ABSTRACT

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.

The main features of this project are:

• Minimal typing

• Implementing voice command

• Useful for blind users

• Ease of use

• Faster writing

• Multi-tasking

• Helpful to make meeting transcripts

• Easier to take notes

REFERENCES

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CHAPTER 1

INTRODUCTION

1.1 GENERAL INTRODUCTION

Nowadays everybody is connected to the internet. It is an inseparable part of our life. It contains all the information of individuals and day to day history. Communication and interaction are possible mainly through the internet. Out of many technologies Email is the most common way of communication primarily for business and educational perspective. Although not all use net and have access. This is due to lack of facilities, knowledge and money. The users should have vision to see and read the screen. For the physically and visually challenged people net is like a useless and unfamiliar thing. However, there are technologies like TTS (text-to-speech), and ASR (automated-speech recognition) screen readers, but they do not provide full accuracy and efficiency to the impaired people to use the internet. As communication is needed in everyone's life, net facilities should be available for everyone.

1.2 GOAL OF THE PROJECT

This project is based on voice email which will help impaired people to communicate. Even the naïve users can access and send emails to anyone. It is completely based on the voice response. There is no prior knowledge required to use this. Everything is automatically prompting the only thing is to give the responses of the voices to perform the actions.

CHAPTER 2

LITERATURE SURVEY

2.1 STUDY OF SIMILAR WORK

There are lots of research works and prototypes available for voice assistant e-mail services but there is an unavailability for providing such services as commercial application and mostly done through by using the accessibility feature of corresponding operating system.

2.1.1 EXISTING SYSTEM

According to Email Statistics Report, 2014-2018 by a technology market research firm Palo Alto, CA, USA, there are a total of 4.1 billion email accounts created until 2014 to over 5.2 billion accounts in end of 2018 and making it one of the most used form of communication. The research, by the Vision Loss Expert Group (VLEG), shows that worldwide 253 million people are either blind or visually challenged that is, around 253 million people are not aware of how to use Internet or E-mail. Existing systems of today are basically applications that provide accessing of emails benefits to its users via web facilities. Making email widely used communication form. The existing systems do not support any voice commands or audio facilities and therefore it is not suitable for visually challenged people.

2.1.2 DRAWBACK OF EXISTING SYSTEM

- Lack of a good Graphical User interface.
- Only applications are available.
- There is an unavailability of generalized applications.

CHAPTER 3

OVERALL DESCRIPTION

3.1 PROPOSED SYSTEM

There can be many proposed systems for the above problems. The present proposed system is completely based on the user's accessibility and easiness of the email system. It is completely useful for both types of people whether they are able or disable. The current system is not available for both types of people in the market. This system is focused on the user's behaviour and their perspective view. It is accessible to all types of people including illiterate people and even new users. The system uses IVR (interactive voice response) in order to interact with the users. It makes the system realistic and natural way to impart the messages and feelings.

3.2 FEATURES OF PROPOSED SYSTEM

The feature of proposed system comes when the users interact with the system it will automatically generate the voices to do the actions. There is a step by step process to perform the actions. The users have to hear the voices and respond for the desired actions. The main advantage of the system is that there is no application of multiple keywords, only tab button operation is required. Once the system is started every step is voiced based the users have to wait and respond for the desired actions. The users do not have to worry to have the single key operations. Every functionality is voiced based if one action is performed it conveys the message of completion to the users.

3.3 FUNCTIONS OF PROPOSED SYSTEM

1. Real Time Voice Assistant For Composing Mail
2. Sending Email
3. To Confirm The Intended Mail Credentials With The Help Of Voice Assistant
4. Simplistic GUI Interface

3.4 REQUIREMENTS SPECIFICATION

1. Accuracy

The proposed system should be accurate on generating results based on given inputs.

2. Speed

The proposed system should be in real time for generating results.

3. Flexible

The proposed system should be flexible to new updates and patches in near future.

4. Good Interface

The proposed system should maintain good interface even after upgradations.

