IOT Based Safety Gadget for Child Safety Monitoring and Notification

TITLE	IOT Based Safety Gadget For Child Safety Monitoring And Notification
DOMAIN NAME	INTERNET OF THINGS
TEAM LEADER NAME	ANU
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1. INTRODUCTION:

Project Overview:

Objective behind this project is to make the process smart and as well it enhancess the performance of the overall system by using IOT technology. Information about the child can be observed by the parents from any where in the world this is though the IOT technology, Hence parents can get continuous real time information about the environmental conditionarround the child. This project is to provide safety tochild because they were unaware of the surrounding environment like UV Radiation, Temperature,Objects of unwanted when comes near by the childthis system sends regular information

To cope with the issue, the system is proposed with these objectives:

- Enable tracking of the child's location and capturing of data remotely such as temperature, pulse, respiratory rate, quality of sleep and many more.

- To show the child's actual data with reference values.

- Enable sending of notification if the child is out of location or when the device realizes abnormal conditions/situations.

- To trigger the alarm and enable automatic video recording whenever the emergency button is pressed. Then, emergency notification along with real-time video will be sent to and display in the parents' mobile apps.

- Develop a prototype of IOT wearable smart band connected to parents' mobile apps so that they can monitor the actual condition of children at anytime and anyplace.

Purpose:

It In this research, IOT is applied to propose a wearable smart watch which helps parents to monitor and get known of their child's condition at anywhere and anytime even if they are not by their children side. Via the IOT smart watch, children safety is guaranteed, and crime rate

is reduced as immediate actions can be taken in case the child is in danger. Besides, unlike existing smart watch, which is less focusing on child security aspect, the proposed system emphasizes in getting as much data as possible so that actual situation can be identified.

2. LITERATURE SURVEY:

Existing problem:

A) *Real-Time Child Abuse and Reporting System*

In the existing system, we use a voice recognition module in which the alert commands from the child are stored and kept for further reference. If the same child delivers the same command, it will compare with the alert command which was previously stored and sets an emergency level according to the alert command. The GSM has a SIM which is used to send an alert message or an alert call to the trusted peoples. GPS is used to track the live location and it is used when needed. The server will search the respective device ID from the database and search for respective contacts according to that device ID and helps in alerting the registered guardians.

Disadvantages

- The child could not produce the exact alert command during a panic condition.
- The command produced may not match with the previously stored command.
- This project requires manual intervention.

B) *Design and Development of an IOT based wearable device for the Safety and Security of women and girl children*

The aim of this work is to develop a wearable device for the safety and protection of women and girls. This objective is achieved by the analysis of physiological signals in conjunction with body position. The physiological signals that are analyzed are galvanic skin resistance and body temperature. Body position is determined by acquiring raw accelerometer data from a triple axis accelerometer. Acquisition of raw data is then followed by activity recognition which is a process of employing a specialized machine learning algorithm. Real-time monitoring of data is achieved by wirelessly sending sensor data to an open source Cloud Platform. Analysis of the data is done on MATLAB simultaneously. This device is programmed to continuously monitor the subject's parameters and take action when any dangerous situation presents itself. It does so by detecting the change in the monitored signals, following which appropriate action is taken by means of sending notifications/alerts to designated individual

C) Child Safety Wearable Device

Parents need not have a smart mobile. Set of keywords are used to gain information from the kit. LOCATION keyword is used to obtain the location of the child. UV keyword is used to obtain the temperature of the surroundings. BUZZ keyword is used to turn on the buzzer which is fixed in that device. SOS is used to send a signal to the device.

D) Smart Intelligent System for Women and Child Security

A portable device which will have a pressure switch. As soon as an assailant is about to attack the person or when the person senses any insecurity from a stranger, he/she can then put pressure on the device by squeezing or compressing it. Instantly the pressure sensor senses this pressure and a conventional SMS, with the victim's location will be sent to their parents/guardian cell phone numbers stored in the device while purchasing it, followed by a call. If the call is unanswered for a prolonged time, a call will be redirected to the police and the same message will be sent. Additionally, if the person crosses some area which is usually not accessed by the person then a message with the real-time location is sent to the parent/guardian's phone via conventional SMS

Real-Time Child Abuse and Reporting System In the existing system, we use a voice recognition module in which the alert commands from the child are stored and kept for further reference. If the same child delivers the same command, it will compare with the alert command which was previously stored and sets an emergency level according to the alert command. The GSM has a SIM which is used to send an alert message or an alert call to the trusted peoples. GPS is used to track the live location and it is used when needed. The server will search the respective device ID from the database and search for respective contacts according to that device ID and helps in alerting the registered guardians. The disadvantage of this project are, i. The child could not produce the exact alert command during a panic condition. ii. The command produced may not match with the previously stored command. iii. This project requires manual intervention.

