

# Smart Wearable For Child Tracking And Monitoring



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## INTRODUCTION

- Child sexual harassment is one of the most pressing problems in the society.
- There are many devices today for women but not many of these are suited for children.
- This project proposes a smart wearable that will enable the parents to have a close watch on the child.

## HARDWARE AND SOFTWARE REQUIREMENTS

- **Raspberry Pi**



- **GSM/GPRS module**



- **GPS Shield**



- **Pulse sensor**

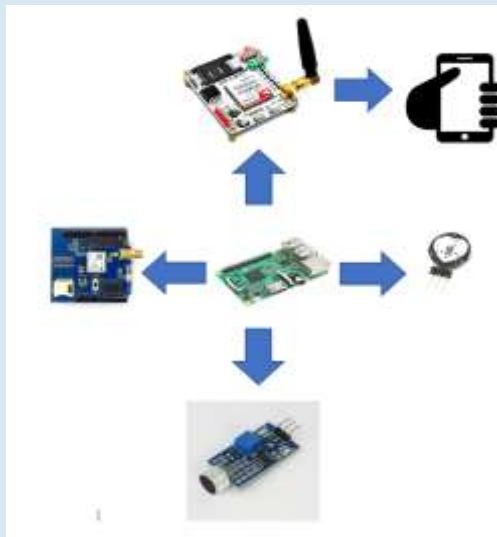


- **Sound sensor**



- **Mobile App for Communication**

## SYSTEM MODEL



## WORKING METHODOLOGY

- The wearable uses an algorithm that works on inputs from the four sensor/modules-GPS , pulse, sound and GSM/GPRS.
- The GSM module in the wearable sends a message to the parents along with the location of the child.
- The sound sensor continuously monitors the child's voice and the amplitude is deduced by Fourier analysis.
- The pulse sensor takes continuous inputs from the child for a period of time and compares the values with the average pulse rate.
- GSM module sends a message in case of abnormal readings.
- The caretaker communicates with the wearable through a mobile application.

## ADVANTAGES

- A Message is sent to the caretaker as soon as abnormal inputs are received.
- The caretaker can monitor the vitals through the mobile application also.
- The caretaker can set the frequently visited locations of the child as "Safe Zones".
- A buzzer present in the wearable can be sounded remotely by the caretaker to alert any passerby in case of any emergency.

## LIMITATIONS

- The accuracy of detecting the child's location is limited.
- Performance of the wearable is limited in a noisy surrounding.
- Consumption of battery due to continuous monitoring of vitals.

## CONCLUSION

- Thus the project aims at improving the safety of children who are too small/young to take care of themselves.
- It is very helpful for parents/guardians who can monitor the children remotely and track their whereabouts.