3.5 FEASIBILITY STUDY

Feasibility Study in Software Engineering is a study to evaluate feasibility of proposed project or system. Feasibility study is one of stage among important four stages of Software Project Management Process. As name suggests feasibility study is the feasibility analysis or it is a measure of the software product in terms of how much beneficial product development will be for the organization in a practical point of view. Feasibility study is carried out based on many purposes to analyse whether software product will be right in terms of development, implantation, contribution of project to the organization etc. In our proposed system the product is feasibility can be achieved in all four aspects Technical Operational, Economical and Behavioural.

3.5.1 TECHNICAL FEASIBILITY

In Technical Feasibility current resources both hardware software along with required technology are analysed/assessed to develop project. This technical feasibility study gives report whether there exists correct required resources and technologies which will be used for project development. Along with this, feasibility study also analyses technical skills and capabilities of technical team, existing technology can be used or not, maintenance and

upgradation is easy or not for chosen technology etc. In this proposed system technical feasibility is achieved according to above criteria.

3.5.2 OPERATIONAL FEASIBILTIY

In Operational Feasibility degree of providing service to requirements is analysed along with how much easy product will be to operate and maintenance after deployment. Along with this other operational scopes are determining usability of product, determining suggested solution by software development team is acceptable or not etc. The Operational feasibility can be ensured by the proposed system.

3.5.3 ECONOMICAL FEASIBILITY

Economic feasibility the most important and frequently used method for evaluating the effectiveness of the proposed system. It is very essential because the main goal of the proposed system is to have economically better results along with increased efficiency. Cost benefit analysis is usually performed for the expected from the proposed system. Since the organization is well equipped with the required hardware, the project was found to be economically feasible and the users who possess a device supports Windows operating system can easily use it.

3.5.4 BEHAVIOURAL FEASIBILITY

The proposed system satisfies behavioural feasibility because the system is providing with good and minimalistic GUI which can easily be understand for any end users and it’s encapsulates the conversion procedure from the users. Hence it’s easier to operate the system with ease.

CHAPTER 4

OPERATING ENVIRONMENT

4.1 HARDWARE REQUIREMENTS

1. Processor: Dual Core 1.60 GHz or higher
2. Hard disk: 500 GB
3. RAM: 4GB
4. Monitor: 17" Colour Monitor
5. Mouse: Microsoft
6. Keyboard: Microsoft multimedia keyboard

4.2 SOFTWARE REQUIREMENTS

1. Operating System: Windows 8.1 Pro or higher
2. Framework: Microsoft .Net Framework
3. Environment: PyCharm Community Edition 2022.2
4. Language: Python 3.10
5. Documentation: Microsoft Word 2010 or higher

4.3 TOOLS AND PLATFORMS

4.3.1 PYCHARM

PyCharm is a dedicated Python Integrated Development Environment (IDE) providing a wide range of essential tools for Python developers, tightly integrated to create a convenient environment for productive Python, web, and data science development.

4.3.2 PYTHON 3.10

Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together.

Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance.
Python supports modules and packages, which encourages program modularity and code reuse. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

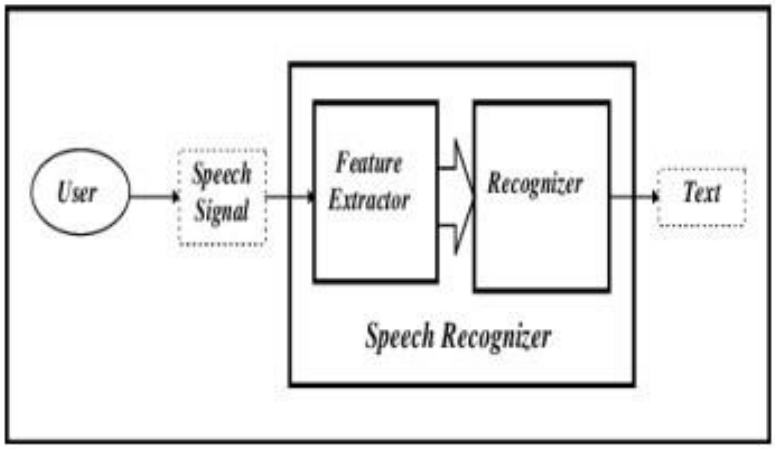
4.3.3 TKINTER

The tkinter package (“Tk interface”) is the standard Python interface to the Tcl/Tk GUI toolkit. Both Tk and tkinter are available on most Unix platforms, including macOS, as well
as on Windows systems.
Running python -m tkinter from the command line should open a window demonstrating a simple Tk interface, letting you know that tkinter is properly installed on your system, and also showing what version of Tcl/Tk is installed, so you can read the Tcl/Tk documentation specific to that version.
Tkinter supports a range of Tcl/Tk versions, built either with or without thread support. The
official Python binary release bundles Tcl/Tk 8.6 threaded.

