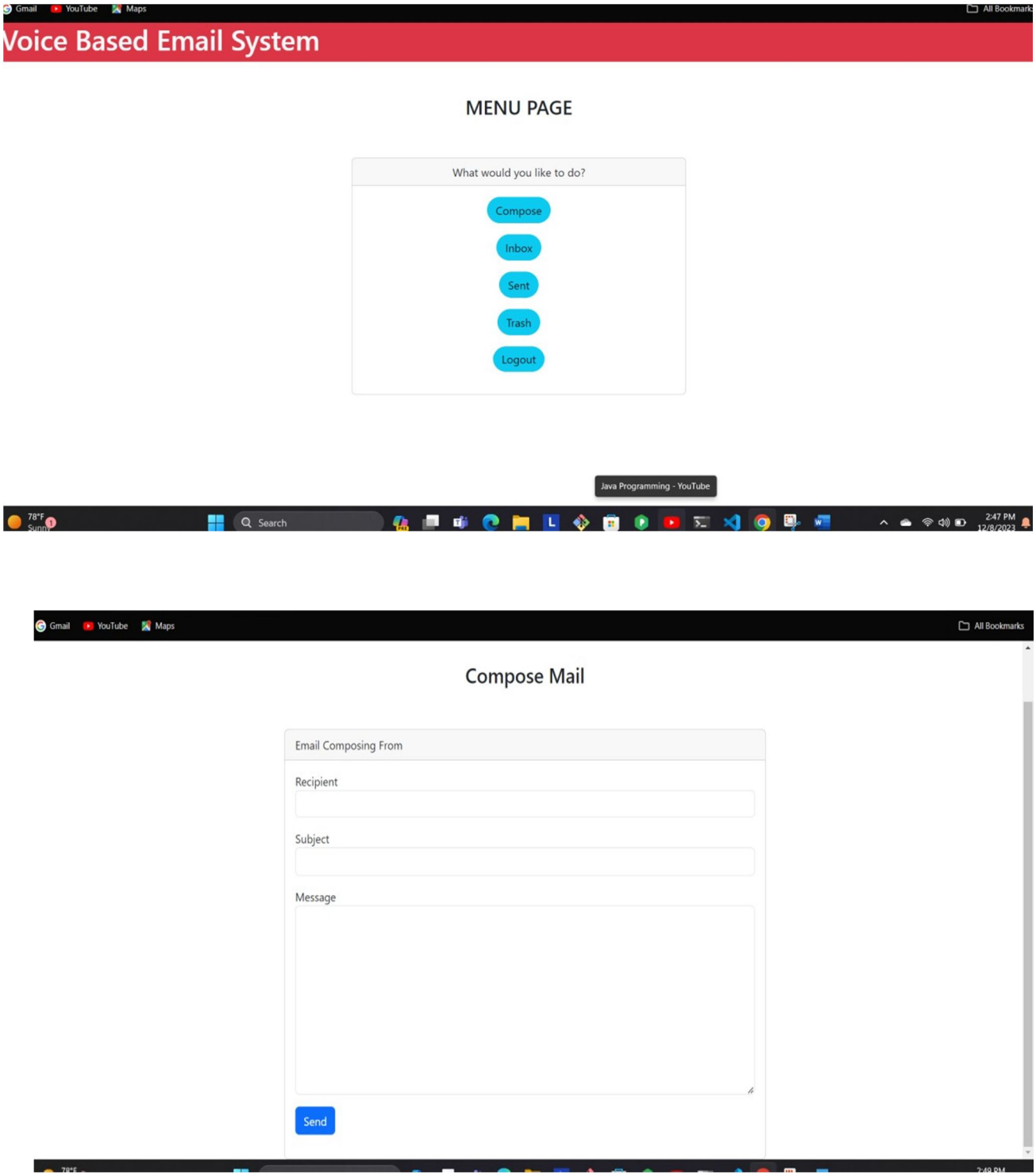


Fig. Compose Mail

V. CONCLUSION AND FUTURE SCOPE

A. Conclusion

In this study, we proposed a new system helps to develop an voice based application that helps people to send emails and document files easily. This application provides a voice based mailing service where they could read and send mail on their own, without any guidance. Here the users have to use certain keywords which will perform certain actions for e.g. Send emails, document files.