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2.3 Problem Statement

More family's spent their time for work and social duties but since Children are gift of GOD they need care of family. The current situation of our country is not confortable for monitoring children in school. With the absence of child monitoring system it is hard to monitor the where about of children.

The poor performance of family's and school to monitor the children's by Collaboration. The use of manual system to connect family's and there students most of time teachers or other persons are intermediate between the students and family. In our country families and their children have no direct contact in school when they need to contact their children if the families came to school.

Lack of child monitoring in school affect the child's behavior. Under age children may be premature in the way they act and places to be. Most of human behavior is shaped in childhood stage, in order to get morally acceptable behavior child monitoring system is necessary.

Children are prone to many accidents. Safety of children is very critical since children cannot protect themselves.

They can simply leave their children in school or parks and create a geo fence around the particular location . By continuously checking the child's location notifications will be generated if the child crosses the geo fence.Notifications will be sent according to the child's location to their parents or caretakers.The entire location data will be stored in the database.

3. IDEATION AND PROPOSED SOLUTION:

3.1 Empathy Map Canvas
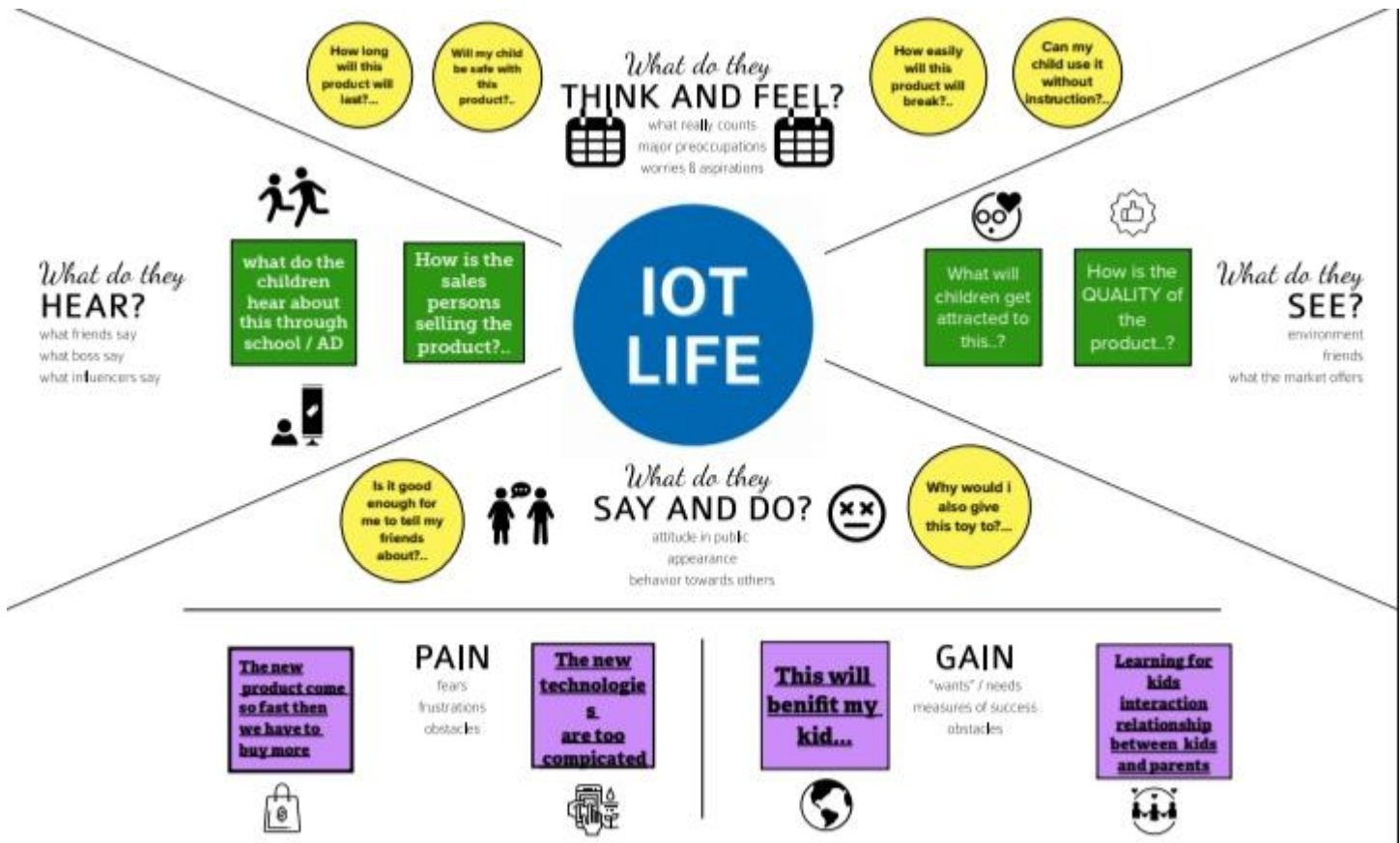
3.2 IDEATION & BRAINSTORMING

① Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

⏱ 5 minutes

CHILD SAFETY GADGETS..

Key rules of brainstorming
To run an smooth and productive session

- 💡 Stay in topic.
- ➕ Defer judgment.
- 🖊 Go for volume.
- 💡 Encourage wild ideas.
- 👂 Listen to others.
- 👁 If possible, be visual.

② Brainstorm

Write down any ideas that come to mind that address your problem statement.

