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GPS BASED LOCATION TRACKER USING RASPBERRY PI

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Abstract: *These Days parents are worried about their children's so they want a complete track of them and monitor them all the time, This is physically not possible so we introduce Safety Monitoring system which is helpful for monitoring or tracking the child and their activities from anywhere in the world.The major issue of child missing can be solved with the help of child tracking system as well as parents who need to keep a track of their every steps, this system plays a vital role. The android applications display their child location.This hardware kit sends all the data from this model to the server and from the server to the parent's phone in every minutes interval. The tracker can be made by using a GPS, and Raspberry Pi, Wi-Fi module and an Wi-Fi network source. The GPS detects the latitude and longitude of the child. This system can send the exact position of the child to the server. Google maps can be used to display the location of the child by continuously uploading the location data to the user.*

Keywords*: Android, Raspberry Pi-B+, GPS, GSM*

1. INTRODUCTION

In recent years, kidnapping of children happens in many places. Most of the mobile phones are equipped with location services capabilities allowing us to get the device's geographic position in real time. The mobile application use the GPS and SMS services found in Android mobile phones. It allows the parent to get their child's location on a real time map. Many developments were made in order to implement Children tracking using different technologies. Autonomous Clustering technique used to manage groups of Android terminals attached to children in school. These Days parents are worried about their children's so they want a complete track of them and monitor them all the time. This is

physically not possible so we introduce Safety Monitoring system which is helpful for monitoring or tracking the child and their activities from anywhere in the world. The major issue of child missing can be solved with the help of child tracking system as well as parents who need to keep a track of their every step.

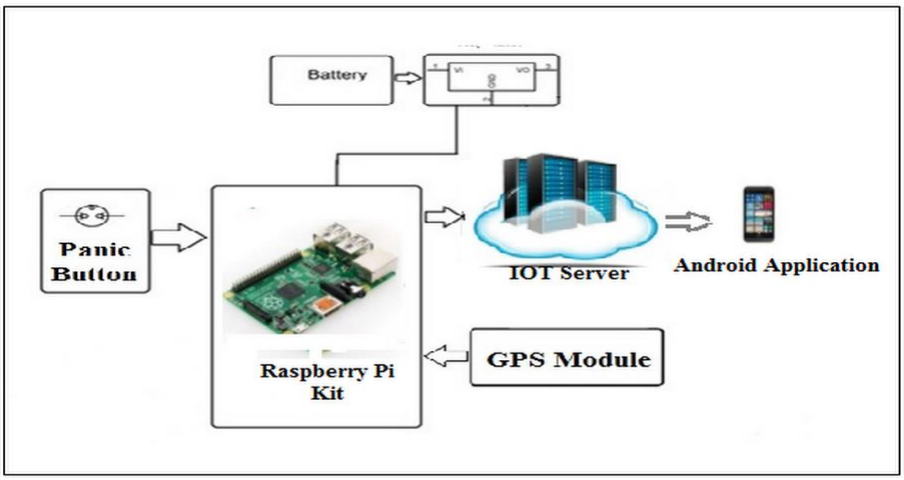

Fig1: General block diagram of system

2. KIT REQUIRED TO DEVELOP GPS BASED LOCATION TRACKER USING RASPBERRY PI 3 B

- **Raspberry Pi 3 B:** Raspbian is a free operating system based on Debian optimized for the Raspberry Pi hardware. Raspbian provides more than a pure OS. The Raspberry Pi Model B+ incorporates a number of enhancements and new features. Improved power consumption, increased connectivity and greater IO are among the improvements to this powerful, small and light weight ARM based computer. It is an SOC chip based on RASPBERRY PI with low power, high performance, very suitable for embedded product development. The specification of the device is given below.

Fig 2.Raspberry Pi 3 B

- **GPS Module:** GPS receiver provides a solution that is high in position and speed accuracy performances, with high sensitivity and tracking capabilities in urban conditions. This module shown in figure.4 delivers major advancements in GPS performances, accuracy, integration, computing power and flexibility.

Fig3. GPS Module

Fig 4.Internet Dongle

Fig 5. BB Battery

3. CONCLUSION

We have presented Parential Application System for student tracking, a novel system which Predicting students' performance and track student location is mostly useful for parents to make sure about child activities like how many time they spend outside the college.

4. FUTURE SCOPE

- To avoid all of major issue of child missing.
- People can locate and retrieve details anywhere and anytime.
- This system can be useful for vehicle tracking.
- Tracking of soldiers in patrolling during border.

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