

Smart - ID

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Abstract- Millions of children need to commute between homes to school every day. Safer journey of school children has been a critical issue as it is often observed that, kids find themselves locked in the school washrooms, buses, they miss the bus, or ride the wrong bus with no way to track them. There is also an increase in kidnapping rates too. Nowadays children's safety is the most critical issue which needs to be taken into consideration. This project intends to find yet another solution to solve this problem by developing a tracker for their ID cards. The proposed system will track the real time location of children using GPS technology. If the child feels unsafe or senses danger a panic switch is provided in the id card which will send an sms alert to parents. This will be done using GSM/GPRS technology. This will ensure the child's safety. The geo fencing feature is an additional security provided through which an alert will be sent to parents if their child is at any unknown location. Parents can track the real time location of children on the application.

Keywords- AGPS, GSM/GPRS, Geo fencing, Panic switch

I. INTRODUCTION

Smart-ID is a project based on a concept of identity cards which are provided to students for their safety purpose. There are many issues that might disturb the parents regarding the safety of school going children's, The project intends to look into introducing access safety in respect of students through Smart-id tracking system that will help the school children's safety in all aspects.

The supervision of the regularity of students during school hours is done. Whereas it is difficult for the care taker and school teacher's to take care of particular student, which can lead to endangering child safety. The phenomenon of forgetting kids during the school hours is one of the major problem suffered by the parents, which has increased significantly in recent years. This has often led to many accidents with students due to the lack of attention by school teachers, drivers. This project, through tracking record, aims to create a suitable environment by following certain set of criteria of security and safety for school children that will have a positive impact on the student and their family.

II. METHODOLOGY

With the advancement of crime rate security is having its alarming significance for school children. Missing of the students at school premises, anti-social elements, kidnapping etc are increasing in an advance. The proposed working model focuses on child security by using GPS GSM technology.

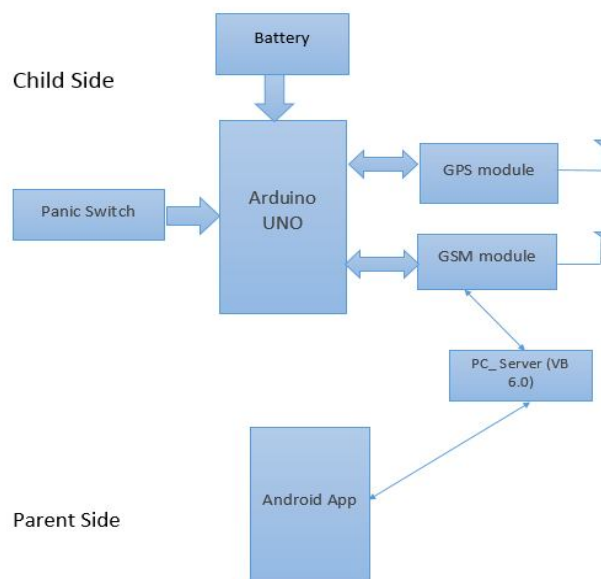


Figure 1. Block Diagram of Smart-ID

This system is made to track the live location of child using GPS module and arduino. Using GSM module all the data of GPS module is send to the server.

Arduino Uno microcontroller is attached to child's ID card, which is interfaced with GPS module, to get the latitude and longitude of the live location.

After fetching the co-ordinates, through GSM module this data is transferred to a server.

Parents will have one customized android application, using that app parents can track the real time location of the child.

One application is made using VB6.0, when requested, this application will take the data from server and will transmit the data to android app present at parent side.

Panic/emergency switch is also provided on child’s ID card, if the child is in danger or in a situation of emergency, after pressing this switch, parents will get notified about this via server.

This project will also detect the danger areas, Geo fencing locations are predefined, if the child exits the geo fenced location parents will get an alert notification

III. REQUIREMENTS

The system shall include the following:

A. Hardware Components

- Arduino mega.
- GPS module.
- GSM module.
- Switch.

B. Software Components

- Arduino IDE - arduino programming
- VB 6.0 - PC side coding
- B4A - basics for android - Android app

IV. FEATURES

The features of the system are:

- GPS live location.
- GPS module.
- Server to store data.
- Android app- Parents side to track location.
- Geo Fencing
- Arduino mega controller.

