**IOT Based Smart GPS Device for Child and Women Safety Applications:**

Android based solution to aid parents to track their children in real time. Different devices are connected with a single device through channels of internet. The concerned device is connected to server via internet. The device can be used by parents to track their children in real time or for women safety. The proposed solution takes the advantage of the location services provided by GSM. It allows the parents to get their child‘s location on real time by SMS. This device will also have the facility of Emergency help key (SOS), if anyone presses the key, automatic help message will be sent to 3 registered mobile numbers on Server.

**DRAW BACKS:**

Cold starts.

Not enough satellites.

Poor Hardware.

Low Battery on GPS devices.

Multipath signals.

GPS Drift.

Lost GPS signal.

GPS bounce.

Interference. GPS surveying relies on receiving information from satellite signals. If anything interferes with signal reception, the GPS results can lose accuracy. Tree coverage, building and other tall structures, whether natural or manmade, may block satellite signals from reaching the GPS receiver.

**Children Tracking System using ARM7 on Android Mobile Terminals:**

The proposed system includes a child module and two receiver modules for getting the information about the missed child on periodical basis. The child module includes ARM7 microcontroller (l pc 2378), Global positioning system (GPS), Global system for mobile communication (GSM), Voice playback circuit and the receiver module includes Android mobile device in parent’s hand and the other as monitoring database in control room of the school.

**DRAW BACKS:**

The speeds are limited in some processors.

The simpler instruction set may be inadequate for heavier workloads.

ARM has a limited calculation capacity.

**Global Positioning System (GPS) Technology:**

GPS is a lightweight device that attaches to the child and is designed to help parents or guardians keep track of their children and prevent this kind of tragedy. The device alleviates the stress and panic that appear when children get lost, or are difficult to reach. It emits a series of loud beeps, allowing parents to find their children quickly and easily. This is also an ideal solution for disabled adults, the elderly and daycare centers.

**DRAW BACKS:**

GPS chip is hungry for power which drains battery in 8 to 12 hours. This needs replacement or recharge of battery quite frequently. GPS doesn’t penetrate solid walls or structures. It’s also suffering from large constructions or structures.

**Gotcha® System:**

Gotcha it is child monitor that helps parents to protect their children at malls, supermarkets, parks, or everywhere. Gotcha alerts the children and parent whenever they wonder farther than a safe distance. Gotcha is an invisible electronic leash between parents and their kids. The internet website http:// [www.nsclocators.com](http://www.nsclocators.com) provides all information about it and how to buy this system. Gotcha Simply attaches the child unit to the little one, turn on the system from the parent unit. Child unit will alarms if the child has wandered beyond the adjustable, predetermined safety perimeter that the parent set the child’s unit triggers an alarm to sound if the unit is removed or accidentally falls off. Gotcha is a pager too, simply press the locate button on the parent unit and the Gotcha child unit will beep.But the main disadvantage of using this system that it doesn’t monitor the type of danger which can be used with multi-child.

**DRAW BACKS:**

But the main disadvantage of using this system that it doesn’t monitor the type of danger which can be used with multi-child.