Stock Management in Restaurants

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---ABSTRACT---

Stock Management in restaurants is done in a manual way where a person updates the product details. The product details are updated by entering the details of the product to the database.There is no advanced techniques in updating the stock.We are developing a stock management system using voice recognition.The voice will be converted into text and this will be updated in the database. This makes a person to use the system easily and effectively.

Keywords **-** *voice recognition, stock updation.*

I. INTRODUCTION

In recent times the technology has improved a lot such that most of the products that we use today is user friendly. The man power has been reduced drastically by using advanced technologies in various industries. For example the testing part in programs are mostly done through automatic systems in the industry. But according to stock management a person is required to check for the products and update them manually.There are no advanced techniques that has been introduced to reduce the man power and errors which occur commonly in most of the restaurants and supermarkets. There are many disadvantages in the existing system like

- the person can update the wrong details in the system
- any theft may occur.

Also a psychology studies say that nearly 46 % of the workers commit any kind of mistake most often. Here we are developing a system which overcomes these errors and provides a stock management system with good efficiency.

II. EXISTING SYSTEM

The system present now requires a person to manually update the system. Like mentioned earlier there are many errors which can occur commonly.

III. PROPOSED SYSTEM

Here we are developing a system in which we can update the product details in the database through voice commands. In our system a user has to login into the system using the personal details. Later they can update the details of the product by giving the voice commands to the system. These details are updated to the database.
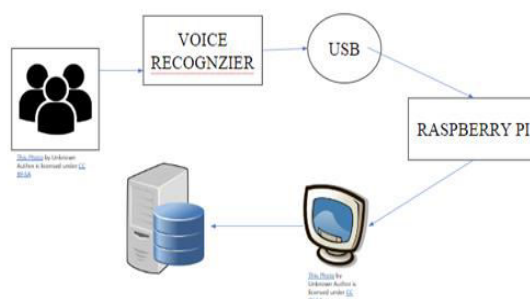

Fig 1

This is the architecture of the system we are developing. In this system the user is first recognized as authorized person. Then the voice commands are recognized through the voice recognizer. Later it is updated to the system database.

IV. METHODOLOGY

4.1 Voice Recognition

Voice recognition is the computer analysis of human voice especially for the purpose of identifying the user voice and the commands issued by the user. It is program to identify the words and phrases in spoken language and converts it into machine readable format. Voice recognition is used very prominently in recent times and has gained a lot of scope. People use voice recognition more often in systems like amazon alexa, google home, also in mobile phones like siri. This enables the user to interact with the system through speech. Voice recognition in systems captures theanalog signals of the user's sound waves and converts them into digital signals. This conversion of the signal is done using aanalog to digital convertor. This makes it very easy for the user to use the system.
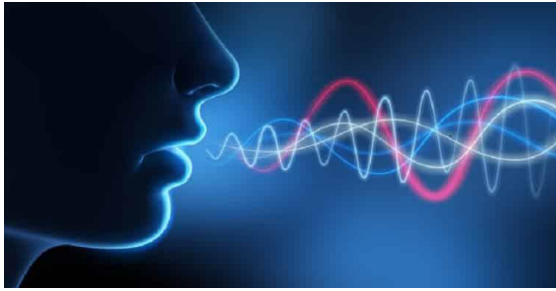
Fig 2

Considering the history of voice recognition, Bell Laboratories developed the "Audrey" system in 1952 which recognizes the digits spoken by a single voice.In 1970s the first commercial voice recognition system that could interpret multiple voices was developed by Threshold Technology as well as Bell Laboratories. In 1980s voice recognition vocabulary was expanded from 100 words to several 1000 words and had the potential to recognize unlimited words. One of the major reason was the statistical method known as hidden markov model. In 1990s the first consumer voice recognition product was released by Dragon which is known as Dragon Dictate. This was programmed such that it could recognize 100 words per minute. It was expensive as it newly arrived in the market.

Later in 2010 google added a personalised recognition voice search on android phones which gives accurate voice model.
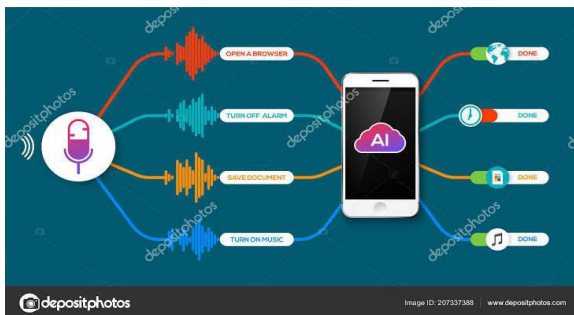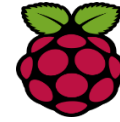

Fig 3

V. SYSTEM HARDWARE COMPONENTS

5.1 Raspberry PI
Raspberry pi is a tiny and affordable computer. The raspberry pi is a small single board computer developed at United Kingdom by the raspberry pi foundation to promote teaching of basic computer science.

Fig 4 :This is the symbol of raspberry pi.

5.2 USB 2.0 TTL
The abbreviation of USB stands for Universal Serial Bus. USB adapter is used for converting one data form to another. In our system the USB signal is converted into TTL- level UART serial data.

5.1 Voice Recognition Module With Microphone
Voice recognition module is a compact board used for recognizing the voice of the user. This board has two controlling ways:
- serial port
- general input pins

Microphone is a device that converts sound into electrical signals. In our system it is used as an hearing aid.

VI. SYSTEM MODULES

In our system we have developed three modules namely:
5.1 Login Module
The user has to login in the first case where they have to provide their details like name, email-id, passwords, and phone number. Then the login id of the user can be recognized for later use. The user can use this id to login to the system and use them.

5.2 Voice To Text Conversion Module
In our system the voice commands given by the user is converted into text. This is done by using speech recognition packages. Speech recognition package converts the speech to text.

5.3 Database Module
The text converted from the voice commands are later updated to the database. the commands are recognized and the details of the product is entered into the database.

VII. RESULT

This is a login form where the user enters the details and is authorised. This consists of the information of the user.

REGISTRATION FORM

REGISTER HERE

First Name :
[enter name]

Last Name :
[enter name]

Mobile No :
[+91 ▾] [enter number]

Email:
[enter email]

Password :
[enter password]

ReenterPassword :
[enter name]

○ Male   ○ Female

[submit]

This is the connection of the components of the system. The raspberry pi is connected to the voice recognizer through connecting wires. The microphone is connected to voice recognizer directly.

This is output where the product details is updated to the system.

item_name	qauntity	price
onion	7	50
tomato	6	40
green chilli	3	20
pudina	3	45
parsley	3	15
potato	4	120
carrot	4	120
beans	3	60
cabbage	2	100
spinach	3	60

VIII.   CONCLUSION

The voice recognition is bringing the convenience to the public, to make public have the chance to experience this technology and gain the advantages from it; the "Voice-based data entry" project is created. This project is using the Google Offline Voice Recognition. Voice-based data entry always can be performed faster than entering data by a keyboard. In some critical moment, for example like someone is driving and he urgently wants to send a message, a voice-based data entry will help them finish the task without let their hand leave the steering, as we know that is very dangerous when typing a message when driving. Furthermore, the user friendly application interface, enable the user learn to how use the application easily, just a simple press on the virtual button.

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