An Android Application for Blind: Third Eye

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Abstract

With advances in new technologies, mobile devices have grown in popularity to become one of the most common consumer devices. Many of us can make a call or send a message at anytime from anywhere. As our society farther expands, there have been many supports for second-class citizens, disabled. There are a lot of visually impaired persons in and round the world. Physical disability of blind people makes their life difficult. They find themselveschallenging to meet daily challenges independently. One amongst several supports that are urgent is that the guarantee of quality for blind individuals.Several auxiliary tools are available to help blind people.But these could not able to help the user with basic mobile phone features. The main aim of this paper is to help the blind person to use basic features of smart phones by audible feedback and a single shake on this application identifies the location of place through GPS and sends a message comprising this location URL to the registered contacts and also make a call on the first registered contact to help the one in dangerous situations. Continuous location trailing info via SMS helps to seek out the situation of the victim quickly and might be saved safely.

Keywords: *Accessibility, smart phones, visually impaired, android applications, TTS, GPS.*

INTRODUCTION

Today smart phone usage is common among individuals of just about all the ages and also the emergence of smart phones and devices have abundantly influence in their daily activities. People are getting habitual of it. It is difficult to think of a day without having our mobile phone by our side. The evolution of mobile phones is witnessed by all of us, touch screens being the latest amongst all of them. However, bit screens are still for the most part inaccessible to blind individuals as a result of they need the user to visually find objects on the screen. To address this problem, we have developed an application called THIRD EYE that uses audio output and gesture input to enable blind people to interact with touch screens. Thus it helps the blind people to use the basic features of smart phone.

LITERATURE SURVEY

There's bulk of data obtainable on technological advances for visually impaired individuals. This includes development of text to Braille systems, screen magnifiers and screen readers. Other developers have proposed an application converts your voice message in to text format while sending message and text message into the voice format when it receives message. But maximum do not address the basic problems faced by them. The applications, though really good in their approach do not cater for the basic needs of a blind person. Most Of the applications available are built for navigation purposes and object detection for example Walky-talky, iSee, NewVision. But these applications are not able to help the user with basic mobile phone.

EXISTING SYSTEM

One of the most common problems that many blind and visually impaired people experience is their day-to- day challenge in

coping with their impairment. Equipment such as Braille, reading glasses, or a walking stick are just some of the few things that help visually impaired people get along with their lives. Android applications are also built for the visually challenged, but most do not address the basic problems faced by them. The applications, though really good in their approach do not satisfies basic needs of a blind person. Most Of the applications available are built for navigation purposes, objectdetection and so on. But these applications are not able to help the user with basic mobile phone features such as calling and messaging. There are some other applications which have calling and messaging features but most of them take voice as input and are not very efficient. Based on these circumstances, we have implemented a system which enables the blind person to use a smartphone to an extend as the normal human being does.

PROPOSED SYSTEM
The relevance of this application would enable the visually challenged to use some basic features of mobile phones thus making their life a bit simpler. Through this application the visually challenged user can always connected with the world around. THIRD EYE gives information about applications in the phone according to the hand movements of the user to them. It can be activated by plugging an ear phone. The blind can make use of almost all applications that are available in a smartphone. That is they can make call by selecting the contacts, can hear messages received in the phone as voice alert, can hear music and can check missed calls, also able to know the current status of the phone like battery level, date, time etc. The unique feature of the application is that that a single shake on this identifies the current location through GPS and send the messages comprising this location URL to the registered contacts. This feature will help them to use atany

emergency situations when the blind needs the help from others. Those who got the message can find the location of the victim quickly and can be rescued safely. This application is like a guide to the blind people. Thus the blind can operate the phone and do all activities like others.

DESIGN
Here we use a sliding technique for choosing and launching application. At the time of installation a onetime registration of 5 contacts to be done for emergency help.When the application being activated, a user browses through lists of items by sliding their finger upward or downward across the touch screen. Touching the screen with a finger will not perform any action. It provides an audible feedback to let you know what's on your screen, what you are touching, and what you can do with it. When the user wishes to select an item, first they should reach the application by upward or downward swipe then slide right for selection. Here user can make a call from contacts, can sent and hear messages received in the phone as voice alert, hear the music, set the alarm, check missed calls, also able to know the current status of the phone like battery level, date, time etc. Here we make use of the technologies such as TTS, GPS, Accelerometer sensor and also other android features. GPS is used to identify the location of the user when he/she shakes the phone. Accelerometer sensormeasure the orientation and tilting motion of phone. Here it helps to send the messages by shaking the phone.

CONCLUSION
In this paper, we have a tendency to given a system that uses audio output and gesture input to produce full access to the touch screens for blind and visually impaired users. Methods using character recognition and pattern recognition were used initially. In this, an application is intended that uses audio output and gesture

input to change blind individuals to move with bit screens. One shake on this application identifies the placement and sends a message comprising the situation to registered contacts. We hope that THIRD EYE can serve as a model for accessible interaction across a variety of touch screen devices. We ensure that blind can use the basic features of smartphone as normal human beings does.

FUTURE SCOPE
In future, GPS will facilitate blind and visually impaired individuals to accurately determine themselves and navigate severally to supply & destination route data.

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