

Location of Parked Vehicle

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Abstract—In the current era, we are facing problems in several fields due to usage of technology abundantly in an incorrect way. One among such problems is regarding vehicles. In today's world, due to increase in comfort level of people, number of vehicles is rising each day. This is causing several problems. One among such problem is after parking the vehicle, to remember the parking place where the vehicle was parked, which is a quite difficult task, due to increase in number of vehicles. This creates more problem to two-wheeler users unlike four-wheeler users, who have built-in GPS facilities these days. Our paper 'Location of Parked Vehicle', aims at addressing this problem stated above, providing a helpful system for the users. In today's mechanical life, it's quite common that by the time we come out of our working place, we might have forgotten, where we had parked the vehicle. And it's difficult to search among those number vehicles, of same or different color, company or brand. So our proposed solution helps the user to locate the parked vehicle easily. It is also helpful to detect theft or any such things with the help of GPS locator. Hence to address this issue, this solution has been proposed.

Keywords— Arduino; GPS locator; GSM; Location; Parked Vehicle; SMS; Location URL;

I. INTRODUCTION

In today's busy and mechanical life it seems so common that, by the time we complete some work, and come out of the office or college or any working place, we forget where we had parked the vehicle. The problem will be still more severe in the parking lots of bus and railway stations. We would have parked the vehicle somewhere and will be searching for the vehicle somewhere else. Especially this creates much problem in parking places, where varieties of vehicles with same or different colors, same or different companies, models will be present. Hence it is very difficult to find out which is our vehicle amongst those plenty of vehicles, and it is time consuming too. So it is of great importance to solve this problem.

Hence we are providing a 'Vehicle Locating System', wherein a user can easily check and locate, where he had parked the vehicle, without searching for it. This application also helps in detection of theft or any such things, if occurred.

It's quite common in today's world that everyone will be having Android phones. Hence using the phone, they can easily locate their vehicles.

In all the existing systems, the user, before leaving the parking place has to specifically store the information of the parking location, else it will not be stored. The user might forget, in a hurry, to store this information. In our application, the user need not have to specify any of the information. Everything will be taken care by the system itself. Hence this is a user-friendly application.

This application works on android platform. It uses GPS. It also uses Google Maps Api. This application is mainly

beneficial for the people having no idea about the places where they have parked. The user can also find paths to follow in order to reach the final destination in map which gives the better view to users. Since the location can be viewed in map, the user can zoom in and zoom out to get a better view. The usage of this application reduces the time required to search for a place.

II. LITERATURE SURVEY

This section provides a brief overview of works that have been carried out in the field of detection of plant leaf diseases.

'GPS Based Automatic Vehicle Tracking', a research paper by Devyani Bajaj, Neelesh Gupta states that "a vehicle tracking system is an electronic device installed in a vehicle to enable any person to keep in track the location of the vehicle. The aims are: drafting vehicle which can be controlled from a distant place, for which location can be found out through GPS tracking mechanism and to avoid clash of loads. When anyone needs to know where one's car or truck is, the travel paths and reaching time of your vehicles, if your vehicle is being abused or if the vehicle needs protection from thieves, this system can be of great help" [1].

A survey done in [2] tells that the overview performed on different methods of vehicle vehicle following strategies utilizing GSM and GPS. Vehicle route is one of the most significant variables with regards to route which is for the most part utilized by numerous drivers. A vehicle global positioning framework joins the establishment of an electronic gadget which is mounted in a vehicle, or within vehicles, with the work of allowing proprietor or a client to follow the vehicle's area, gathering information all the while. Today vehicle global positioning frameworks usually utilize Global Positioning System (GPS) technology for finding the vehicle, yet different sorts of automated vehicle area innovation can likewise be utilized. Vehicle data can be seen and situated on the electronic Google maps by means of the Internet or particular programming.

III. PROPOSED SOLUTION

The concept of location of parked vehicle is developed mainly to provide the exact location of vehicle. For providing the location we are using hardware components such as GPS, Google map APIs, GSM and Arduino. The below diagram explains how to fetch the location of the vehicle and send to user.

1. System Architecture:

Fig.1 shows the proposed architecture of the system. Each phase of the architecture is described below.

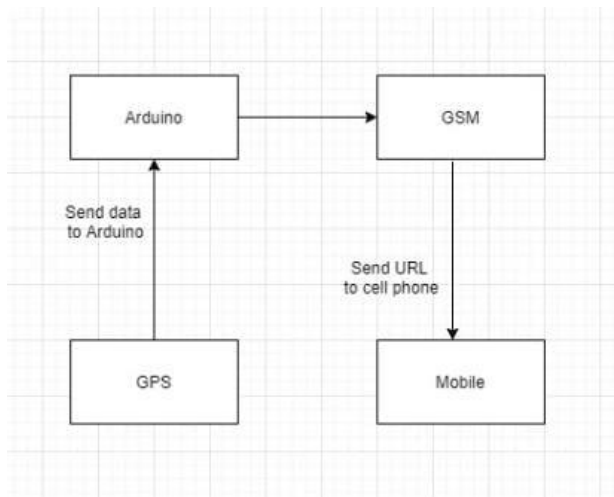


Fig. 1: Architecture of the system

- **GPS module**

GPS stands for Global Positioning System. A GPS is a technology utilized to find out where in particular, a thing to which GPS device is attached, is. It could find the exact location of a vehicle or some other handheld device. It can also find the movement. Here in our proposed solution, it is installed in the vehicle and is used to get the location of the vehicle.

- **Arduino**

The Arduino Uno R3 is a microcontroller board of dual-inline-package (DIP) ATmega328 AVR, microcontroller and it can be removable. In our system Arduino acts as an intermediary between GPS and GSM. Programs are to be loaded on to it from the easy-to-use Arduino computer program, using which co-ordinates fetched by GPS is sent to GSM.

- **GSM module**

GSM module is used to set up a communication between a computer or a mobile phone and a GSM system. Global System for Mobile communication (GSM) is an architecture and it is used for mobile communication abundantly. It requires a SIM (Subscriber Identity Module) card similar to mobile phones to activate communication with the network. Also they have IMEI (International Mobile Equipment Identity) number just like mobile phones for their identification and the GSM sends the co-ordinates of the location of the parked vehicle in the required format as a URL as shown in Fig. 2.

- **Android System**

Android system is used to get the location of the parked vehicle through messages (SMS).

IV. RESULTS

‘Location of parked Vehicle’ has been successfully built and is working efficiently. Whenever the user requests for the location, the location will be sent through SMS shown in Fig.2 to the mobile phone which can be opened in maps to view the exact location of the vehicle. This not only helps to locate the

parked vehicle, but it also helps to find the vehicle location during theft or accidents and such situations, which requires immediate actions to be taken by the user.



Fig. 2: Result SMS

V. CONCLUSION

‘Vehicle Locating System’ is built successfully and the location of the vehicle is being obtained successfully to the Android Mobile phone and the location can be viewed by the user, so that the time is not wasted in searching of vehicles. And if there are thefts or any such unexpected things, vehicle can be located and found out easily. The only requirement of the proposed solution is that the user must have a smart phone with Internet connectivity.

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