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VOICE BASED EMAIL SYSTEM

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Abstract - *Today, a significant portion of people depend on freely accessible email or messages sent by strangers. Because anyone can send an email or leave a message, spammers have a golden chance to write messages about our various interests. Numerous absurd emails from spam clutter up mailboxes. Degrade. Today, having access to the internet is a necessity for daily life. Internet access is extensively used by all people to access knowledge and information. However, blind people have trouble accessing these text resources and using any online tool. The development of computer-based accessible tools has greatly expanded the opportunities available to the blind and visually impaired worldwide. The screen readers and other audio feedback-based virtual environments have greatly aided blind people in using internet apps. We outline the voicemail system architecture that a blind individual can use to quickly and easily access emails. Additionally, locating these spammers and the spam content can be difficult and a hot research subject. Spam email is the practice of sending numerous communications via postal mail. Spam is essentially postage due advertising because the recipient bears the majority of the cost. Because email can be a very cost-effective medium for senders, spam email is a type of commercial advertising that is commercially feasible. Using the Bayes theorem, the Naive Bayes Classifier, and the IP address of the sender, the proposed model can determine whether a given communication is spam or not.*

***Key Words*: RF, NB, DT, KNN algorithms**

1. INTRODUCTION

As we have seen, the advent of the Internet has transformed many industries. Today's population has easy access to any knowledge they desire thanks to the internet. One of the major areas that the Internet has significantly changed is communication. For sending and receiving some crucial information over the Internet, emails are the most dependable method of communication. However, there is a requirement that you be able to see in order for humans to reach the Internet. However, there are also people with various abilities in our society who lack your talents. Some blind or visually impaired individuals are unable to see anything, including the computer screen and keyboard. There are more than 240 million visually impaired individuals in the world, according to a survey. In other words, about 240 million individuals don't know how to use the Internet or email. This system seeks to create an email system that will enable even someone who is blind to communicate using the services without prior training.

The system is entirely based on interactive voice reaction, making it simple to use and effective. The project as a whole is built on voice interaction, or speech synthesis and recognition. Nowadays, technology is an essential component of daily living. The use of the internet is growing rapidly, and along with it, the use of email to communicate and exchange information has grown as well; for the majority of people, it is now second nature. Even though everyone needs emails, they also contain unwanted, pointless mass mails known as spam mails. Spam is accessible to anyone with an online connection and a device. Most spam emails aim to draw recipients' attention away from legitimate and essential emails and toward negative circumstances. Spam emails have the ability to significantly slow down internet performance by clogging up inboxes and storage space. These emails have the power to take valuable information and con in individuals, or they can corrupt one's system by introducing viruses into it. The process of identifying spam emails can be very time-consuming and irritating at times. Although spam detection can be done directly, it can be time-consuming and inefficient to filter out a lot of spam emails. As a result, spam monitoring software is now absolutely necessary. Different spam detection methods are now used to address this issue. The use of the Naive Bayesian approach and feature sets that determine the presence of spam keywords is the most widely used method for spam detection.

Problem Definition

The fact that using them needs visual perception makes using this technology very challenging for those who are visually impaired. However, not everyone has access to the internet. This is because you would need to understand what was displayed on the screen in order to access the internet. It serves no purpose if that is not apparent. Because of this, the internet is an entirely useless tool for those who are blind or illiterate.

Existing Algorithm

Up until 2014, 4.1 billion email accounts were established in total. By the end of 2018, it is predicted that 5.2 billion

accounts will have been created. Emails are therefore the most common method of communication. People who are visually impaired cannot use the most common mail systems that we use on a daily basis. This is due to the lack of any facilities that would allow the individual in front to hear the content of the screen. They are unable to perform the necessary actions because they are unable to see what is already on the screen or where to select. Although it is user-friendly, using a computer for the first time is not as easy for someone who is blind as it is for a normal user.

Disadvantage of Existing Algorithm

Because they are in written format or contain any type of attached information and there is no read-out choice to hear the mail that is delivered to their mail addresses, the current mail services do not offer simple access to the visually impaired. An application that could assist the user send and receive emails in English was developed as a result of one of the studies. At the time of this study, it was discovered that the proposed architecture performed better than the existing architecture. Techniques for converting speech to text and text to speech were used in that project to give blind persons simple access.

Proposed System

The voice-based application created for the voice-based email system initiative makes it simple for blind people to use email. The suggested system focuses on offering the fundamental capabilities, including voice-based interaction and the ability to compose, read, send, and receive emails. This makes it easier to use all of the aforementioned features and the option to submit emails using both voice and text. The suggested method makes it simple for blind people to use email.

