

Safety Tracking System For School Student

A. S. Patel¹, H. A. Patil², M. P. Patil³, S. A. Pawara⁴, V. T. Patil⁵

^{1, 2, 3, 4, 5} Dept of Computer Engineering

^{1, 2, 3, 4, 5} D. N. Patel College of engineering, Shahada, India

Abstract- *The crimes over children are increasing day by day on large scale .To restrict crimes on children it important to develop a new enhanced system which helps for childrens security and safety. Mishaps and missing of children are increasing on large scale and it also causing parent to worry about their children. So Tracking System for Student is an effective major to restrict these crimes. This paper proposed an embedded system which focuses on children safety, security,tracking of school bus and exact location of school bus with the help of GPS Tracking and sending information to parent and school organization. Parent have to sing in using username and password. Parent can check location of student at anytime . Parent can also view driver and bus detail. We also add speedometer to check speed of bus. Hence we provide complete solution for student safety and security.*

Keywords- Children safety, GPS tracking, GPS location, School bus tracking, Student location, Security System, Tracking bus.

I. INTRODUCTION

School needs to ensure students security and respect parent's time. But current city traffic is too unpredictable and children have more freedom and less security. GPS school bus tracking system will be very helpful for schools in ensuring their responsibility.

When it comes to offering transportation facility for school students what needed to be considered prior is trust and safety. By providing access to customizable GPS enhanced school bus tracking system, parents, school administrators as well as the transport contracting agency can get updated with the route and time schedules of buses.

As harsh driving, over speeding or hard cornering of school buses cannot be tolerated in any means, we provide administrators with an efficient system for tracking performance of drivers. Live tracking of vehicles is made possible with GPS system equipped with location and position detectors.

II. LITERATURE REVIEW

School needs to ensure student's security and respect parents' time. But current city traffic is too unpredictable and children have more freedom and less security. GPS school bus tracking system will be very helpful for schools in ensuring their responsibility. When it comes to offering transportation facility for school students what needed to be considered prior is trust and safety. Nowadays people have been moved so much into the modern technology that they really want an intelligent living environment along with intelligent objects which contain powerful infrastructure with the most desired features. Thus android mobile applications have become very popular among the Smartphone users.

Traditionally, there was no such application or web service developed for tracking school bus. Parents were unable to locate where exactly the child in the school bus would be Tele Communication was the only medium to track the location of the school bus by calling the driver which is a risk for driver while driving. A chance of getting false location from driver via telephonic communication is higher. When child enter or leave school then organization notify parent through SMS sometimes SMS will not be sent by organization or sometimes it would receive on wrong time to the parents. So missing of children is increasing on large scale.

Therefore, we develop a new system for student safety and security. System is enhanced with lots of features which help organization as well as parent for children security and safety. System is easy to install and it plays important role at the time of emergency. It automatically notifies organization with the bus location.GPS Tracking provides live location of children in school bus and track the bus on Google map. Parent can able view driver detail and bus detail. Parent can also give feedback. System has also a feature of forget password option for parent as well as driver and also change password according to their need. New register can be easily add to the system by providing valid credentials. Admin can access database of parent and driver. we hope this system is very helpful for parents and organization for student safety and security purpose.

III. METHODOLOGY

This system is a combination of web as well as python application where the driver will be using this python application whereas admin and parent will be using web application. This application is meant for a driver who is driving the school bus. System allows admin to add a new driver where driver id and password is generated and stored into the system.

The driver will have the python application installed in his system, when the driver will login to the application, his GPS location will be sent and stored into database. As soon as driver logs in, GPS location of the driver will be tracked automatically by the application and stores the GPS co-ordinates into database after every 5 minutes. When driver logs out from the application, again GPS location will be stored. In order to keep track the attendance of the driver, this system plays a major role. The role of the admin is to register a new student by entering his personal details with parent details where parent receives a mail which consist login id and password, so that parent can access the web interface to track their children. Admin can view bus details and also can edit and update the details.

IV. FEASIBILITY STUDY

Feasibility Study is a high level capsule version of the entire process intended to answer a number of questions like: What is the problem? Is there any feasible solution to the given problem? Is the problem even worth solving? Feasibility study is conducted once the problem clearly understood. Feasibility study is necessary to determine that the proposed system is Feasible by considering the technical, Operational, and Economical factors. By having a detailed feasibility study the management will have a clear-cut view of the proposed system.

V. IMPLEMENTATION LANGUAGE

Python is a powerful multi-purpose programming language created by Guido van Rossum. It has simple easy-to-use syntax, making it the perfect language for someone trying to learn computer programming for the first time. It has wide range of applications from Web development (like: Django and Bottle), scientific and mathematical computing (Orange, SymPy, NumPy) to desktop graphical user Interfaces (Pygame, Panda3D).

REASONS OF SELECTING IMPLEMENTATION LANGUAGE

Because the python language is easy to code python is a high-level programming language, python is portable language, integrated language and object oriented language, GUI programming support. Python has large standard library which provides a rich set of module and functions so you do not have to write your own code for every single thing. There are many libraries present in python for such as regular expressions, unit-testing, web browser, etc.

You don't need to define the type of a variable in Python. Also, it's not necessary to add semicolon at the end of the statement. Python enforces you to follow good practices (like proper indentation). These small things can make learning much easier for beginners. Python allows you to write programs having greater functionality with fewer lines of code.

VI. HARDWARE REQUIREMENT

Table 4.3 Minimum Hardware Required

Hardware	Minimum Requirement
Processor	Core i3
Primary Memory	Min 1 GB RAM
Secondary Memory	Min 160 GB
Internet Connection	Min 1 Mbps Stable connection

VII. RESULT AND DISCUSSION

Safety tracking system for school student helps to track exact location of school student. This application can be used by user's (parent) who can sit at home and chat with the bus driver for student security and location. Our system work properly. It save time and money. Bus tracking application helps to generate new leads. It provides support 24 x 7. It is easily accessible. Maintaining the all secured and database on the server which will be accessible according the user requirement without any maintenance cost will be a very efficient as compared to storing all the customer data on the spreadsheet or in physically in the record books. Records can be easily accessed and store and other information respectively. This System helps the parent to keep track of their children travelling in the school bus. Since GPS location of the school bus is tracked, so driver will not attempt to re-route the school anywhere else.

LIMITATIONS OF THE SYSTEM

Limitations of system are as follows:

- User need to put correct data or else it behaves abnormally.
- All the drivers must have this application.
- Requires an active internet connection.

VIII. CONCLUSION

From the analysis of the result, we can conclude that our safety tracking system for school student app is able to meet up the requirement for the traveler for a great traveling experience. As a conclusion, the design of the safety tracking system for school student app is able to perform as expected and can be further analyzed for future enhancement so that new features could be focused to produce a better solution by improving the effectiveness of the app. It enables free, secure, fast and easy usage. We can also conclude that the use of safety tracking system for school student app will definitely benefit the user by saving storage and time of the user which in turn makes this app user and practice friendly.

It provides distance between current location and target location. Parent get notified when children reaches the selected location. Parent can give a feedback related to safety, security and location. Here we have presented the design of a safety tracking system for school student for android applications which can provide the parent with the required exact location needed anytime and anywhere. This application is a combination of smart phone and Internet services. The system achieves its main goal by applying real time data.

IX. FUTURE SCOPE

The future scope of safety tracking system for school student could include many benefits for parent and also for school organizations, but experts say they will need to be gently nudged in the right direction for businesses to reap these benefits. Beyond the next five years, however, the future of safety tracking system for school student relies on widespread adoption of the technology.

Therefore, Safety tracking system for school student has huge and large future scope.

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