A NOVEL METHEDOLOGY FOR ROUTE DETECTION FOR BLIND PERSON USING ANDROID PHONE

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Abstract:

Android is an open source and free operating system. Android is one of the most popular mobile platforms . It was developed by google and based on linux kernel. Android applications are write in java programming language . It converts any data and resources into APK, an android package. The first version SDK 1.0 was introduced by Google, and the latest version is Kit Kat. This App constructs and materializes the navigation system for blind people in order to provide precise location information, using Android base Smart Phone. The navigation system uses STS (Speech-to-Speech) for blindness in order to provide a navigation service through voice. Also, it uses Google Map API to apply map information. For implementing this application we are going to make use of STS i.e. Speech to speech.

Blind person do not move one place to another place independently ,our system help for blind people to move one place to another place independently and to show a proper route.It helps to show to exact path where that particular person want to go. If any obstacle is detected alarm is started and the person comes to know that there is some obstacle. By using sensor and android phone we are carring out route detection.This paper proposed a system in android because android is the software which is friendly and can be developed easily. In this system the application is handle by some text that is TTS(Text-to-Speech) conversion is used also, it uses Google map API to apply map information .It possible to install use of smart phone.

Keywords: Receiver side, Sender side, Text to voice, visually impaired people, Voice to text.

I. INTRODUCTION:

There are many people who make use of Smart Phones and Android phone. The number of handicapped people are increasing day by day. This android phone will help blind people to Travel from one place to another .This paper mainly aims to show a proper route to blunt persons . This application will show the exact

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path where the particular person wants to go. If any obstacle occurs it will detect that obstacle. By using sensors and android phone we are carrying out this detection. This application will be implanted in android because android is the software which is friendly and can be developed easily.

For implementation and design of this we will need

1) Hardware kit

2)Sensors

3)Interface

4)Actual coding

5)Android phone

The hardware kit is already available in market which handles this overall conversion.The hardware kit mainly comprises of Decoder, Encoder, receiver, transmitter.

II. Why Android?

Voice based features

Google search through voice has been available since initial release.Voice actions for calling, texting, navigation, etc. are supported on Android 2.2 onwards.As of Android 4.1, Google has expanded Voice Actions with ability to talk back and read answers from Google's Knowledge Graph when queried with specific commands. The ability to control hardware has not yet been implemented.

Multi-touch

Android has native support for multi touch which was initially made available in handsets such as the HTC HERO. The feature was originally disabled at the kernel level (possibly to avoid infringing Apple's patents on touch-screen technology at the time).

Multitasking

Multitasking of applications, with unique handling of memory allocation, is available.

Screen capture

Android supports capturing a screenshot by pressing the power and volume-down buttons at the same time. Prior to Android 4.0, the only methods of capturing a screenshot were through manufacturer and third-party customizations or otherwise by using a PC connection (DDMS developer's tool). These alternative methods are still available with the latest Android.

III. WORKING:

Module wise working of this application is as follows:

1. Firstlty touch the phone anywhere on the screen.

2. Tell the destination where to go.

3. If during walking any obstacle occurs the application tells it

4. Finally the destination comes and the application is quit.

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The following flow graph shows the overall working of this application.

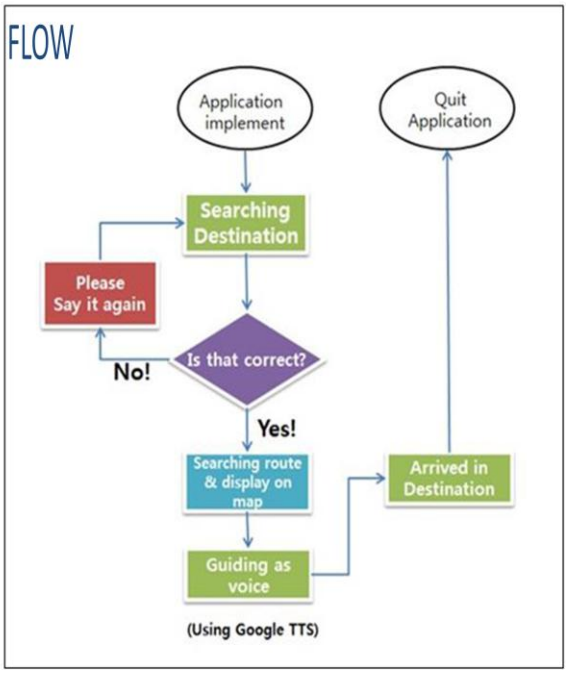

Fig: Overall flow of system

4 .PROPOSED SYSTEM:

IV Android:

Android is a mobile operating system (OS) based on the Linux kernel and currently developed by Google. With a user interface based on direct manipulation , Android is designed primarily for touch screen mobile devices such as smart phones and tablet computers, with specialized user interfaces for televisions (Android TV), cars (Android Auto), and wrist watches (Android Wear). The OS uses touch inputs that loosely correspond to real-world actions, like swiping, tapping, pinching, and reverse pinching to manipulate on-screen objects, and a virtual keyboard. Despite being primarily designed for touch screen input, it also has been used in game consoles, digital cameras, regular PCs and other electronics

GPS:

A Global Positioning System, also known as GPS, is a system designed to help navigate on the Earth, in the air, and on water. A GPS receiver shows where it is. It may also show how fast it is moving, which direction it is going, how high it is, and maybe how fast it is going up or down. Many GPS receivers have information about places. GPSs for automobiles have travel data like road maps, hotels, restaurants, and service stations. GPSs for boats contain nautical charts of harbors, marinas, shallow water, rocks, and waterways. Other GPS receivers are made for air navigation, hiking and backpacking, bicycling, or many other activities. The majority are in smart phones. Most GPS receivers can record where they have been, and help plan a journey. While traveling a planned journey, it predicts the time to the next destination.

LBS:

Location-based services (LBS) are a general class of computer program-level services

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that use location data to control features. As such LBS is an information service and has a number of uses in social networking today as an entertainment service, which is accessible with mobile devices through the mobile network and which uses information on the geographical position of the mobile device. This has become more and more important with the expansion of the Smartphone and tablet markets as well. LBS are used in a variety of contexts, such as health, indoor object search, entertainment, work, personal life, etc. LBS include services to identify a location of a person or object, such as discovering the nearest banking cash machine (*a.k.a.* ATM) or the whereabouts of a friend or employee. LBS include parcel tracking and vehicle tracking services. LBS can include mobile commerce when taking the form of coupons or advertising directed at customers based on their current location.

V CONCLUSION:

People with vision impairment generally have difficulty crossing intersections due to lack of information available to them about the traffic, signal and intersection geometry. Among the intersection crossing sub-tasks, locating the crosswalk, determining when to cross and maintaining alignment with the crosswalk while crossing are the most difficult tasks for the blind or visually impaired to execute. The current Accessible Pedestrian Signal (APS) system requires the blind to search for a pushbutton if one even exists. It often requires the pedestrian to move away from their path of travel, which is often used as an alignment cue for crossing. Due to the high cost of the APS installation, most agencies do not deploy them at all signalized intersections. In addition to the installation and maintenance costs that accrue to the local traffic.

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