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GPS Based Tour Guide Assistance with Voice Announcement

Sonal S Bidwai¹, Suraj B Bhosale², Sneha N Bhore³
¹,²,³Dept. of E&TC, PVPIT, University of Pune, Pune, Maharashtra, India.

Abstract-- GPS is the acronym for Global Positioning System. It is employed to find the position of the location on the earth. This information is provided by the GPS with the help of the data it receives from the satellites. Microcontroller is the heart of the device. It stores the data of the current location which it receives from the GPS system. So that it can make use of the data stored to compare with the destination location of the user. By this it can trace out the distance from the destination. This device helps the blind people in their journeys and at the tourist places. It helps him to get the alerts regarding the destination location at the time he reaches there. This device is designed to provide with a greater advantage producing voice based announcement for the user i.e. the user gets the voice which pronounces his destination location as and when it is about to reach the destination. Here instead of the alerting sound the user can directly here the location recorded by the user itself.

Keywords-- Global Positioning System

I. INTRODUCTION

In today’s world, people uses wireless and wired gadgets for their daily use but GPS is one of the best wireless module than any other wireless devices. As other wireless devices has limited range of communication, where with the help of GPS module we can extend the range of communication to greater extend. It can be applicable in home appliances, industrial purpose as well as for general use. Visually disabled and elderly persons have problems in travelling independently. Firstly, they have difficulties in accessing the information they need to plan their journeys. Once on a journey they have problems in knowing where they are and keeping to the planned route without help of tour guide. This could help the blind people able to recognize their destination properly.

The project describes the Design, Development and Fabrication of the project work” GPS Based Tour Guide Assistance with Voice Announcement” using Embedded Systems. GPS based device with user input interfacing (voice based) to get alerts for few places is a microcontroller PIC based device which intellectually find the location in which it was currently located and gives the knowledge about the particular destination area.

This device is designed to provide with a greater advantage producing voice based announcement for the user i.e. the user gets the voice which pronounces his destination location and complete knowledge for a respective location.

Here instead of the alerting sound the user can directly here the location recorded by the user itself. Wireless does not mean sparks, noise or a lot of switches. Wireless means communication without the use of wires other than the antenna, the ether and ground taking the place of wires. Communications by the wireless waves may be consist of an SOS or other messages from a ship at sea or the communication may be simply the reception of today’s top 10 music artists, or connecting to the Internet to check your email.

In March 1897 issue, McClure’s Magazine presented a long illustrated article entitled ‘Telegraphing Without Wires’, by H.J.W. Dam, describing the experiments of Hertz, Dr.Chunder Bose, and the youthful Marconi. In 1900, the erection of the first Marconi station at Cape Cod, Massachusetts began.

In March 1901, the Marconi Company installed radio devices at five stations on five islands of the Hawaiian group. For a long time these installations were to prove to be of little or no value due to the restricted availability scarcity of qualified operatives. In 1904, several US government agencies, which included the Navy, the department of Agriculture, and the Army’s Signal Corps, all began setting up their own radio transmitters, with little or no co-ordination between the various departments. This board was tasked with preparing recommendations for co-ordination of governmental development of radio services.

In existing system using GPS, we can trace location, name of location, latitude, longitude of location etc. But it will not give any other information of that particular location.

Fig.1 GPS Tracker

In Proposed project, database of every location is created. This database includes all basic information of that location.
By tracing location by GPS co-ordinates are tallied with stored database. If co-ordinates are found to be matched, all the information stored about that location will be announced by prerecorded voice. In this project we will store database of 4 locations and information about that four location.

This information is read by PIC16F877 and sends it to DAC. The analog data is amplified. After amplification this data is sent to speaker such that information can be listened by user.

II. BLOCK DIAGRAM AND DESCRIPTION

The GPS gives the data related to co-ordinates of the location with the help of satellite. A GPS is connected to PIC16F877 with the help of MAX 232. The MAX 232 receives the Signal via UART1. Then UART2 is connected to PC for external voice downloading. The PC stores the voice data onto the External memory and creates a database onto it.

The PIC16F877 receives the data from GPS and processes it which is displayed on LCD. The co-ordinates are compared with the given data base which is stored in external memory. After comparison, the co-ordinates located are retrieved.

This information is read by PIC16F877 and sends it to DAC. The analog data is amplified. After amplification this data is sent to speaker such that information can be listened by user.

III. FLOW CHART

IV. CONCLUSION

The project we have designed is useful to guide the tourist and stranger at new location. This will avoid misguidance of place and provides exact information about the location, which will be audible and prerecorded. It will be more helpful for blind as well as strangers to meet new locations and avoid misguidance.

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OF THE GPS TECHNIQUE

Address: ‘Shri krupa’ Girls Hostel, Mokate nagar, beside
kothrud depot, Kothrud, Pune- 411038