AN IOT ARCHITECTURE FOR CHILD SAFETY

INTRODUCTION

- Child safety and tracking is a major concern as the more number of crimes on children are reported now days.The smart IOT device for child safety and tracking is developed to help the parents to locate and monitor their children.

- Internet of Things(IOT)plays a major role in every day to day life.IOT devices are applied in different fields such as agriculture, medical,industrial, security and communication application.
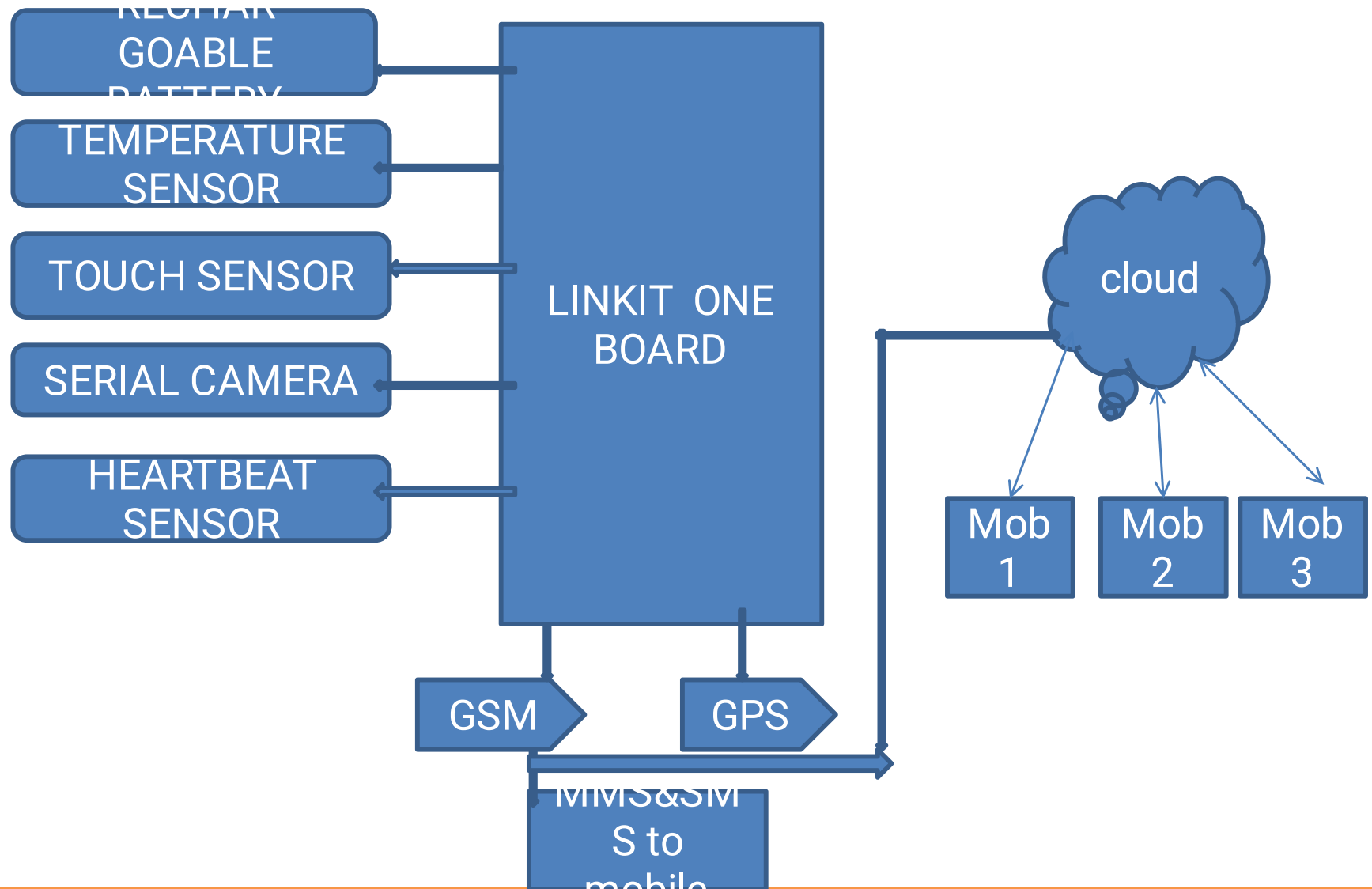
SAFTY DEVICES

- The safety device protects individuals from potential harms and dangers.The raspberry pi 3 gathers data from pi camera, pulse sensor and sound sensors.Then send collected data to parents smartphones by SMS and GSM shield.

- The GPS can be used to find the location, the children's location detected by GPS will also be send to parents'devices.

SENSORS

- Sensors known as a device measuring physical value and converts it into data. Common sensors like the temperature sensor measures heat of an object. Proximity sensor used to detect nearby objects.

- For pressure sensor,it calculates pressure applied.Optical sensor able sense the light intensity.Humidity sensor will detect the presence of water vapor in the air .

Block diagram of IOT based CHILD SAFTY

RECHAR GOABLE BATTERY

TEMPERATURE SENSOR

TOUCH SENSOR

SERIAL CAMERA

HEARTBEAT SENSOR

LINKIT ONE BOARD

GSM

GPS

MMS&SMS to mobile

cloud

Mob 1

Mob 2

Mob 3

- The device procures information such as hart rate,physical body movements and send it to the parents in real time .In wearable sensor badge is constructed from electronic components,which can sense perambulatory activities for context awareness.stretch sensor are placed to measure upper limb and body movement. Worn as clothing,the sensors give the required information.

ROLE OF IOT

- Wearable IOT device for the security and shielding of women and girl children was designed.The body temperature and galvanic skin resistance of the body is changed in abnormal conditions.

- The details of the body can be sent to parents through wi-fi modules .The audio play back module produces the recorded sound different sensors are accelerometer sensor,cry sensor,temperature sensor flame sensor.

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- The embedded system consists of microcontroller;accelerometer detects the angular position and movement of the body.
- The parameters such as touch, temperature &heartbeat of the child are used for parametric analysis and results are plotted for the same. The above system ensures the safety and tracking of children.

REFERENCE:

- 1.AkashMoodbidri, Hamid Shahnasser (Jan 2017) 'Child safety wearable device', International Journal for Research in Applied Science & Engineering Technology, Vol. 6 Issue II, IEEE, pp. 438- 444.
- 2. AsmitaPawar, PratikshaSagare, TejalSasane, KiranShinde (March− 2017) 'Smart security solution for women and children safety based on GPS using IOT', International Journal of Recent Innovation in Engineering and Research, vol. 02, Issue. 03, pp.85-94.
- 3. Nitishree, (May-June, 2016) 'A Review on IOT Based Smart GPS Device for Child and Women Safety', International Journal of Engineering Research and General Science, Vol.4, Issue. 3, pp. 159- 164.