⏱ 10 minutes

ANU S A

NETWORK		IT SHOULD BE CHEAP

ABHIMANYU

THE DEVICE SHOULD BE ACCURATE	THE DATA SHOULD BE ACCURATE	
NETWORK		

RAHUL

CHEAP	NETWORK	

LEKSHMI

		IDENTIFY AND MONITOR THE RISK
NETWORK		

BERJIN

	NETWORK	
HELPS TO MAKE THE CHILDREN SAFE		

3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

🕐 20 minutes
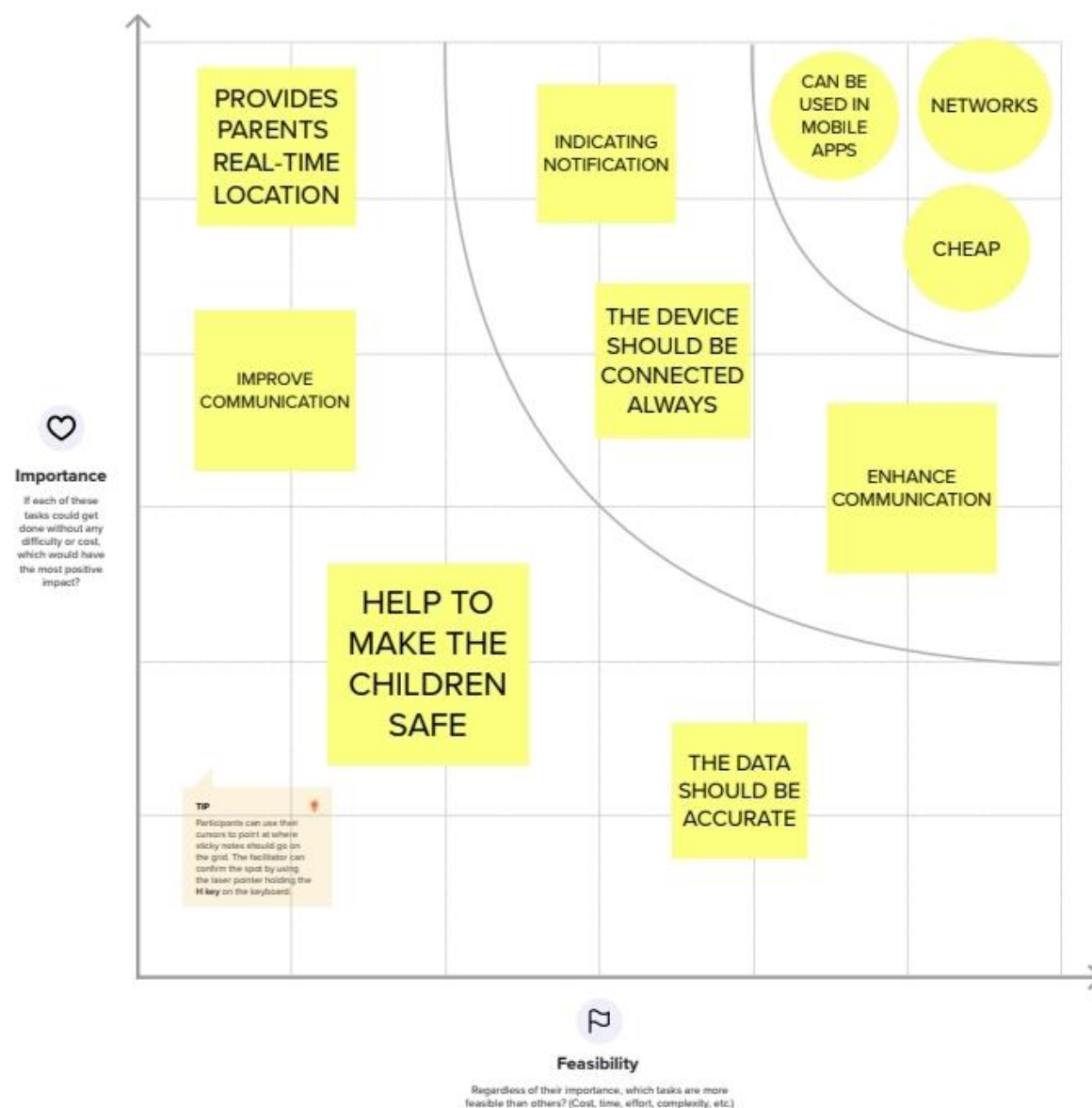
CAN BE USED IN MOBILE APPS

NETWORKS

CHEAP

TIP

Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

🕐 20 minutes

Importance

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

PROVIDES PARENTS REAL-TIME LOCATION

INDICATING NOTIFICATION

CAN BE USED IN MOBILE APPS

NETWORKS

CHEAP

THE DEVICE SHOULD BE CONNECTED ALWAYS

IMPROVE COMMUNICATION

ENHANCE COMMUNICATION

HELP TO MAKE THE CHILDREN SAFE

TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H key** on the keyboard.

THE DATA SHOULD BE ACCURATE

Feasibility

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

Proposed Solution

Our proposed system is designed as an efficient and low-cost IoT-based system for monitoring infants in real-time. Here we use an LED, an Alarm buzzer,a temperature sensor and a GPS tracker for ensuring the safety of the child.The gadget is equipped with panic alert system feature which mainly consist of a button that is triggered only during certain abnormal/panic situations, this button is programmed in such a way that, once it is triggered then multiple alerts in various forms occurs within few seconds of time Without any Interruption of miscellaneous signal for better performance.It should be compact and it is mostly a wearable one., Without internet the device should be communicate within a short range.

The cost of the device is satisfactory to both Customer and the manufacturer.

This system plays a key role in providing better care for the lost children until they reconvene with the parents.

Advantages

- Easy Availability and Affordability
- Tracking of missing kids can be made easily
- High Data accuracy
- Guarantees peace of mind for parents
- High reliability, efficiency
- Short response time and high accuracy.

3.4 Problem solution fit

The child safety wearable device is able to acting as a smart loT device.

