ASSISTIVE TECHNOLOGY METHOD FOR IMPLEMENTATION OF REAL TIME CHATBOT USING ANDROID

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ABSTRACT

In today world independent living is becoming a necessity for all, especially for visually impaired and deaf people. They are facing the major problem in our day to day life within the society. To overcome that problem the assistive technology had been develop. The chat bot is emerging as a significant technology in shaping the future by connecting physical devices or things with android. The virtual assistant able to communicate with the impaired people by conversational analysis the symptomatology and basic suggestion for the symptoms. On the other hand, chat bots are being adopted is greater number due to major strides in development of platforms and frameworks .The Novelty of the project lines in the specific integration of chat bots in the android scenario used to assist the communicative disorder persons.

Keywords : Intelligent virtual assistant, chat bot, visually impaired people, communicative disorder.

1. INTRODUCTION

Chat bot is the emerging technology is the present world. Which provide a normal conversation between the human and technology. The conversation may not be normal as other chat technology. It will make the humans to be free from lonellyness and it recover then from some emotional burden. The chat bot may be the solution for many problem. Which help you to schedule your programs, manage the information and it can store the data if once it feed in it. The CHATBOT=>CHAT-ROBOT where the interaction is between the human and the mechine. The interaction may be in text or in a voice (audio). The interaction may be a simple conversation, question and answer, which gives us the communication like a real human being. The chat bot is comes with an predefined datas and auto learning which gives as the answer based on the what that bot knows. It will gain the knowledge by day to day conversation the all datas were analysed to and stored for the further application. In the present world the every human think that we would be independent without someone's help. But most of all the case it were not possible, for that cases there are several technogy had been developed for there personal In case of the disabled people life blind (visually impaired) or deaf (hearing loss). Were more suffered for being common in the society due to there disablement they were getting isolated an there own. Due to that were feel emotionally disturbed. That they were hopeless and that the felt guilty to depend on others for all suitivation. usage like wise an assistant. The advantage behind this chat bot is user friendly and can get related information according to the user querries.

2. OBJECTIVE

    i.   The chat bot is used to precribe the medicine or suggestion for blind and deaf people.

    ii.   The chat bot is also displays the prescription on the LCD display.

    iii.   In order to cleatr understand for the deaf people the action of mouth like model os developed

    iv.   Methodology

In our work we had develped a chat bot which majorly used for visually and ear impaired people .As same as the existing tech our chat bot is also developed as basic conversational interaction between the human and mechine. Normally the chat bot consist of normal conversational. Basic events remainder etc and which required on work based on the online through an web interface. The advantage in our chatbot in which doesnot required any web based connection to operate.Our chat bot had developed a programmed for communication between the impaired people and to the mechine, And it will provide major assistive tech for an vision and hearing impaired people.The chatbot which provided the medical consultance based on the condition of the patients or human they feed into the bot. the result is will be in the form of audio and in the form of visible as well as an action.For the vision impaired people the result will be in the audio and the conversation in done by audio to audio communication.In case of the hearing impaired people are unable to listen to the audio for that case in conversation in may be in text or in audio command. In addition the action had been inbuiltedin our chat bot setup. Which will pronouse the word which get is out form the bot. screen.

Audio Out:

As the same as the command by the user to the controller the out is in the form of text. Here we used the voice modulator to convert the the text message (or) command into a voice

Action Out:

In addition the system provide the output command by the action. The human head module is created for the action of mouth is done by using the servo motor . The motor which rotate to do the action. Which connected to the face module. Input : The input is given by the form audio command or by an text .Here we used the Bluetooth module for the communiction interference between the human (voice or text)Command to the machine . Then the input is passed through the UART which connected through the Pic Microcontroller.
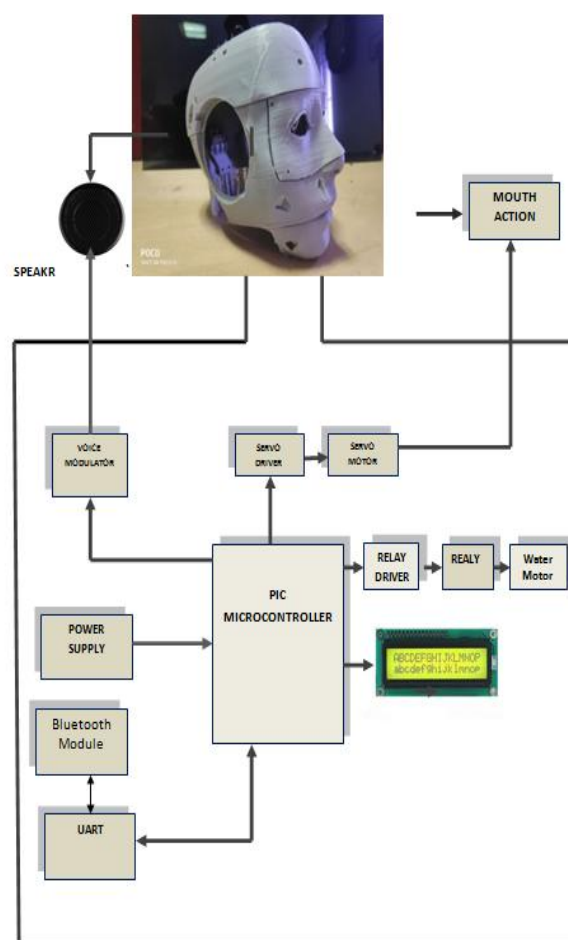
Proccesing : The command line will proccesed in the Microcontroller that can be programmed to carry out a certain range of task.We alread had programmed the function that had be done by the bot like wise the command or the confirmation content has been programmed in the pic microcontroller. There is a relay system which act as a automatic switches for The entire system which will reduce the consumption of the power usage and the provide electrical production to the circuit.