B. Future Scope

1) We propose a new system to help develop voice-based applications that help people send emails and simple documents.

2) We are also studying different algorithms to provide better security

3) We hope to provide more and more easy user accessibility.

VI. ACKNOWLEDGEMENT

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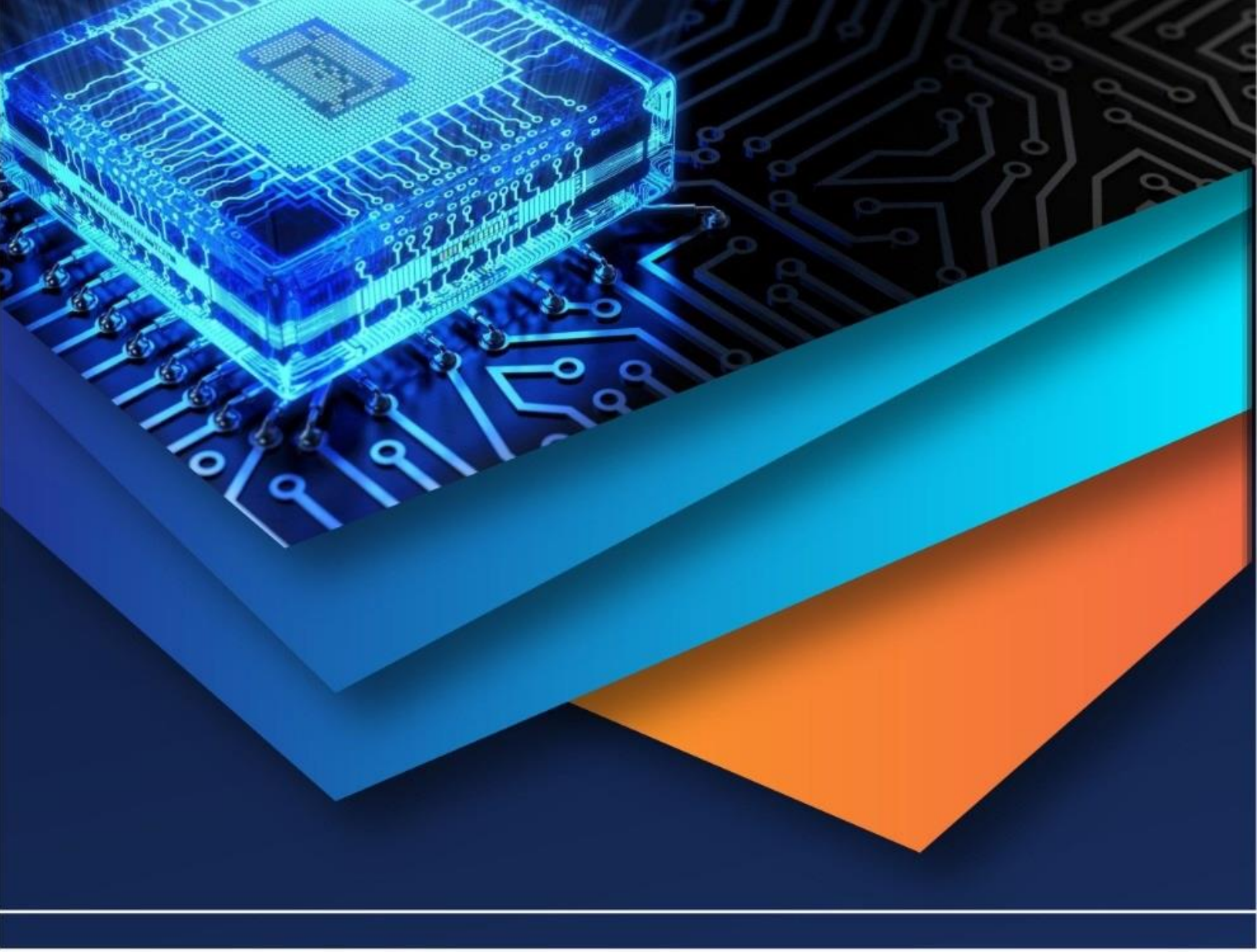
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