SPEECH AUTOMIZATION

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Abstract — Speech recognition technology is one of the fast growing engineering technologies. It has numbers of applications in different areas and provides potential benefits. Nearly 20% people of the world are suffering from various disabilities many of them are blind or unable to use their hands effectively The speech recognition system in those particular cases provides a significant help to them so that they can share information with the people by operating computer through voice input.
This project is designed and developed keeping that factor into mind and a little effort is made to achieve this aim. Our project is capable to recognize the speech and convert audio into the text It also enables a user to perform operations such as Open files folders Songs Documents Videos etc also Search for something on Google. Weather forecast open different programs like notepad, Calculator, Paint, Excel, Word, Photoshop, and Media Player, Browsers and etc.

At the initial level efforts is made to provide help for the basic operations as discussed above but the software can further updated and enhanced in the order to cover more operations like online orderings, Train, Flight Bookings, Hotel Bookings, Downloading Songs, Videos or Go through Face-book, Gmail, & other social media sites.

Keywords: speech recognition, speech synthesis, home automation.

INTRODUCTION

Artificial intelligence is the branch of computer science concerned with making computers behave like humans.
In this, the speech recognition programs that are human-computer interactive. When software evaluators observe humans testing such software programs, they gain valuable insights into technological problems and barriers that they may never witness otherwise. Testing speech recognition products for universal usability is an important step before considering the product to be a viable solution for its customers later. There are two separate issues that we want to test word recognition accuracy and software friendliness.
Speech recognition works like this. You speak into a microphone and the computer transforms the sound of your words into text to be used by your word processor or other applications available on your computer. The computer may repeat what you just said or it may give you a prompt for what you are expected to say next. This is the central promise of interactive speech recognition.

CHALLENGES

- Noise problem.
- Without electricity home automation does not working.

OBJECTIVES

The purpose of this system is to provide a help of those people who are suffering from various disabilities many of them are blind or unable to use their hands effectively. The speech recognition system in those particular cases provides a significant help to them so that they can share information with the people by operating computer through voice input.
There are many objectives as follow:

- In this system, we are open desktop application through the speech.
- Open file folder, song documents, video etc and search something on Google.
- In speech automization we also include the home automation.
- Other user cannot operate this system for that we add security system.

L ITERATURE REVIEW

- W. Ma with his associates Compernolle and Katholieke (Ma et al., 1990) as in [1] proposed a system which combines the good short-time classification properties of time delay neural networks with the good integration and overall recognition capabilities of HMMs (Hidden Markov Model).

- Sebastian Andersson, Junichi Yamagishi and Robert A.J. Clark is a [2] proposed a system speech synthesis based on HMM in 2002. In which the synthetic voices built with HMM-based speech synthesis techniques from conversational speech data, preserved segmental and prosodic characteristics of frequent conversational speech phenomena. The achieved synthetic speech quality provides an encouraging start for the continued use of conversational speech in HMM-based speech synthesis.

- Humaid Alshu'eili, Gourab Sen Gupta, Subhas Mukhopadhyay is a [3] proposed a sysem that is Voice Recognition Based Wireless Home Automation System. In which the home automation system is intended to control all lights and electrical appliances in a home or office using voice commands. The system has been tested and verified.

- Parameshachari B D, Sawan Kumar Gopy, Gooneshwaree Hurry, Tulsirai T. Gopaul is a [4] proposed Smart Home Control System Through Speech. In which the user can use voice commands to control their electrical appliances, such as light, fan, television, heater etc. The main aim is to help make the life of people more comfortable, especially for the elderly and disabled as they will not have to actually present near an appliance to turn it on or off.

- DAVID J. WHITE, ANDREW P. KING, and SHAN D. DUNCAN is a [5] proposed voice recognition technology, in which Voice recognition technology (VRT) provides a way to alleviate the longstanding

REQUIREMENT OF NEW SYSTEM

- Accuracy will become better and better.
- Dictation speech recognition will gradually become accepted.
- Small hand-held writing tablets for computer speech recognition dictation and data entry will be developed, as faster processors and more memory become available.
- Greater use will be made of "intelligent systems" which will attempt to guess what the speaker intended to say rather than what was actually said, as people often misspeak and make unintentional mistakes.
- Microphone and sound system will be designed to adapt more quickly to changing background noise levels, different environments, with better recognition of extraneous material to be discarded.

