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SURAKSHA

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Abstract: Child abuse or child maltreatment is physical, sexual, or physiological maltreatment or neglect especially by a parent or other caregiver. Child abuse may include any act or failure to act by a parent or other caregiver that results in actual or potential harm to a child, and can occur in a child's home, or in the organizations, schools or communities the child interacts with. Though this is a serious threat prevailing in our society, no proper measures have been taken so far to eliminate this issue from our society.

As an educated youths of the society we propose a system named "SURAKSHA": An Android Application for Child Safety that could possibly reduce child abuse that is going on in our society to greater extent by monitoring the geo-location of the child via a Mobile Application and an Embedded Device that will be fixed on the child and the Device shall include special kind of sensors that could sense unusual activities and thus notify the same to the parents regarding the same.

Keywords: Arduino, Android, GSM, GPS, IR Sensor

I. INTRODUCTION

"SURAKSHA: An Android Application for Child Safety" is a system specially designed to prevent child abuse. This android application basically enables parents or caretakers to mark the areas which they feel as safe i.e. if a child is playing outdoors, it allows the parents or caretakers to set some radius of distance which they think as a safe zone where their kids can enjoy their childhood. The application shall be empowered with an embedded device made up of GPS Tracker that would consistently send its geo-location co-ordinates to the cloud, which in-turn shall be retrieved by the application every second. The embedded device will also be equipped with special kind of sensors that would sense any kind of unusual activities (physical abuse) which would help the mobile application understand that the kid is facing some sort of trouble.

II. PROBLEM STATEMENT

To design and develop an android application that would provide security for the children