Users can simply provide input by speaking the message because the system does not require a keyboard or mouse. As a result, the structure we are creating is completely different from those already in place. Our system also focuses on individuals who are visually challenged, unlike other systems that only target a specific group of people. The system will be able to receive instructions from the user, which it will then carry out. Additionally, the system will prompt the user to take particular steps in order to use the appropriate services.

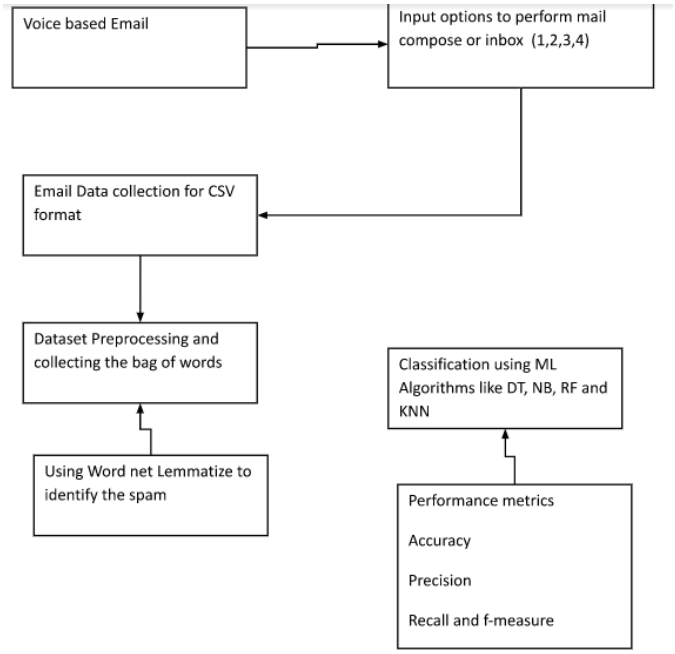


Figure 1 : Flow diagram

Advantages Over Existing System

Welcome to users (as Blind people can easily use voice based applications).

- Data storage is simple, it is more effective, and it takes less time and effort.
- The system we are creating is completely distinct from the ones that are already in place. Our system also focuses on individuals who are visually challenged, unlike other systems that only target a specific group of people.
- It also benefits the disabled and the illiterate.

Literature survey

1. A. Dixit and A. Agarwal [1] The author used group learning rather than focusing on one method. The average accuracy score found was 85%, which is 15% more accurate than the accuracy of the KNN model with the worst performance. Even with the dataset and values provided, the writers only used a small portion of the data. The remaining information was insufficient and did not provide any additional markers that could be used to differentiate between false and real news.

2. Abdullah, N. A., and Ahmed, A. A. [2] Phishing websites can be distinguished from legitimate websites by their URLs. The suggested technique might be able to identify authentic and fake websites by examining the Uniform Resource Locators (URLs) of suspect web pages. (URLs). To recognize phishing sites, a number of traits are

looked for in URLs. To stop such incidents, the identified attacks are submitted to the relevant authorities.

3. S. S. Birunda, R. K. Devi, and others [3] For the purpose of finding FN from various sources, a novel score-based structure has been created. The most prominent false and actual characteristics were extracted from news stories using the TF-IDF method. Using the site url attributes that the source gave, the sources' Credibility Scores were calculated. The retrieved text-based characteristics and the multi-source Credibility Score were merged to determine how reliable the news was. The effectiveness and applicability of the proposed framework are evaluated and contrasted with other classifiers.

4. W. Cheng and others, [5] In order to weight MSSE (Minimum Sum of Squared Errors) models for integrated forecasting, this paper combines ARIMA (Autoregressive Integrated Moving Average) time-series models with BP (Back Propagation) neural networks.

Objectives

The study's goal is to develop a voice-based messaging program for visually impaired people. The program allows Gmail login, inbox reading, and email composition. There is no limit to how many people can use this program. There is no need to use a computer because the entire system will operate via mouse. This method can be used by a wide range of users and was designed with people who are blind in mind.

Methodology

This system places a greater emphasis on user friendliness for all kinds of people, including sighted and non-sighted people. Interactive voice response, or IVR, is the foundation of the entire system. In the suggested system, the user is free to click anywhere on the screen; the IVR will specify which type of clicks will carry out which functions. With the IVR feature, they can follow the prompts given by the system and take the appropriate action