PROPOSED WORK

- In the proposed system are more useful of those people who are suffering from various disabilities many of them are blind or unable to use their hands effectively.

- The speech recognition system in those particular cases provides a significant help to them so that they can share information with the people by operating computer through voice input.

USE – CASE DIAGRAM

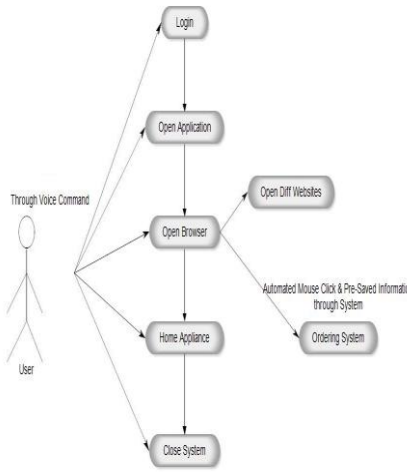

Fig: - Use-Case diagram

- A **use case diagram** is a representation of a user's interaction with the system and depicting the specifications of a use case. A use case diagram can portray the different types of users of a system and the various ways that they interact with the system. This type of diagram is typically used in conjunction with the textual use case and will often be accompanied by other types of diagrams as well.

SEQUENCE DIAGRAM

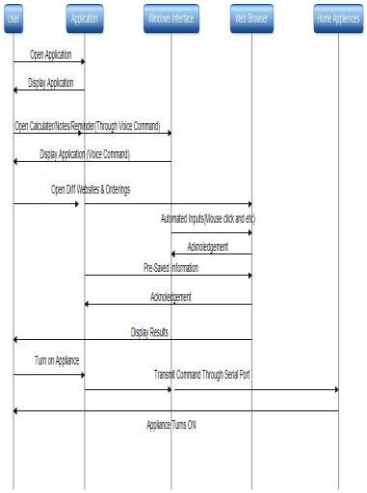

Fig: - Sequence diagram

- A **sequence diagram** is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart.
- **A sequence diagram** shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario.

ACTIVITY DIAGRAM

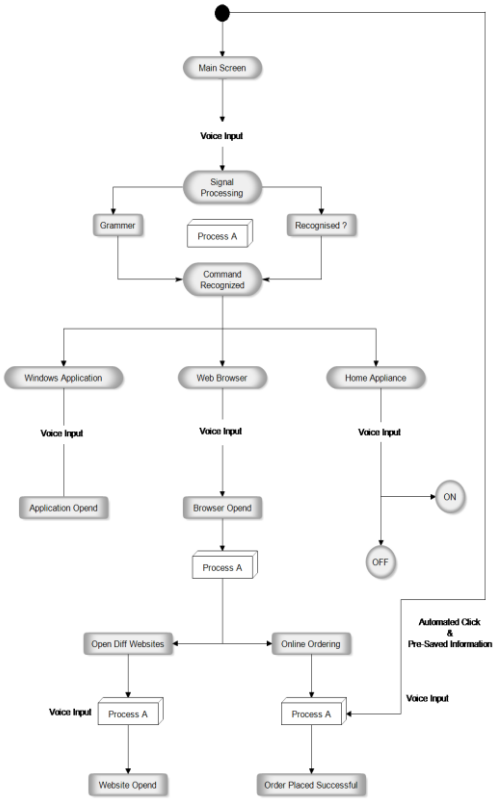

Fig :- Activity diagram

- Activity diagram is another important diagram in UML to describe dynamic aspects of the system.
- An activity diagram is a simple and intuitive illustration of what happens in a workflow, what activities can be done in parallel, and whether there are alternative paths through the workflow. Activity diagrams represent the business and operational work flows of a system. An Activity diagram is a dynamic diagram that shows the activity and the event that causes the object to be in the particular state.