V. RESULTS

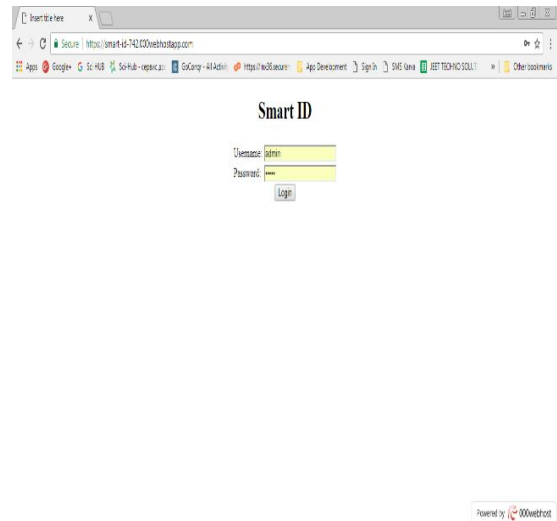


Figure 5. Webportal

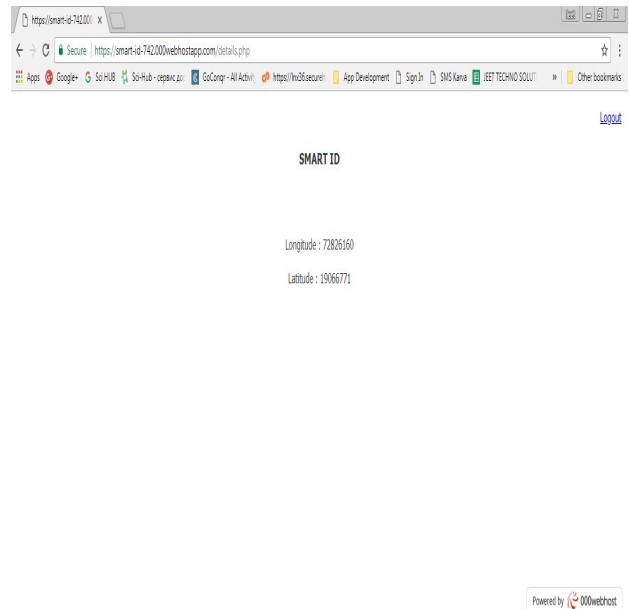


Figure 6. Webportal with location details

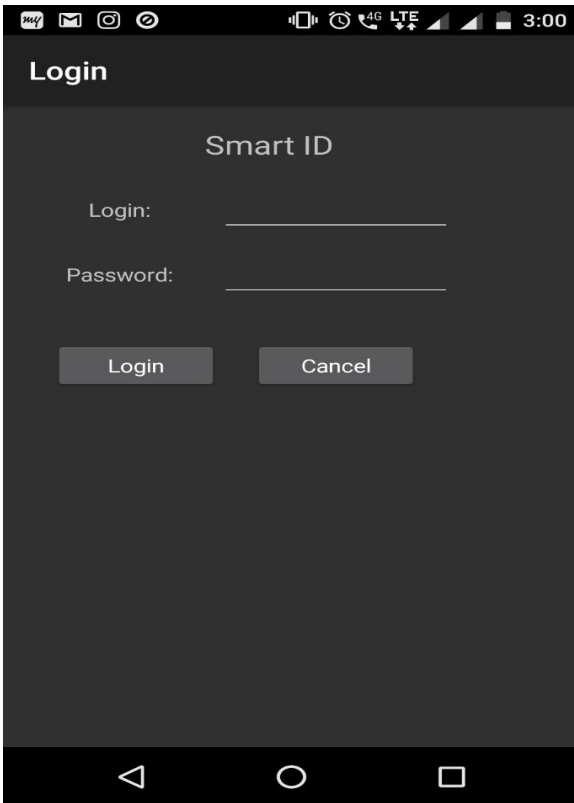


Figure 7. Android App- Login Page

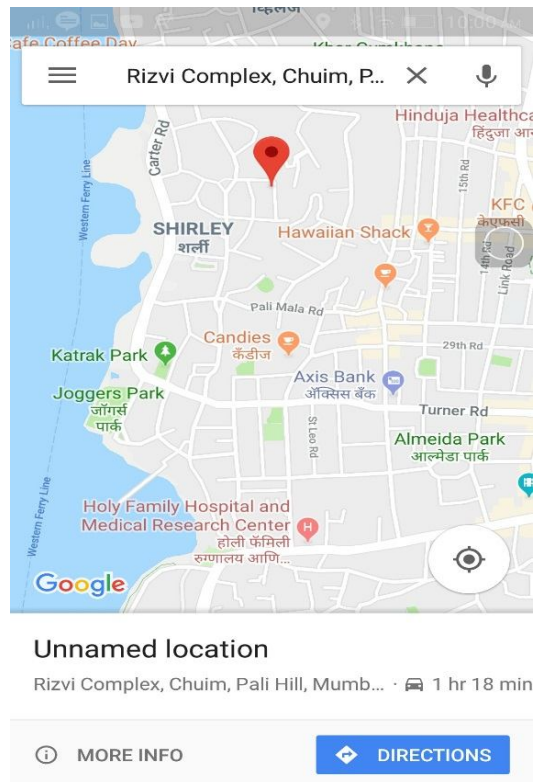


Figure 9. Google Map

V. CONCLUSION

The proposed system is for monitoring real time location using GPS technology. Using Smart-ID anyone’s location can be monitored in real time. If in danger or a situation of threat the panic switch can send alert to the family members.

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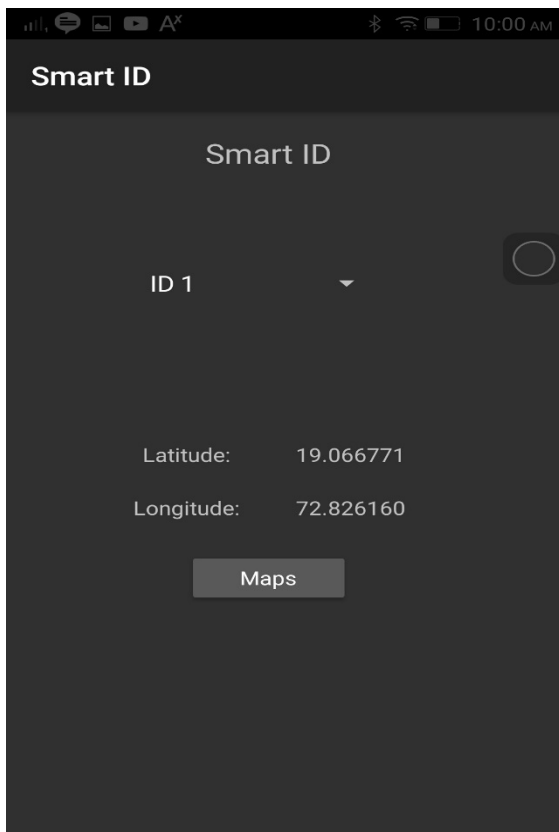


Figure 8. Android App- Longitude and Latitude

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