Output :

In the chat bot the output is in the form of Audio , Visual , and by an action . By connecting the Pic Microcontroller were the programming is placed then the output is displayed and played as audio command .

Visual Output:

By analysing the command from the user the controller will convert the quories into a form of text then the output for that command will be displayed in the LCD.

3. COMPONENTS:

1.POWER SUPPY UNIT

Power supply which refers to the electrical power that given to the load circuit means of the energy to an output load or group of loads. This system consist of further units such as transformer, rectifier, filter, regulator, where the total system work in the Dc but the input put source is in Ac by using further method which had been converted.

2.TRANSFORMER

The transformer used in the our system is step down transformer. The step down transform is defined as the transformer which cut off the high voltage current into low voltage or required amount of the system. Basicially, the primary power suppy is in 230v. but our system consist of several electronic components. It doesn't required high amount of power for that purpose the step down transformer is used to cut of the power supply into two 12v RMS anti phase outputs.

3.RECTIFIER

Rectifier which convert the AC input into a DC output. Where our system will work is the DC supply basically the electronic components will work only in the DC suppy to convert in the primary AC suppy to DC the full wave bridge rectifier is used where the dioeds are connected in the proportional unit and it requires only half reverse breakdown voltage capability of diodes.

4. FILTER

When we convert the AC to DC it may acquired some of impaired noice or signals in it to rectify that noice the filter is fixed to be solve that problem. Here the circuit devided into two parts; reservoir capacitor that act as temporary. Storage for the power suppy output current. Once that input wave passes the rectifier anode falls below the capacitor voltage. Controlling circuit, the gear assembly reduce the pm and inverse torgue of it, it provide a linear relationship between the speed and electric control signal and steady state stability.

5.VOLTAGE REGULATOR

Voltage regulator IC are able to fix like automatic protection from excessive current and overheating. In our system the LM7805 series is used. Where the voltage is regulator to be used is logic systems, instrumentation and is solid state. Electronic equipments; at the last the regulated DC output is very smooth with no ripple.

6.PIC MICROCONTROLLER

The pic microcontroller is the smallest controller which able to perform certain task carry out by programming is most of the electronic gadgats. It consist of stack which register function to random access memory (RAM) and stack saves the retrun address the main features of pic microcontroller are which inserted by Ram , timers and counters, EEPROM, 1/p ports, CCP(capture/compare/pwm module) ssp, comparator, ADC,PSP(parallel slave port, LCD and ICSP, based on the internal architecture the 8 bit micro controllers is classified into base line pic, MID range picx, enhance MID rangepic and pic 18 in pic were all the parts were bi-directional and it carry up to 388*8 bit of RAM ,2567*8 of EEPROM and 8k*14 of flash memory.

7.LCD

Liquid crystal cell displays (LCDS). It is used to display a alphanumeric and numeric characters is a dot matrix and in a seegmental display. When campare with LED the LCD will consume less power because based on the pricipal it blocking the light instead of emitting light. It made with either active or passive matrix grid display. An active matrix consist of transister. At each pixel intersection due to that it required less current to controll the luminance of a pixel.

8.BLUETOOTH

Bluetooth which means the basic telecomunication at a certain distance in a short-range wireless connection. It required less transreceiver chip were unived frequency band of 2.45 GHZ that is avilable 9 lohally. The maximum range is 10 meters it is enough for our system to W used an communication interface.

9.VOICE MODULE

In our system the APR9600 voice modulator is used. Which is high performance is sound record / reply IC and it incorporating flash analogue storage technique. Which mean the recorded sound is retuined even after power suply is removed from it. It replyed sound extibits high quality with out any other noise interface.in sample rate a 60 second recording period is 42 khz that given sound hardwidth of 20 hz to 21khz. The voltaghe userd for recording and replying at supply 40v to 6.5v and the current consumption is 25mA.

10.RELAY

Relay is a automatic on/off switch which further used or operated is either electrically and mechanically.the switch mechanism is based on elecromagnetic by this advanc in current most of the high and industrial application devic have relay for the efficient image. It required only low power signal to control the circuit, it is quick acting and fast for reset.

11. SERVO MOTOR

It is an DC motor with servo mechanism which provide a certain angular motion, it is pulse width modulator is used for the angular motion or rotation.it rotation limit of 90 to 180 degree.it has great precisian to push or rotate an object in the interval it consist of potentiometer.

12.EMBEDDED C

It is set of language extensions for the c programming language by the standards committer to address commonality issue that exist between c extension for different embedded system. It is good for many exotic feature like noise. Multiple distinct memory banks I/O operation fixed point arithmetic and it is small and simpler to access to I/O and provides case of management of large embedded system.

RESULT &DESCUSSION

In the present there are lot and lot of technology like wise a assistance (swelly, e bay).it is rest an commercial usage for the normal people but it is rare for the impaired people like visually and hearing impaired people. For that case we develped this chatbot which had a communication interferance in there understanding processed output. There are several technology that used high technology which is highly unsoursed. Which are connected through online. It is quite different to maintain there privercy to reduce that our system is not connected with any social neteorking bacically it assist the impaired peoples is many suitivation. There is no any threadning to people. It is highly protected tech especially for the impaired people.

CONCLUSION

We had developed a chatbot which is used as a good assistive technology for impaired peoples. It will helps there to remainder and assistive to take there things and mediation. And it provide basic medical consultance for there,in further it may be improved by using telemedicine and further technology for there development.

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