It provides parents with the real-time LOCATION, surrounding temperature, Distress alarm buzzer for their child's surroundings and the knack to position their child or alert bystander in acting to rescue or comfort the child.

4.REQUIREMENT ANALYSIS:

4.1 Functional Requirements:

Customer journey map

Non-Functional Requirements :

Usability

- High usability of user experience design for user,

- Which is usable for finding the children if they lost.

Security

- The system can accessed by authorized persons only

Reliability

- Monitoring the location continuously and easy to upgrade the system .

5.PROJECT DESIGN

5.1 Data Flow Diagrams:

A data flow diagram (DFD) is a graphical or visual representation using a standardized set of symbols and notations to describe a business's operations through data movement. They are often elements of a formal methodology such as Structured Systems Analysis and Design Method (SSADM).

A DFD is also known as a "bubble Chart" has the purpose of clarifying system requirements and identifying major transformations that will become programs in system design. So it is the starting point of the design to the lowest level of detail. A DFD consists of a series of bubbles joined by data flows in the system

Rules for creating DFD

- The name of the entity should be easy and understandable without any extra assistance(like comments).
- The processes should be numbered or put in ordered list to be referred easily.
- The DFD should maintain consistency across all the DFD levels.

- A single DFD can have maximum processes upto 9 and minimum 3 processes

Levels of DFD

DFD uses hierarchy to maintain transparency thus multilevel DFD's can be created. Levels of DFD are as follows:

- 0-level DFD
- 1-level DFD:
- 2-level DFD
  :

Symbols and Notations Used in DFDs

Three common systems of symbols are named after their creators:

- Yourdon and Coad

- Yourdon and DeMarco

- Gane and Sarson

One main difference in their symbols is that Yourdon-Coad and Yourdon-DeMarco use circles for processes, while Gane and Sarson use rectangles with rounded corners, sometimes called lozenges. There are other symbol variations in use as well, so the important thing to keep in mind is to be clear and consistent in the shapes and notations you use to communicate and collaborate with others.