4.3.4 SPEECH RECOGNITION

Speech recognition is a machine's ability to listen to spoken words and identify them. You can then use speech recognition in Python to convert the spoken words into text, make a query or give a reply. You can even program some devices to respond to these spoken words. You can do speech recognition in python with the help of computer programs that take in input from the microphone, process it, and convert it into a suitable form.

Speech recognition seems highly futuristic, but it is present all around you. Automated phone calls allow you to speak out your query or the query you wish to be assisted on; your virtual assistants like Siri or Alexa also use speech recognition to talk to you seamlessly.



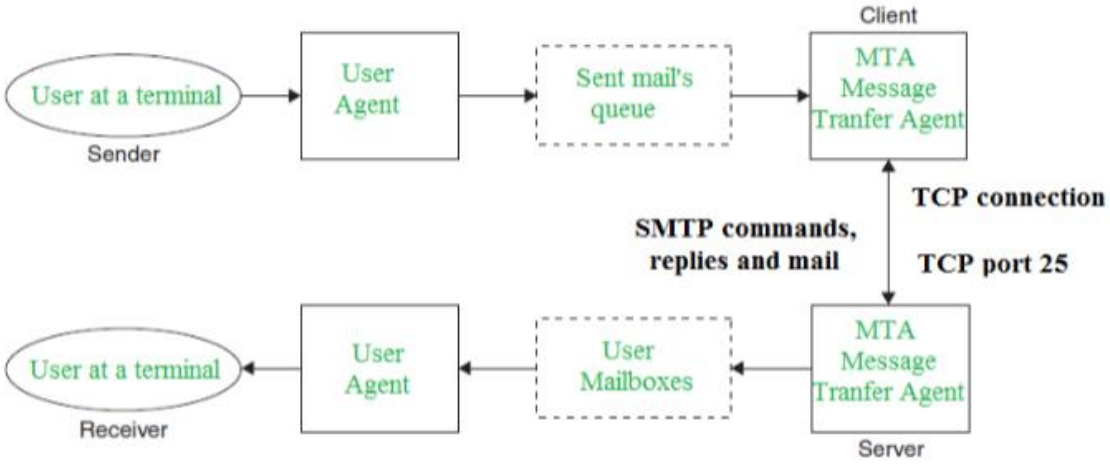
4.3.5 PYTTSX3

pyttsx3 is a text-to-speech conversion library in Python. Unlike alternative libraries, it works offline and is compatible with both Python 2 and 3. An application invokes the pyttsx3.init() factory function to get a reference to a pyttsx3. Engine instance. it is a very easy to use tool which converts
the entered text into speech. The pyttsx3 module supports two voices first is female and the second is male which is provided by “sapi5” for windows. It supports three TTS engines :
sapi5 – SAPI5 on Windows
nsss – NSSpeechSynthesizer on Mac OS X
espeak – eSpeak on every other platform

4.3.6 SMTP

Simple Mail Transfer Protocol (SMTP) is a protocol, which handles sending e-mail and routing e-mail between mail servers.

Python provides *smtplib* module, which defines an SMTP client session object that can be used to send mail to any Internet machine with an SMTP or ESMTP listener daemon.



4.3.7 EMAIL

The email package is a library for managing email messages. It is specifically not designed to do any sending of email messages to SMTP (RFC 2821), NNTP, or other servers; those are functions of modules such as smtplib and nntplib. The email package attempts to be as RFC-compliant as possible, supporting RFC 5322 and RFC 6532, as well as such MIME-related RFCs as RFC 2045, RFC 2046, RFC 2047, RFC 2183, and RFC 2231.