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Survey on Non-Luminous Hope Application

Ankita Sawalkar[1], Jagruti Patil[2], Vaishnavi Mane[3], Sakshi Lanke[4], Ragini Jadhav[5]
[1,2,3,4,5] *Information Technology, Pimpri Chinchwad Polytechnic, Pune, India.*

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Abstract: *Now-a-days many people suffer from visual impairment. This problem is the biggest problem of humankind. Eye disease usually cause blindness and visual impairment. They come across many troubles in their daily life, so this application can make their life easy. In this application there are some features that will be helpful for blind people to do their everyday tasks. With this application user can find current location, detect weather, find calculations, date and time, battery status, detect object, money recognition, face recognition, text messages, dictionary and news. There is a rapid growth in wireless communication, with that voice recognition technique has increased greatly. Speech application with voice interface, voice recognition, and voice conversation management are all beneficial to be focused on blind people current work without extra effort for hands and eyes. It requires user's minimal efforts while using this application in everyday life. This application first listens to user command and then responds to the user by talking with voice command. Non-Luminous Hope Application is a software that interpret human speech and respond through synthesized voices.*

Key Word*: OCR recognition, calculator, location detector, weather detector, text-to-speech, money recogniser, face recogniser, object detector, dictionary, text message.*

I.INTRODUCTION

The World Health Organization (WHO) stated that around 253 million have visual weakness, 217 million of the have moderate to severe weakness of vision and 37 millionare visually impaired. It has observed that around 40% of the total population of blind people across the world are present in India. In our society there are many supports to weaker section, disabled one of the numerous backing that dire the assurance of versatility for visually impaired individuals. Today most of our works are finished by smart phones and webs that are most significance aspects of our lives. Not every person has that facilities to utilize. Many of the visually impaired are financially weak and some of them are illiterate as they cannot read and write. This application will be createdwith the consideration in mind the day-to-day struggles faced by blind and visually impaired people. This application has simple working like user have to either right or left to open the application to talk .This application includes Text-To-Speech to listeningto applications operation. Text-To- speech was created for deaf-blind person. This provides the blind people to perform some of their daily activities. Even users with better smart phones don't get the assistant they need. We have come with this application which helps visually impaired people to use smart phones like that normal people use and ease their efforts on making easier for them to use.

II.LITERATURE REVIEW

Many research paper contributed to this field. Different kind of current utilized technologies are used.The smart walking stick helps blind people in moving, allowing them to perform their work easily and comfortably. In this the detection of obstacle is done by using the sensor. But this stick is not efficient in the case of visually impaired person. Because blind person do not know what type of object come in front of them, what is size of it and how far is it. Visually impaired people still face with safety navigating their environment. They depend on speech-based GPS for their guiding help. This system does not help with veering issues, that affect ability of visually impaired to maintain straight path .Many people have imperfect sense such as eye and foot defects. In our society many people neglect for people with disabilities, one of them is blind disability. There is always a challenge while developing a guiding system for blind people. In our society there are many people who are suffering from visually impaired or blindness, these people face lots of difficulties in their daily lives. One of the most difficult tasks for themis moving in an unfamiliar world of that they are having no idea what's aroundthem. Application includes Picture-Sensation android application for the hapto -acoustic exploration of images. This is designed to allow for visually impaired people to gain direct perceptual access to the images via an acoustic signal. Picture-Sensation introduces a swipe based, speech based, barrier free user interface that guarantee autonomous use by blind users. This project helps in running their life as usual. They can make this project has a gadget or device in their hand which helps in detecting the obstacle. This research paper deals with mobile app design focus on low vision users.

III.METHODOLOGY

Requirement dependencies that allow to include external library or local jar files or other library modules will be

added in this proposed system. Main activity includes Java methods that help user to open certain task by voice command. User will read the features or operations of the app by left swiping on the screen. Voice inputwill start by right swiping on the screen. When user gives the voice command it will automatically redirect to that particular activity. Let's say if user say "calculator" then it will automatically open calculator.

Methods Used: -

1. **Text-To-Speech (TTS):** TTS may be a method that converts speech from text. TTS is vital for voice output for voice feedback for user. TTSis implemented in software where audio orvoice capability is required.
   When user formulates voice command, TTS will convert that voice into text format and performs specific action.
2. **Speech to Text (STT):** Android features an inbuilt feature that is speech-to-text through which user can provide voice input to the software. Within the background speech input will be converted to text and perform action within the form of TTS.

