Blind Aid: Travel Aid for Blind

Introduction

Visually impaired people face many problems in their day to day lives. the propose a system by developing an Android App which would help a visually impaired person while traveling via the public transport system like Bus. The proposed system uses an inbuilt feature of smart phone such as GPS location tracker to track the location of the user and Text to Speech converter. The system also integrates Google Speech to Text converter for capturing the voice input and converts them to text. This system recommends the requirement of installing a GPS module in buses for real time tracking. With minor modification, this App can also help older people for independent navigation.

Existing System

The existing solutions based on Wireless Sensor Networks(WSN) and Global Positioning System (GPS) track ZigBee units or RFID (Radio Frequency Identification) tags fixed on the navigation system. The issues pertaining to these solutions are as follows: (1) It is suitable only when the visually impaired person is commuting in a familiar environment; (2) The device provides only a one-way communication; (3) Most of these instruments are heavy and sometimes costly. Preferable solution would be to make a system which is easy to carry and cheap

Proposed system

propose a system develop a Mobile App, which could help a blind or visually impaired person to navigate in outdoor areas via public transport systems independently. This App would act as a medium between the visually impaired and the society. The App first tracks the location of the user via GPS and accept their destination via Google Speech to Text converter. Based on the extracted destination, it retrieves the buses and guides the user. In case of danger or emergency, the App sends an auto-message or call to the emergency contact number, mentioning the current location of the user.

Modules

1)Client side module

The working of the two modules associated with the Client side are :

(a) User Module: It is installed on the smart phone of the user. When this module is activated, it automatically tracks the location of the user via GPS Locator. This information is then transferred to the Server along with the destination uttered to the module via Google Speech to Text converter.

(b) Bus Module: This module tracks the location of the bus and updates the Server, as latitude and longitude.

2)Server Side Module

Admin module, the Server side module which governs the bus database and the updates it. This module answers the query posted from the client modules which are connected in the network.