Using any convention's DFD rules or guidelines, the symbols depict the four components of data flow diagrams.

1. External entity: an outside system that sends or receives data, communicating with the system being diagrammed. They are the sources and destinations of information entering or leaving the system. They might be an outside organization or person, a computer system or a business system. They are also known as terminators, sources and sinks or actors. They are typically drawn on the edges of the diagram.

2. Process: any process that changes the data, producing an output. It might perform computations, or sort data based on logic, or direct the data flow based on business rules. A short label is used to describe the process, such as "Submit payment."

3. Data store: files or repositories that hold information for later use, such as a database table or a membership form. Each data store receives a simple label, such as "Orders."

4. Data flow: the route that data takes between the external entities, processes and data stores. It portrays the interface between the other components and is shown with arrows, typically labeled with a short data name, like "Billing details."

➢ What tools can be used to create a DFD?

While it is possible to draw DFDs by hand, it's rarely done except as an ad hoc aid to discussion. DFDs can also be created using graphics or presentation tools, particularly those that support the creation of custom symbols. However, most DFD users find this is limiting because of the common requirement of such tools to set a specific page size.

Most DFDs are created using specialized DFD tools, which are sometimes bundled with other features that relate to the specific methodology being used. There are many tools available, including both proprietary and <u>open source</u>. It's also possible to use cloud-hosted tools to create DFDs. Because many such tools are associated with a specific methodology, it's important to select a tool that fits the methodology to be used. Import/export from one tool to another may be limited, so a standard tool should be considered for an enterprise.

Some DFD tools include:

> Lucidchart

> Visual Paradigm

> Smartdraw

> ConceptDraw

> Creately

> ***What are examples of DFDs?***

The best examples of DFDs are provided in documents or tutorials relating to a singular methodology. Reviewing sample DFDs without the context of a methodology can make interpretation of the graphics and structure difficult.

Most DFD examples will depict a business or functional view of a process, which is what distinguishes them from <u>flow charts</u> or UML that depict software flows or software architecture.

The image below is an example of a school's culinary program using the Gane and Sarson method

Advantages of DFD

- It helps us to understand the functioning and the limits of a system.
  - It is a graphical representation which is very easy to understand as it helps visualize contents.
  - Data Flow Diagram represent detailed and well explained diagram of system components.
  - It is used as the part of system documentation file.

- Data Flow Diagrams can be understood by both technical or nontechnical person because they are very easy to understand.

Disadvantages of DFD

- At times DFD can confuse the programmers regarding the system.
- Data Flow Diagram takes long time to be generated, and many times due to this reasons analysts are denied permission to work on it.