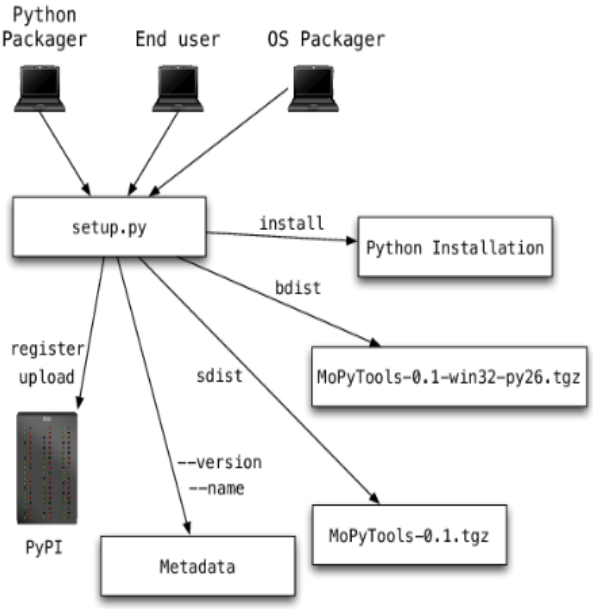


Figure 2 : setup

Development

Top-down strategies place a strong emphasis on preparation and a thorough comprehension of the system. It is inherent that no coding can start before the design of at least a portion of the system has been developed to a sufficient degree of detail. Because writing software code, or programming, is only one component of the process, people prefer to be referred to as developers rather than just programmers.

The foundation of conventional procedural languages is top-down programming, which starts with defining complicated tasks and then breaking them down into individual modules. The software is written once the components are detailed enough to be coded. The waterfall model is a sequential design process that's frequently applied to software development processes. In this method, progress is viewed as steadily gushing downward (like a waterfall) through the stages of Initiation, Analysis, Design, Code, Testing, Production/Implementation, and Maintenance.

Advantages of waterfall model:

- In terms of complexity and practicality, it is the simplest software process paradigm.
- This model is used at different project management levels because it is very simple to understand.
- It uses a methodical approach to project creation and delivery. Therefore, the Waterfall paradigm is used to create this system.

Code Design:

The architecture of the code should allow us to accomplish more goals with less coding. If there is less writing, the system will operate more quickly. The coding determines whether the data in the system is useful and readable by the system. The project's coding is done in a way that ensures the correct entry validations are carried out. Error entries are not permitted. Additionally, care is taken to ensure that the database's referential and data security are not compromised. Additionally, coding is created in a way that makes perfect use of restricted user access to the table and concurrency avoidance when accessing the database.

Statements and Current Flow

The assignment statement (the equals symbol, or token "="). This works differently from how conventional imperative programming languages work, and it sheds light on many other aspects of the language, including the way variables work in Python. When written in C, assignment reads as "typed variable name x receives a copy of numeric value 2," for example, x = 2. The (left-hand) variable name serves as the symbolic address for the allocated storage place where the (right-hand) value is copied. The variable has been allotted memory that is sufficient for the stated type and may even be quite large. x = 2 means "(generic) name x receives a reference to a separate, dynamically allocated object of numeric (int) type of value 2" in the simplest case of a Python assignment.

Binding the name to the item is what this is known as. It is incorrect to refer to the name's storage location as a variable because it lacks the specified value. Names may later be rebound to objects of incredibly diverse types, such as strings, procedures, sophisticated objects with data and methods, etc., at any moment. When a common number is successively assigned to multiple names, as when x = 2, y = 2, and z = 2, storage is allocated to (at most) three names and one numerical object, to which all three names are bound. It is inappropriate to link a fixed data type with a name because it serves as a general reference point. Dynamic typing, on the other hand, refers to the binding of names to specific objects that have types at specific times.

Along with else and elif, the if statement runs a block of code only if certain conditions are met. (a contraction of else-if). The attached block can use the for statement to iterate over an iterable object and store each piece in a local variable. While a condition is true, a block of code is executed by the while expression. The try statement guarantees that cleanup code in a finally block will always be executed regardless of how the block exits by allowing exceptions raised in its attached code block to be caught and handled by except clauses. In object-oriented programming, the class statement is used to run a block of code and attach its local namespace to a class. A function or procedure is defined by the def statement.

The Resource Acquisition Is Initialization (RAII)-like behavior is made possible by the with statement (introduced in Python 2.5), which encloses a code block within a context manager (for instance, acquiring a lock before the block of code is executed and releasing the lock afterward or opening a file and then closing it).The pass declaration, which acts as a NOP. An empty code section must be created for syntactic reasons. During debugging, the assert statement is used to look for circumstances that should exist. the yield statement, which causes a generator function to deliver a value. Since Python 2.5, yield has been a separate function. Coroutines are implemented using this structure.

Using the import statement, modules whose functions or variables can be used by the present program are imported. Import can be done in four different ways: import module name>, import * from module name>, import numpy as np, and import numpy import pi as Pie. Python 3 replaced the print line with the print() function.