E –R DIAGRAM

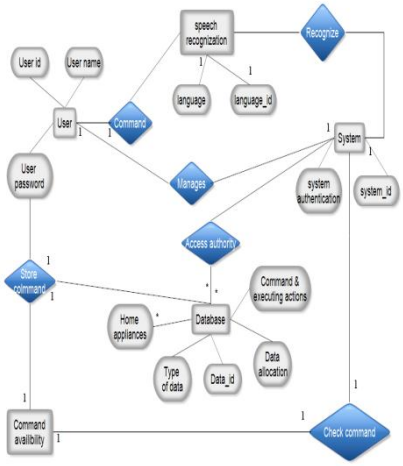

Fig: - E-R diagram

- An ER model is an abstract way of describing a database. In the case of a relational database, which stores data in tables, some of the data in these tables point to data in other tables - for instance, your entry in the database could point to several entries for each of the phone numbers that are yours. The ER model would say that you are an entity, and each phone number is an entity, and the relationship between you and the phone numbers is 'has a phone number'. Diagrams created to design these entities and relationships are called entity–relationship diagrams or ER diagrams.
- E-R (Entity-Relationship) Diagram is used to represents the relationship between entities in the table.

FLOW DIAGRAM

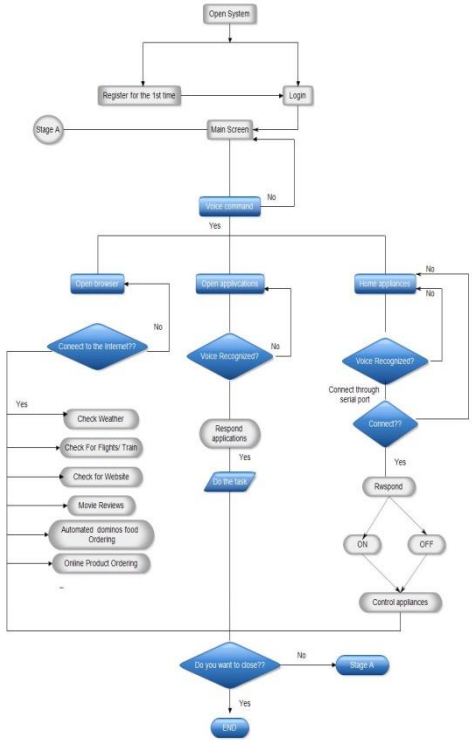

Fig :- Flow diagram

- The class diagram is the main building block of object oriented modeling. It is used both for general conceptual modeling of the systematic of the application, and for detailed modeling translating the models into programming code.
- Class diagrams can also be used for data modeling. The classes in a class diagram represent both the main objects, interactions in the application and the classes to be programmed.

CONCLUSION

- This project of speech recognition started with the brief introduction of the technology and its applications in diff. sectors.
- The project part of the report is based on the software development of the speech recognition at the later stage we discussed different tools for bringing that idea into the particular work.
- Work can be taken into more detail and more can be done in the project in order to bring the modification and develop some capabilities add new vocabulary add some new task that should perform by the system.

REFERENCE

Google: http://www.google.co.in

https://www.google.co.in/?gfe_rd=cr&ei=8TvSWO_DH-Ln8AeEjJuwAg#q=research+paper+speech+recognition&*

https://www.google.co.in/?gfe_rd=cr&ei=8TvSWO_DH-Ln8AeEjJuwAg#q=research+paper+speech+synthesis&*

https://www.google.co.in/?gfe_rd=cr&ei=8TvSWO_DH-Ln8AeEjJuwAg#q=research+paper+home+automation&*

https://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&cad=rja&uact=8&ved=0ahUKEwjy4N3F3-nSAhVMuI8KHdChCScQFgguMAM&url=http%3A%2F%2Fresearch.ijcaonline.org%2Fvolume116%2Fnumber11%2Fpxc3902601.pdf&usg=AFQjCNF0OGLeaxGUMUx_gRzn_TuCFto24g&bvm=bv.150120842,d.c2I

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