DFD DAIGRAM

TEMPERATURE

ALARM

SOS LIGHT

GPS

DATABASE

CHILD SAFETY GADGET
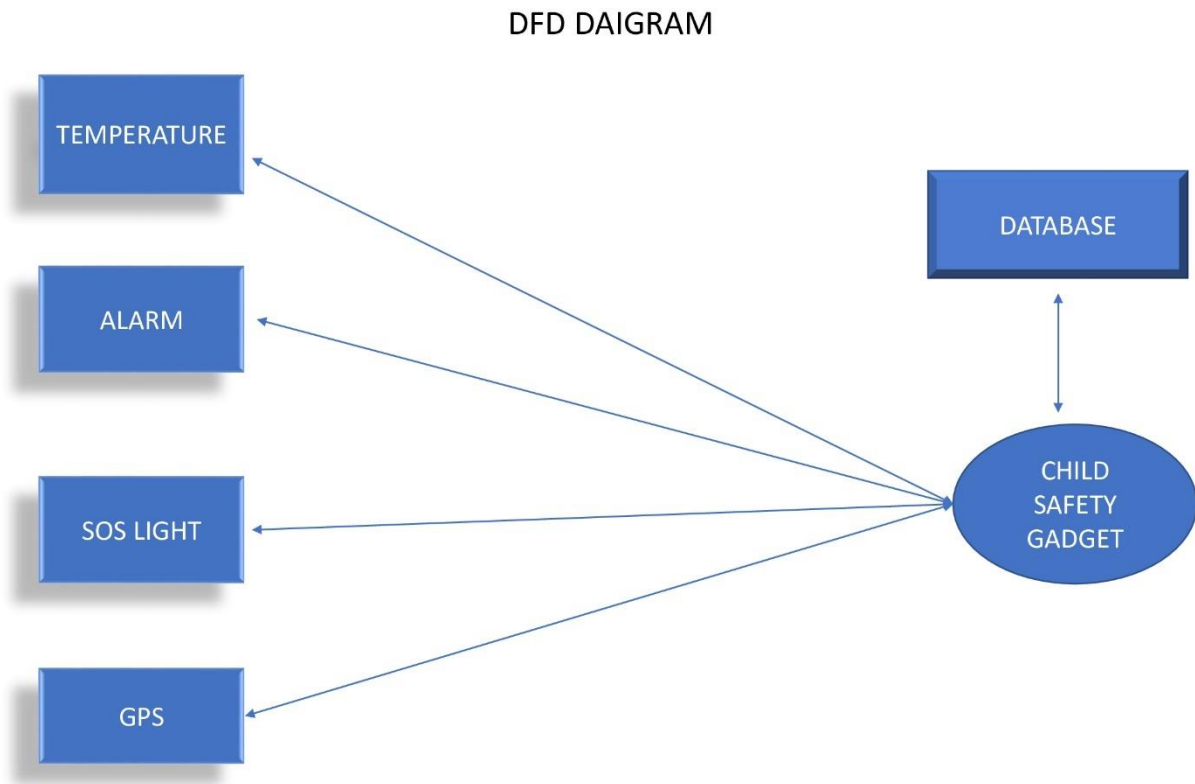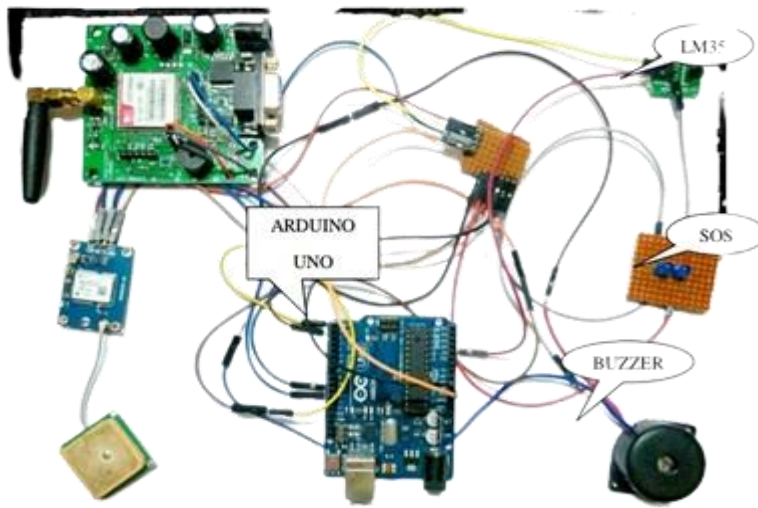
5.2 TECHNICAL ARCHITECTURE

Fig : proposed wearable device

The proposed method is to create wearable watch for child safety. The wearable device, given above is not built on a SOC model, rather has been proposed using larger components and can later build on the SOC platform once put into manufacture. The wearable IOT device tasked with acquiring various data from the all the different modules connected. It comprises of Arduino Uno based on the ATmega328P microcontroller. It receives the data from its various physically connected modules, anatomizes this data and refines the data in a more user understandable format to the different available user interfaces.

The user, therefore, can conveniently view the information on their cell phone. The physical characteristics of the wearable device are proposed to be as a wrist watch which remains placed around the wrist of the child during times when the child is not being accompanied by an adult/parent. For the moment the design is not made compact, since the main focus now has been to show that this concept of smart wearables would be highly impactful for the safety of children. The wearable system runs on a battery with an output voltage of 5V. In order to maximize power consumption, the wearable device has been programmed to provide GPS and image information only upon request by SMS text via GSM shield.

