Report on Project Design Phase 1

**CHILD SAFETY MONITORING . . AND NOTIFICATION**

**PROBLEM STATEMENT**:

More families are now spending time on work and social duties, hence away from their children. This causes increased concerns towards their safety and whereabouts, and has made keeping a track of their activities quite challenging. Crimes against children are increasing Year on Year. According to a study, roughly 60,000 children go missing in India every year . There is an assumption that every 10 minutes, a child goes missing. Mumbai and Delhi have the highest rate when compared to other metro cities. With the lack of availability of affordable child monitoring systems it is hard to monitor the whereabouts of Children. Safety of children is very critical since children cannot protect themselves. A momentary lack in parental supervision should be combated with an appropriate IT solution in context. Therefore, it is necessary for the proposed system to alert the parents when the child walks too far away and/or outside the “circle of safety” when they are away. The already existing system has some issues such as, it requires network connectivity, less accuracy and high-speed data connection . Time delay in video streaming also occur through the server. To overcome these issues we can access the system without internet and using high-speed server transmission.

**IDEA/SOLUTION DESCRIPTION:**

The main theme of this work is to develop a child safety device which helps the parents to monitor their children when they are not with them. The device consists of temperature sensor, respiratory rate sensor, pulse rate detection sensor and GPS. When the collected values from the sensors exceed the threshold, the notification will be send to their parents mail id. So that, the parents get alerted and they can able to see the location of the children.

**NOVELTY/UNIQUENESS:**

Nowadays, crimes always occur. This scenario not involves by adults only, but also happen to children. Some parents do not have the privilege to send or fetch their children at school. Parents usually give a hundred percent of trust to their children to travel themselves. Those children would have to travel by bus, bicycles or walking. Children who travel to and from school by themselves without monitor by their parents are exposed to danger along the way. So that parents usually received information if anything happen to their children such as accidents or involved in criminals, the notification is to the parents through their mail id at the instant time.

**SOCIAL IMPACT/CUSTOMER SATISFACTION:**

Every parent is worried about their children’s well-being and safety, often staying awake late at night for taking care of them. The notification is sent to the parents through mail id about their children during any situation. This will take less time to send the notification to the parents mail id. This will help parents to know very fast about their children. This inclusion of technology will make the parents very happy.

**BUSINESS MODEL(FINANCIAL BENEFIT):**

An IoT based wearable smart band for children is proposed in this system for child security purposes. The respiratory rate sensor detects breathing patterns and respiratory rate. Furthermore, the temperature sensor is used to detect body temperature. Besides, by using the emotion detector the emotional state, pressure and anxiety levels can be gained. Apart from that, this smart band contains GPS for tracking, identifying children's location and setting geofences. These collections of data will then be sent to the cloud over the internet for securely process, analyze, monitor, store, access and retrieve data remotely. The information indicating children's status, along with reference values will be sent to parents" devices through mail id. If children's actual data is not within the range of reference value, alert notification and some suggestions will be sent to parents' devices. Also, when children leave geofences, notification will be sent to parents' devices.

Child safety can be ensured and crime rate will be reduced

Assist parents

to monitor

their children

remotely

Can save children from emergencyfrom emergency Can save children from emergency

Monitors children with special needs who wander

Can detect the location and monitor the children

Keeps track of children in case of abduction.

**SCALABILITY:**

This project is very much efficient because it is based on IOT. As the whole process is going to be controlled by technology, there will be much less probability of error . The parents can easily monitor their children safely from their place itself. As we use GPS tracking system, the location of the children can also be tracked. By using this system we can easily find ,whether their children are far away from the parents location.