III. DESIGN

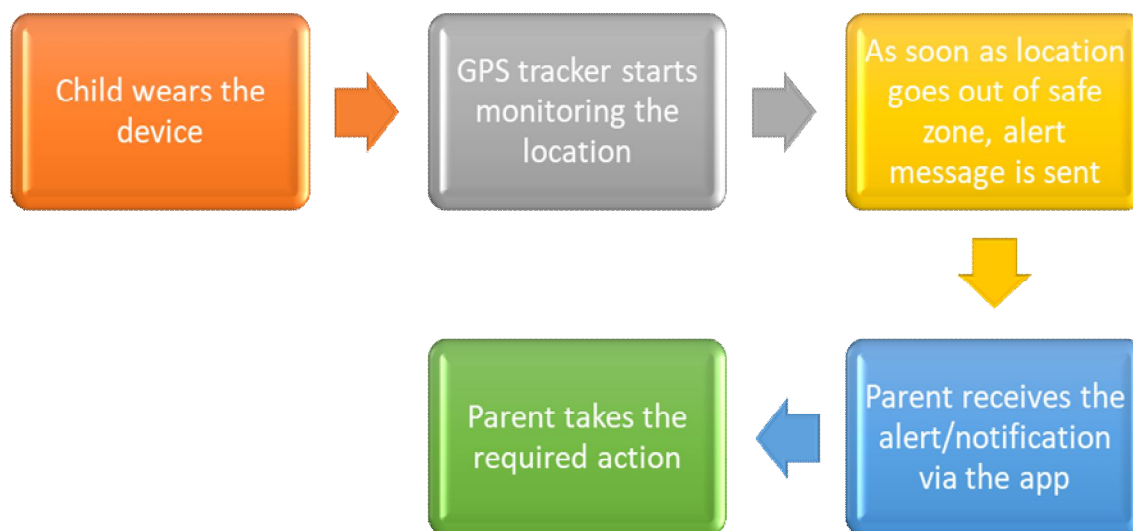


Fig. 1 Process Flow Diagram

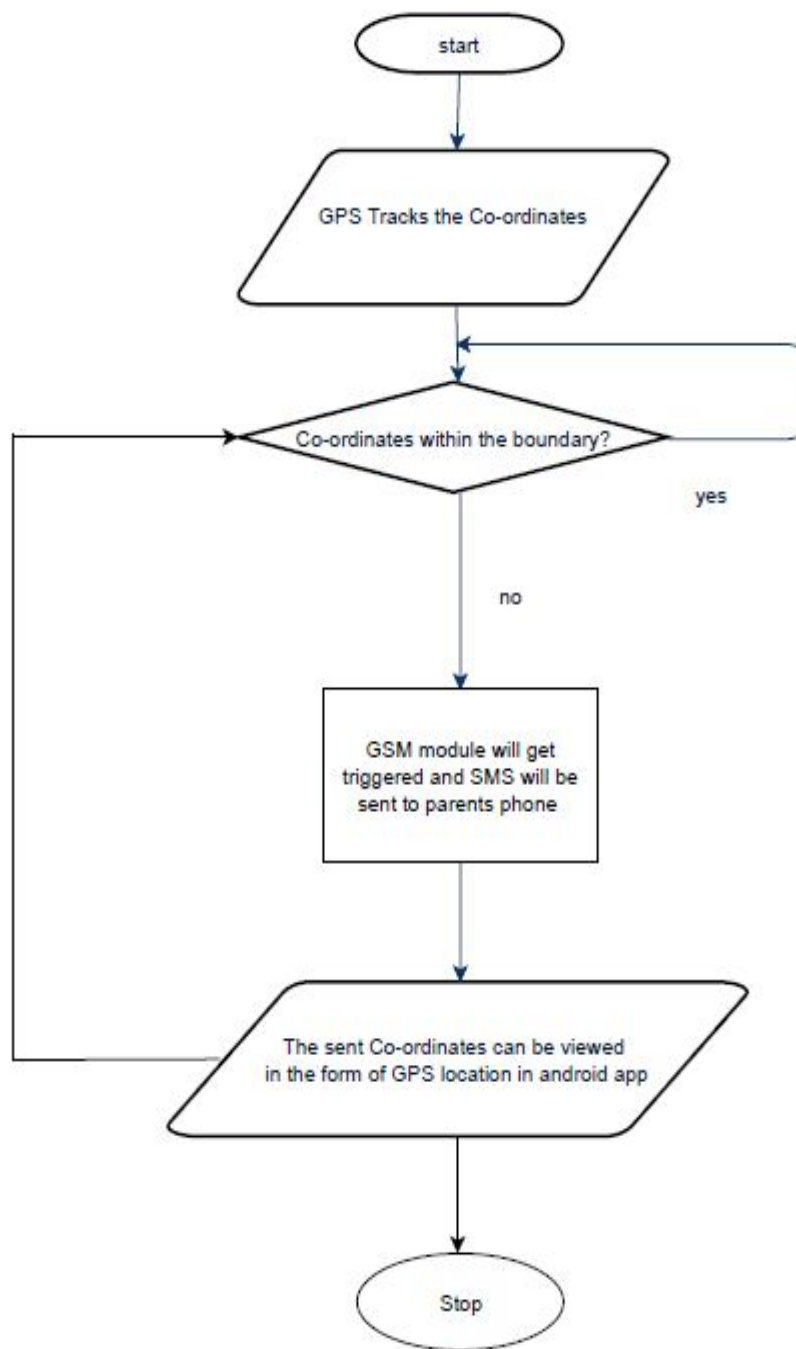


Fig. 2 Flow Chart

IV. IMPLEMENTATION

A. Technology Used

- 1) *Arduino UNO*: This constituent part is the 'brain' of the device. It is used to process the information as well as to send the messages periodically. It is also responsible to detect the touches and send messages for the same.
- 2) *GSM*: This constituent part sends the messages to the parent's mobile phone using the cellular network.
- 3) *GPS*: This constituent part gets the location coordinates and transmits them to the Arduino.
- 4) *IR Sensor*: This constituent part detects any touches and sends its output to the Arduino.



B. Modules Used

Hardware Module: The embedded device would consist of GPS Tracker and GSM Module which would send notifications to parents. Embedded device shall also be equipped with sensors such as IR sensor.

Software Module: The Software which is typically an android application will fetch the geo-location of the child continuously, once after fetching the co-ordinates these values will be matched if they are within the radius marked as safe zone by the parents. If the values are found to be outside the radius then an alert will be given to the parents. The unusual activity detection sensor that is the IR sensor would trigger if finds any unusual activity and an immediate alert will be given via mobile application to the parents.

V. CONCLUSIONS

In the humble words of the great Nelson Mandela, “There can be no keener revelation of a society’s soul than the way in which it treats its children”. SURAKSHA: An Android Application for Child Safety, would be a revolution in the society in order to eliminate child abuse from its roots and thereby promoting child growth. Our application shall promote harmony in the society by eliminating child abuse cases across the globe.

REFERENCES

- [1] VeryWellMind website (<https://www.verywellmind.com/child-abuse-statistics-2633350>)
- [2] “Jagrithi”, the platform funnels incoming reports from the browser-based web application as well as the mobile application onto a common internet database. The reports, after initial filtering, are then forwarded to the Child Welfare Committee (CWC), a body constituted by the Government of India, which oversees child welfare in their jurisdiction.



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