Project Requirements:

The requirements were arranged in three groups: user interface, functionalrequirements

a) User Interface:

1. Easily accessible
2. Flexibility of voice control (Set speed, pause speed)

b) Functional Requirements:

1. Switching among the different voices
2. read the text (OCR Reader)
3. Calculator
4. Weather
5. Location
6. Battery
7. time and date
8. dictionary
9. face recognition
10. money recognition
11. object detection
12. Exit - close the app.

Tools and Technology:

1. Android studio.
2. Language -: Java
3. Android SDKs are modules of Java code that required for accessing mobile device functions the main component of the Android SDK is a library called Gradle to build our application.
4. Google Speech API is required.

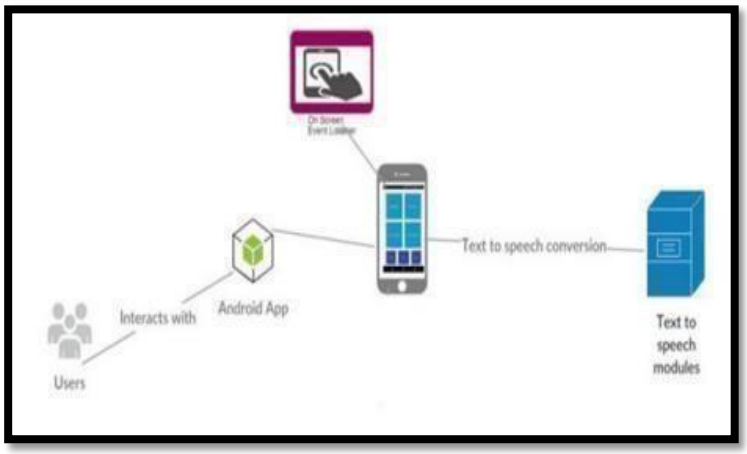
IV.PROPOSED SYSTEM

The proposed system is to build an application for visually impaired people. This system is used to develop simple android application with better and easy user interface. This application is made to help visually impaired to use important features of smart phone using Text-To-Speech and Speech-To-Text. This application does all the tasks form basic to advance without internet connection. This application works onall smart phones with low interfaces. The user has multiple choices for input.They system has money recognition feature, face recognition feature, object detection feature, current location, weather detection, battery status, date and time features, etc. The system speaks each and every action performed by user.

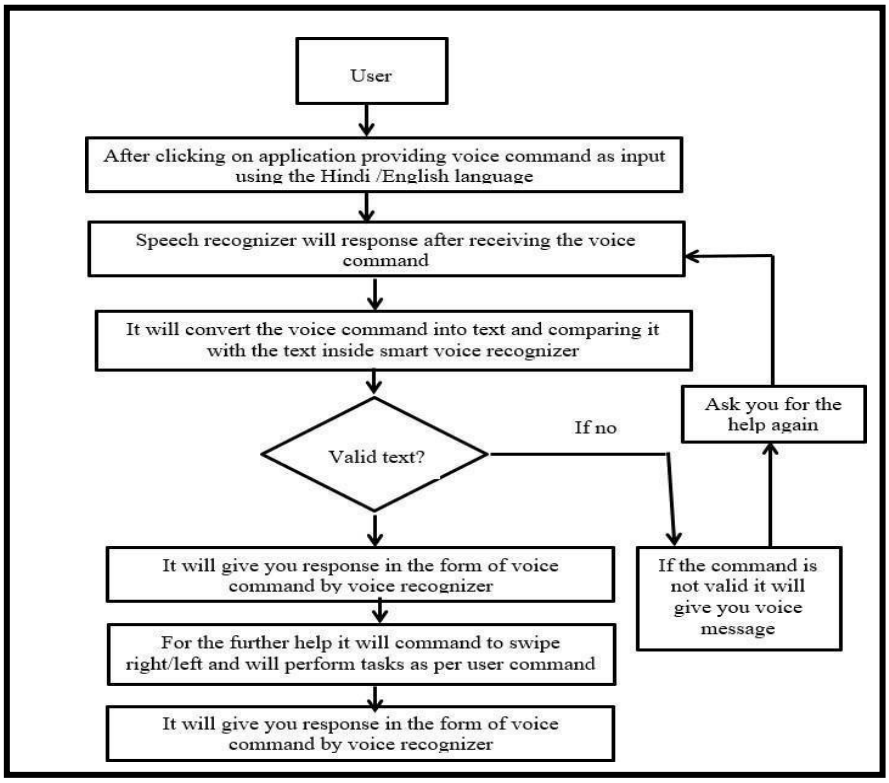
System Architecture/Modules: -

1. **OCR reader (Optical character recognition):** After swiping right the screen user has to say "read" then it will ask you want to read sayyes for continue and no to return the main menu.
2. **Calculator:** User has to say "calculator" after that user has to tap on the screen and say what to calculate then application will say the answer.
3. **Location:** In this user has to say location after that user will tap on thescreen then it'll saycurrent location.
4. **Weather:** In this user will say "weather" and then say the name of the city. Then application will say the weather of that specific city.
5. **Battery:** To check the current phone battery status user has to say battery.

