

Interactive Guidance Application for Destitute of Vision

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Abstract - A number of developing countries continue to provide educational services to students with Disabilities in “segregated” schools. Also, all students, regardless of their personal circumstances, have a right of access to and participation in the education system, according to their potential and ability. However, with the rapidly growing population and increasing number of people with blindness along with other disabilities, need for use of technology in the field of education has become imminent. With existing system of competitive examination, students face problems while interacting with the system, misunderstandings arising due to human mediator and also an ability to cope-up with the other students. Our project, through the use of speech technology, attempts to provide solutions for some of these issues by creating an interactive system. Thus, the application will help in creating an environment that provides equal opportunities for all the students in taking up competitive exams. This will improve the current educational system for blind careers through Android application.

Index Terms - Speech Technology, Interactive System.

I. INTRODUCTION

The growth of the Internet, and in particular the Web, is already influence the way science is taught and will undoubtedly do so to greater extent in the future. In areas of education, it offers a medium that has the potential to be more responsive to students. Web based Examination system could be used via Internet or intranet for managing student examination. In the future blind peoples also can-do online exam like a normal human if Test can be taken using an Android Application, Here Questions & choice are through in Voice our project is delivered in real time. Marking the test is done automatically and instantaneously; the faculty is comforted from these, time consuming duties. Different versions of the same question can be generated for different students. Tests can be taken anytime. Tests can be taken anywhere. Blinds can

login the exam using their Application. The Answer will be get from the user through voice. The results also delivered through voice. The marks are automatically collected, analyzed, and distributed for purposes like evaluation of teaching and learning process. In this world blind peoples can get the knowledge using various interfaces. Such as one common method of the blind people has been intended to use is by voice recognition.

For example, in Android Phone there is a facility which allows a blind people to get interact with that App as a normal man. If they touch any button or the display option in the Phone has been designed to react as soon as by giving voice output. So, a visor people can use all the facility provided in that Android phone (they are able to access all the options like a normal man).

II. ARCHITECTURE

A. Literature Survey

Speech recognition applications are becoming more and more useful now a days. Various interactive speech aware applications are available in the market. But they are usually meant for and executed on the traditional general-purpose computers. With growth in the needs for embedded computing and the demand for emerging embedded platforms, it is required that the Speech Recognition System (SRS) are available on them too. In this paper, we are presenting a desktop application named as Examination Portal for Blind Persons so as to eliminate the use of an assistant while giving a multiple-choice question type examination. Further this tool can be implemented as a mobile application and a web-based application. Speech Recognition (SR) is the translation of spoken words into text. It is also known as “Automatic Speech Recognition” (ASR), “Computer Speech Recognition” (CSR) or just “Speech to Text” (STT). Speech Recognition is not providing ease in accessing such systems to only blind people but also who have

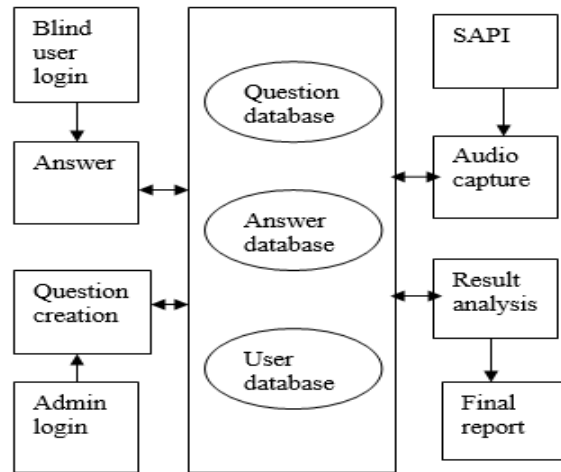
partial vision and differently able people. In last few years due to continuous incremental improvements, speech recognition has become a strong medium to translate spoken words into texts. Various software's like Google Voice and Siri have allowed mobile users to just use their voice to operate their cell phones. The growth of the Internet, and in particular the World Wide Web, is already influencing the way science is taught and will undoubtedly do so to greater extent in the future. In areas of education, it offers a medium that has the potential to be more responsive to students. To encourage greater participation in their own learning, and to give greater access to different sources of information than traditional methods offer.

