ASSIGNMENT-1

SOFTWARE REQUIREMENTS SPECIFICATIONS(SRS)

OF

GPS VEHICLE TRACTING SYSTEM

Submitted by

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1.Introduction

1.1.Purpose

The purpose of this GPS Tracking System is to desire the advanced features in an inexpensive receiver. Currently, all OEM GPS receivers i.e., the single GPS receiver boards with no case, display, etc, proprietary firmware which makes certain assumptions on the system dynamics or application which may not be appropriate.

Currently there is no single system that integrates all tracking and tracing of any movable objects, there are applications but all of them are separate so to integrating all of them was the idea behind this programme development

1.2.Scope

You may think that you only need a GPS tracking device to get you from point A to point B if you are unsure of where you are driving, but did you know that there are many other tracking systems that you may have a use for?

GPS tracking systems are used to track anyone and anything these days. Technology has rapidly advanced in the past few years and it has become very easy for the average person to use a tracking system. If you have a vehicle, then you will want to place a GPS tracking system under your dash or in your glove compartment. This way, if your car ever gets stolen, you will be able to locate it within seconds. If you have a small child, you will want to have a tracking system in place in case they get lost or wander. Every second counts with a lost or abducted child, so a tracking device is imperative to avoid a possible disastrous and heart-breaking outcome.

If you have valuable items in your home like jewellery, or electronics you will want a GPS tracking system in case they are ever stolen. There are also various tracking systems that can locate items inside buildings and parking garages. If you have a teenager, you will want to use a GPS tracking system to make sure that they are driving responsibly and they are going where they told you they were going. If you suspect your spouse or significant other of cheating, a good tracking system will be able to confirm or absolve your suspicions

1.3.Product Perspective

1.3.1 Hardware Interfaces

- Client PC with Internet Connection.
- Server with Static IP.

- AVL (Advance Vehicle Locator) Device.
- GSM SIM Card with GPRS activated.

1.3.2. Software Interfaces

- FM1100 Configurator (for configuration of AVL)
- Microsoft Visual Studio10.
- .Net framework 3.0/greater.

1.3.3. Communication Interfaces

Internet is the only communication interface for this system.

1.4.Product Functions.

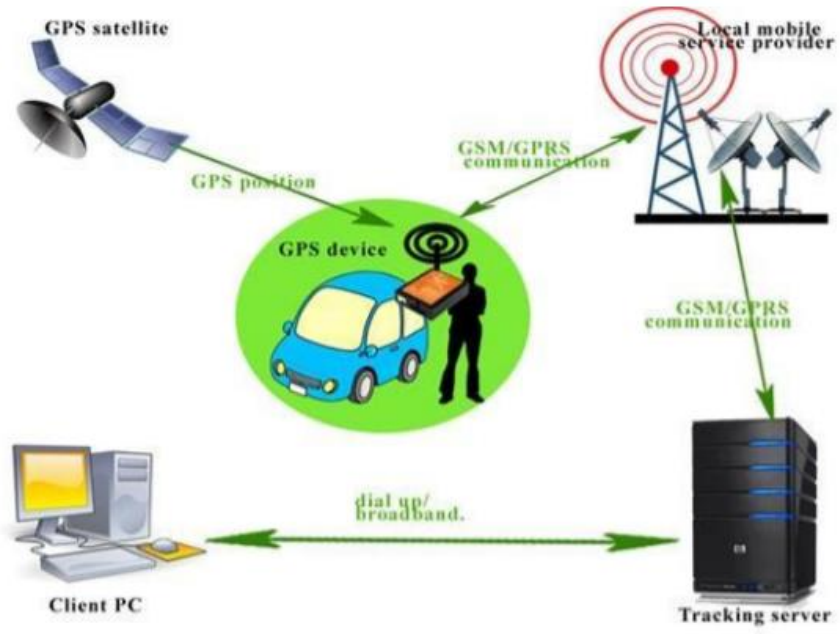

Fig1. *Architecture of GPS Tracking System*

1.4.1. Working

The GPS satellite gives the exact position of the device which is situated in the Car. This device is in turn which is connected to the local GSM service provider via a GSM network as it has SIM card present in it thus the GPS parameters which the device has are send to the tracking server which has a Static IP address via a GPRS network.

The tracking server consists of a Socket listener application running in the back-ground which listens at a particular port. The GPS parameters received by the port listener are given to the Parser and converter for proper conversions and this data is stored in the database. These values from the database are fetched and are manipulated to get the reports in proper format. [1]

1.5.User Characteristics.

GPS and GSM integration for vehicle and other objects tracking can be very helpful instead of using GPS network alone. This system can be further extended for multiple applications as follows

- Anti-theft system for cars and bikes.
- Managing of public transports likes buses and trains.
- Tracking of valuable assets.
- Fleet Management of cars.
- As a vehicle management software for transport companies

And many more similar applications thus, this system can prove to be very helpful in future.

1.6.Assumptions and Dependencies.

For the proper working of the system, one should agree all the privacy policies provided by the website. The user's verification will be done through OTP code methods. All their personal details are protected under the website authorities

1.7.Acronyms and Abbreviations.

We use bold letters to represent the main functions of the system. Some links and hyperlinks are used. There were some acronyms throughout this document.

2. Requirements

Requirement Analysis is critical to the success or failure of a system or software project. It is a description of features and functionalities of a target system. The Requirement should be documented, actionable, measurable, testable, traceable, related to identify business needs or opportunities, and defined to a level of details sufficient for system design.

2.1. External Interfaces.

There are many interfaces related to software in software engineering. Some of the interfaces are software interface, hardware interface and communication interface.

2.1.1 Hardware Interfaces

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2.1.2. Software Interfaces

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- .Net framework 3.0/greater.

2.1.3. Communication Interfaces

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Non-functional Requirements

- **Performance Requirements**

System should take minimum time for report generation. The system performance must not act by the number of vehicles present. The web pages should not take much time to load the pages.

- **Security Requirements**

System should not grant authentication to any unauthorized person. The system should not be vulnerable to the security attacks. Information related to Admin password should be con denial.

2.2. Functions

2.2.1. Registration of user.

Here the Users can create their profiles with their name, contacts, and other personal data's. And issue GPS and GSM

integration for vehicle and other objects status. Editing also available in this field.

2.2.2. Viewing Status.

Here Users can view their GPS and GSM integration for vehicle and other objects status.

2.5. Usability Requirement.

The user can easily use the website/software, with the use of proper network.

2.6. Performance Requirements.

The performance of software should be reliable and accurate. It has the data flow minimization and client-side caching in order to improve performance.

2.7. System Design

- ❑ Data Entry
- ❑ Data Correction
- ❑ Data selection
- ❑ Processing
- ❑ Reporting

2.8. Database Requirement.

It is used to store the data all the data of users is stored in the database.

3.Verification

We check all the above given Requirements are completely present and satisfy all the functional and non-functional requirement. The goal of the system is achieved as per the requirement specification and conditions

4. References

[1] Research Paper, Integration of GPS and GSM for Determination of cellular coverage area by A. D. Sarma, P. S.Ravikanth and D. Krishna Reddy.

[2] EliaNadiraSabudin, SitiZarinaMohdMuji, Mohd. HelmyAbdWahab, AyobJohari, Norazman Bin Ghani,"GSM-based Notification Speed Detection for Monitoring Purposes", IEEE, Department of Computer Engineering, University Tun Hussein Onn Malaysia in 2008.