

A Study on Blind Navigation tools

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Abstract:

Blindness is visual perceptual condition with some physiological or neurological factors. Visually impaired deaf and blind people have a problem of unsafe mobility. There are so many auxiliary tools to help blind people such as navigation system, blind way, braille, etc. navigation system is a device working with voice command it describes the way to blind people. In proposed work, advanced reliable system that contains all buildings, speech synthesizer.

Keywords — Introduction, navigation system, DGPS, GPS, GIS, Advanced Reliable navigation system,

I. INTRODUCTION

A Recent research era focusing on various safe navigation system tools, especially for the blind and visually-impaired in unfamiliar environments. Existing navigation tools are limited for determine the traveller's position and orientation. GIS relating the traveller's orientation. GPS coordinates to surrounding environment and the user interface. In this proposed work, A traffic detec-analyser was developed as an initial application component of the proposed system and experiments performed to test appropriateness for the real-time nature of the problem.

II. EXISTING WORK

Blind people have a problem of unsafe mobility. There are so many auxiliary tools to help blind people such as navigation system, blind way, braille, etc. navigation system is a device working

with voice command it describes the way to blind People

- **GIS** : Global information system based navigation system comprising the system software for spatial oriented database for relating the traveller's orientation.
- **GPS**: Global positioning system coordinates to surrounding environment and the user interface.
- **DGPS**: differential global positioning system is improved location accuracy for orientation sensing system, and the back pack carrying the rest of the equipment.
- **Braille**: It is a series of raised dots that can be read with the fingers by people who are blind.
- **Blind Way**: IT helps blind people to find whether are moving safe zone or not correctly.
- **Eye Stick**: It has a lens attached on the bottom part

III PROPOSED MODEL OBJECTIVES

The advanced reliable navigation system act as the user interface, spatialized sound from a virtual acoustic is used to convey information about the surrounding environment to blind traveller, sound contains a given direction and distance.

A. PROPOSED TRAFFIC DETECT-ANALYSER TOOL MODEL

To read a traffic it requires the user to use a systematic scanning technique. Consider sighted person trying to read a large wall map but only being able to read through two small holes. It is necessary to read the detail before being able to get an understanding of the whole image. It provide speech synchronizer allows this visually impaired people to can listen audio symptoms when they are in travelling on roads. If hurdles appears gives direction right, left, go straight, laid down hurdles, grills placed in front of entry gates etc. it help them while travelling alone.

B. System working model

It consists of two parts. A character encoding for mapping characters of letters in alphabet to tuples of six bits or dots. A way of physically representing six-bit character as raised dots in a braille cell. This system tool helps us elevators have buttons with braille markings, the impaired people winch on their own without fear while moving on the wrong floor announcement and instructions posted on sensor device provides audio and message oriented braille transcriptions. Audio helps blinds, and another scenario message is useful for both deaf with blind. When blind unimaginitive crossing then it is easy to recognize what is on the floor pattern and the colour of the traffic light and it will give information. Every signal can be passes to them through instant base. They can avoid dangerous things as well as locate their destination.

In this is another facility is small video camera is installed to translate object image captured through the camera lens which is useful when they are in

trouble. Camera snaps the photo and sends it to a wifi connected smartphone, especially developed android app processes the image using computer vision algorithms according to the present mode selected by the user and uses text-to-speech module to announce the appropriate results through earphones plugged into the smartphones.



The proposed navigation system uses camera to capture nearest visual pictured data and then uses a rather visual digitalized computer algorithm to translates this data into sound.

C objectives

The objective of proposed model is useful in emergency evocations in road maps in buildings and facilities, wayfinding maps, floor plans in public facilities and spaces, interpretation in museum, parks, tourist destinations and schools.. It prevents injury of blind people. Some sensory substitution devices can also use which enables blind people in effect to see and even describe objective.

IV CONCLUSIONS

We studied number of papers related to problems faced by visually impaired blind people in their day to day life. In our proposed navigation system provides solutions for existing navigation tools. In future work it may extended with vehicle alarm based navigation systems.

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