B. Proposed Methodology

This project proposes a system that will create a revolution in a world of education by providing an easier way for visually impaired people to take tests just as normal students do. Rapidly growing population and increasing number of people with blindness along with other disabilities need for use of technology in the field of education has become imminent. With existing system of competitive examination, students face problems while interacting with the system, misunderstandings arising due to human mediator and also an ability to cope-up with the other students. Our project, Android App through the use of speech technology, attempts to provide solutions for some of these issues by creating an interactive system. Thus, the application will help in creating an environment that provides equal opportunities for all the students in taking up competitive exams. This will improve the current educational system for blinds career. Android Phone there is a facility which allows a blind people to get interacts with that App as a normal man. If they touch any button or the display option in the Phone has been designed to react as soon as by giving voice output. So, a visor people can use all the facility provided in that Android phone (they are able to access all the options like a normal man). The experimental result shows that the voice recognition time of the application is around 6.303 ms and 6.375 ms for male and female voices respectively. The average location sending time is nearly 7.629 ms to any distance. The usability test result reveals that the proposed application has an average 72.2% System Usability Scale (SUS) score, showing its suitability for practical

implementation. Android can use video/still cameras, touch screens, GPS, accelerometers, gyroscopes, barometers, magnetometers, dedicated gaming controls, proximity and pressure sensors, thermometers, accelerated 2D bit blits (with hardware orientation, scaling, pixel format conversion) and accelerated 3D graphics.

C. Block diagram of proposed system



III. SOFTWARE REQUIREMENTS FOR PROPOSED SYSTEM

Java Technology

Java technology is both a programming language and a platform.

The Java Programming Language

The Java programming language is a high-level language that can be characterized by all of the following buzzwords:

- Simple
- Architecture neutral
- Object oriented
- Portable
- Distributed
- High performance
- Interpreted
- Multithreaded

With most programming languages, you either compile or interpret a program so that you can run it on your computer. The Java programming language is unusual in that a program is both compiled and interpreted. With the compiler, first you translate a program into an intermediate language called Java

byte codes —the platform-independent codes interpreted by the interpreter on the Java platform. The interpreter parses and runs each Java byte code instruction on the computer. Compilation happens just once; interpretation occurs each time the program is executed. The following figure illustrates how this works.

IV. DRAW BACKS OF EXISITING SYSTEM

1. Time delay.
2. Not accurate.
3. Manual process needs to be monitored.
4. Blind students cannot access independently.

V. ADVANTAGES OF THE PROPOSED SYSTEM

- They can easily give the answer by voice without any confusion.
- It reduced candidate depressing. The proposed system is user Friendly.
- There is no any need to give the input as manually.
- The blind peoples also can-do quiz exam like a normal human if Test can be taken using an Android Application, Here Questions

VI. FUTURE ENHANCEMENT

Future scope of this system is that the device can be encrypted through sensor device. This sensor device can be attached along with the id card of the visually impaired. Another implementation is increasing the radius for tracking. Since interactive guidance devices uses triangular positions for tracking the latitude longitude and the exact position of the visually impaired and can be monitored. Further enhancements include the use of advanced encryption and cryptographic techniques with efficient security mechanisms.

VII.CONCLUSION

This project would be a very useful one for every blind people and physically challenged to admire their talent easily through Quiz app like other humans. In our project we will be going to deliver an entire application for physically challenged people which can provide an interactive interface. Examinee can easily give exam by giving easy voice commands.

Thus, physically challenged people can easily give exam like a common man without much difficulty. Through this they have been able to attend many exams in the future and also, we will try to do as much as improvement in future as per the collection of feedback.

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