6. **Time and date:** To check current time and date user has to say time and date.
7. **Text-To-Speech (TTS):** All activities performed are spoken to user empowering them where they are now on-screen interface.
8. **Speech-To-Text (STT):** Has visually impaired cannot see they can use their voice as input. This enables them to read text written on image.
9. **Object detector:** In this user has to say "object detector" after that object detector will open. And if it founds any object, it will generate a sound and say the distance the object is away.
10. **Money recognition:** In this user has to say "money recognition" after that money recognition will open. And will say the rupees written on the note.
11. **Face recognition:** In this user has to say "face recognition" after that face recognition will open.



V.FIGURES AND DIGRAM



VI.APPLICATION

a. This system is used to help visually impaired to have access to the most important featuresof the phone enhancing the quality of the system makinguse of different custom layouts and using speech-to-text.
b. There is similar application in market having a huge amount of success.

VII.ADVANTAGES

a. The system is used for visually impaired, so there are no credentials to make itvery easy andreliable.
b. The system speaks out everything and anything the user wants to listen fromthe system.
c. The system uses all the custom layouts but data from the system hence savinglot of size.
d. The system doesn't require an internet connection.
e. All the actions performed even remainder are spoke.
f. The user interface is easy to understand, even by the common people who wantsto use thisapplication.
g. This system can act as a personal Voice Assistant to blind people.
h. It converts text to speech.

VIII.CONCLUSION

Now-a-days smart mobile phones and tablets are mostly used by all and also help in doing our daily activities. But visually impaired people require assistant to access features, apps, functions of mobile phones and tablets.

In this paper we proposed how this system is helpful and beneficial for visually impaired people. As their life is very difficult, this system will help them easily use functions of android. This system is not only usedby blind people but can also be used by common people has the User Interface (UI) is simple, it uses Text- To-Speech (TTS)and environmentally-friendly. This system can be developed in less time and also in low cost and low power consumption. The application is dynamic and requires less space.

While making this system we keep in mind the daily struggles such as reading, phone battery status, current location, weather detection, time and date, money recognition, face recognition, object detection, etc commonly by visually impaired people.

References

[1].V.Kaarthick Raja, A.Kartik, S.Prabhakaran "Voice Assistant for Visually Impaired People" in International Conference on Communication, Computing, and Internet of Things (IC3IoT)

[2]. Arun Gopi, Shobhna Devi P, Sajini T, Bhadran V K," Implementation of Malayalam Text to Speech using Conca native based TTS for Android Platform",International Conference on Control Communication and Computing (ICCC), 2013

[3]. Dongmahn SEO, Suhyun KIM, Gyuwon SONG, Seung-Gil, "Speech-to-Text- based Life log system for smart phones", IEEE International Conference on Consumer Electronics (ICCE), 2014

[4]. THOMAS, S. Natural Sounding Text-to-Speech Synthesis based on Syllable likeUnits, Department of Computer Science and Engineering, Indian Institute of Technology Madras, 2007

[5]. Kuei-Chun Liu and Shau-Yin Tseng, "Voice Helper: A Mobile Assistive System for Visually Impaired Persons", 2015 IEEE International Conference on Computerand Information Technology; Ubiquitous Computing and Communications; Dependable, Autonomic and Secure Computing; Pervasive Intelligence and Computing.

[6]. Shraddha Uddhav khadilkar, Narendra Wagdarikar,"Android phone-controlled Voice Gesture and Touch screen operated Smart Wheelchair",
International Conference on Pervasive Computing (ICPC), 2015

[7]. Maya Rida, Michel Nahas, Milad Ghantous, "iSee: An Android Application for the Assistance of the Visually Impaired", Springer International Publication, 2014

[8]. GulbaksheeDharmale, Dr. Vilas Thakare, Dr. Dipti D. Patil, "Intelligent Hands- Free Speech based SMS System on Android ", International Conference on Advances in Human Machine Interaction (HMI - 2016), March 03-05, 2016, R. L. Jalappa Institute of Technology, Doddabal- lapur, Bangalore, India