According to Guido van Rossum, Python does not currently allow tail call optimization or first-class continuations. But Python 2.5 offers greater support for coroutine-like functionality by extending its generators. Before version 2.5, generators were slack iterators that passed information out in a single way. Information can be passed back into a generator function starting with Python 2.5, and starting with Python 3.3, it can be passed through numerous stack levels.

Feasibility study

This stage involves analyzing the project's viability and presenting a business proposition that includes a very basic project plan and some cost projections. The viability study for the suggested system must be completed during system analysis. This is done to make sure the system isn't a financial strain for the business. Understanding the main criteria for the system is crucial for feasibility analysis.

The problem and the stakeholders' information requirements are examined in the feasibility study. It aims to ascertain the resources necessary to provide an information systems solution, the price and advantages of such a solution, as well as the viability of such a solution. The most common techniques used by the analyst performing the study to gather information are:

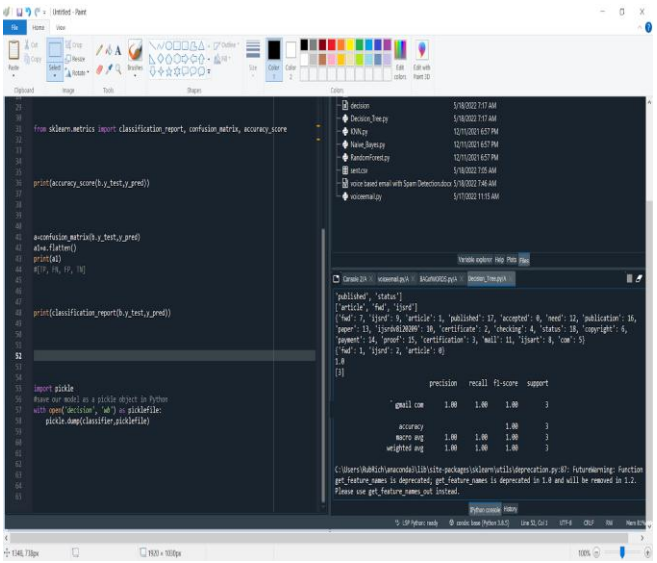
- Conducting user, employee, manager, and client interviews.
- Creating and distributing surveys to interested parties, such as prospective information system users.
- Observing or tracking users of the present system to learn about their requirements and gauge their satisfaction or dissatisfaction with it.

- Gathering, looking over, and analyzing all paperwork related to the present system's operations, including reports, layouts, instructions, and manuals.

The purpose of the feasibility study is to examine different information system solutions, determine how feasible they are, and then recommend the solution that is best for the company. A suggested solution's viability is assessed in terms of its constituent parts.

Implementation activities

- Use the single-entry, single-exit method
- Standard build indentation should be used.
- Use a straightforward coding approach.
- To parameterize procedures, use symbolic variables.
- provide financial margins
- Offer standardized paperwork
- Observe the conventions for private commenting



Choose and speak out the option number for the task you want to perform. Say 1 to send a mail. Say 2 to get your mailbox status. Say 3 to search a mail. Say 4 to get the last 3 mails.

You said: 4

Choose the folder name to get the latest mails. Say 1 for Inbox. Say 2 for Sent Mailbox. Say 3 for Drafts. Say 4 for important mails. Say 5 for Spam. Say 6 for Starred Mails. Say 7 for Bin.

You said: 4

Important mails selected

Choose and speak out the option number for the task you want to perform. Say 1 to send a mail. Say 2 to get your mailbox status. Say 3 to search a mail. Say 4 to get the last 3 mails.

You said: 1

Mention the gmail ID of the persons to whom you want to send a mail. Email IDs should be separated with the word, AND.

You said: Shiva at the rate gmail.com

The mail will be send to Shiva@gmail.com. Confirm by saying YES or NO.

You said: yes

Say your message

You said: hi welcome how are you today

You said hi welcome how are you today. Confirm by saying YES or NO.

You said: yes

Message sent

CONCLUSION

It is determined that the system will function well and thus satisfy the needs of the end users. Errors are precisely fixed after the system has been tested. This program will be accessed from one or more systems, so it is tested with multiple login attempts. It entails creating and implementing a real-time email engagement system for people who are blind. We intend to create a system that will make it easier for people with vision impairments to use email services effectively. Our software can assist in solving some of the shortcomings of the current email infrastructure. The use of a keyboard has been entirely eliminated in this system, which lessens the cognitive burden associated with memorizing keyboard shortcuts and the locations of the keys on a keyboard. To conduct the desired actions, the user only needs to respond appropriately to the voice commands issued by the system. In order for the system to conduct the necessary operations, the user must speak the operation in the email application. When necessary, the system will ask the user to enter information using voice commands, and the user's details will be authenticated. Additionally, it benefits the disabled and illiterate.

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