5.3 USER STORIES

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Parent/Guardian)	Registration	USN-1	As a user, i can login my email	Now i can get the confirmation from login credentials	Low	Sprint-2
		USN-2	As a user, I will connect to the application	With the login id ,I access to the device	High	Sprint-1
		USN-3	As a user my location gets automatically detected and updated from database	Now I can monitor the child's location using the device	Medium	Sprint-2
		USN-4	As a user, if the device crosses the geofencing area	Now I can receive the alert message from the device	High	Sprint-1

6. PROJECT PLANNING AND SCHEDULING

6.1 Sprint Planning and Estimation

Number of sprint	User task	date	Team member
Sprint-1	Blinking of LED		Anu .S.A
Sprint-2	Alarm buzzer		Abhimanyu A.L
Sprint-3	GPS		Rahul.A
Sprint-4	Overall code		LekshmiS.S
Sprint-5	Blinking of LED		Berjin.R

6.1 Report From JIRA
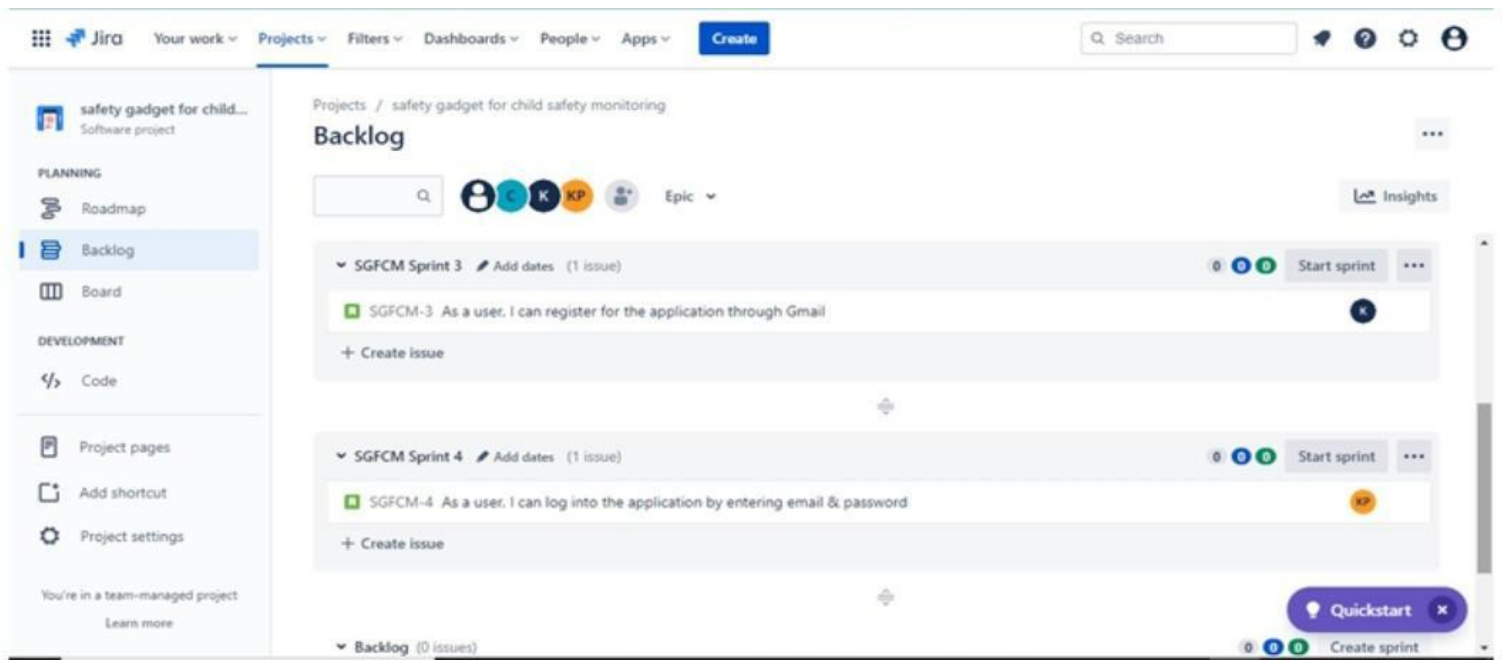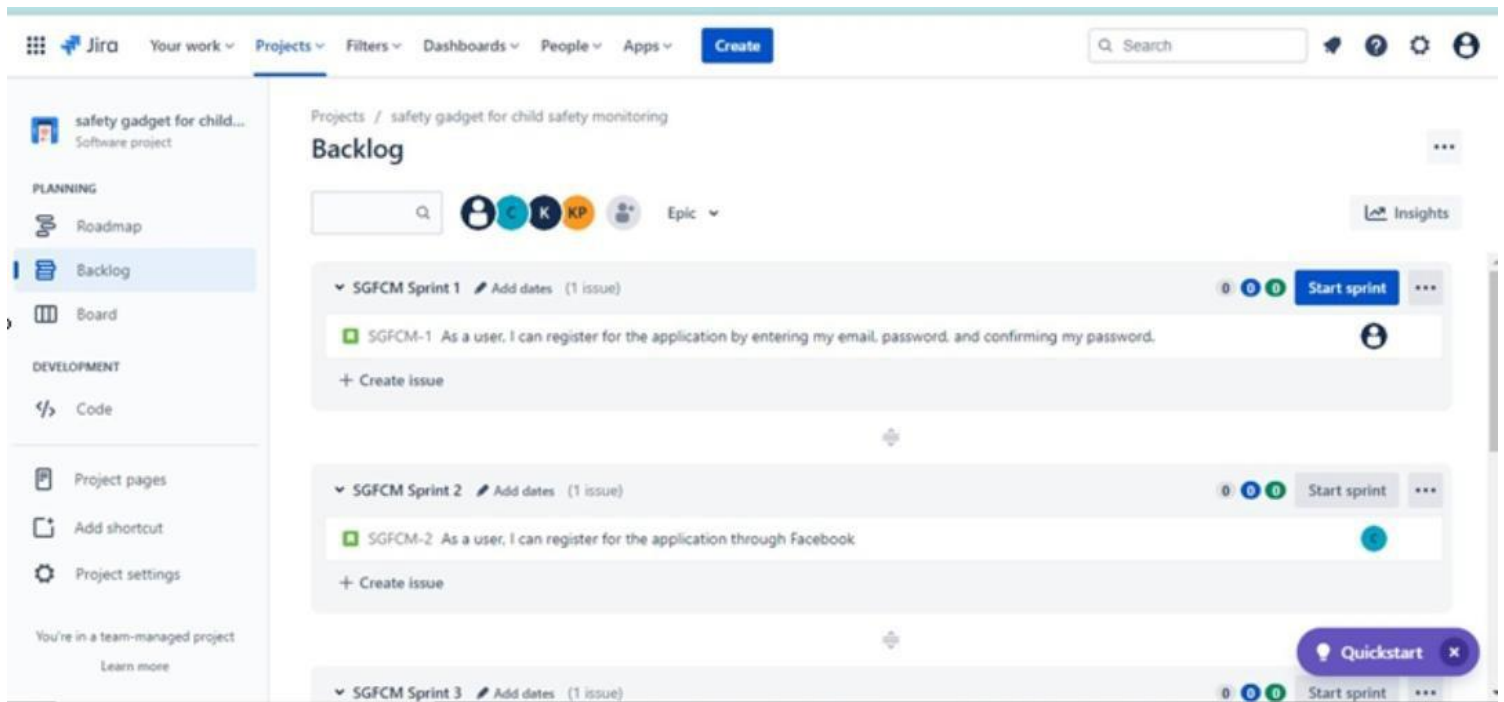
13. CODING AND SOLUTIONING:

float temp;

const int buzzer = 8;

```cpp
void setup()

{

  pinMode(A0, INPUT);

  pinMode(11, OUTPUT);

  pinMode(12, OUTPUT);

  pinMode(13, OUTPUT);

  pinMode(buzzer, OUTPUT);

  Serial.begin(9600);

}

void loop()

{

  temp = analogRead(A0);

  temp =((temp*5)/1024);

  temp = (temp-0.5)*100;

  Serial.print("Temperature = ");

  Serial.println(temp);

  if (temp <= 25)

  {

    digitalWrite(13, HIGH);

    digitalWrite(12, LOW);

    digitalWrite(11, LOW);

    noTone(buzzer);
```

```
  delay(1000);

 }

 if (temp >25 && temp <= 50)

 {

  digitalWrite(11, LOW);

  digitalWrite(12, HIGH);

  digitalWrite(13, LOW);

  noTone(buzzer);

  delay(1000);

 }

 if (temp > 50)

 {

  digitalWrite(13, LOW);

  digitalWrite(12, LOW);

  digitalWrite(11, HIGH);

  tone(buzzer, 1000);

  delay(1000);

 }

}
```

14. TESTING:

8.1 TEST CASES

SL.NO	INPUT	OUTPUT	RESULT
01.	Latitude, Longitude Temperature	Inside the geofence, Temperature low	Passed
02.	Latitude, Longitude Temperature	Inside the geofence, Temperature high	Passed
03.	Latitude, Longitude Temperature	Outside the geofence, Temperature low	Passed
04.	Latitude, Longitude Temperature	Outside the geofence, Temperature low	Passed
05.	Latitude, Longitude Temperature	Inside the geofence, Temperature low	Passed
06.	Latitude, Longitude Temperature	Inside the geofence, Temperature high	Passed

07.	Latitude, Longitude Temperature	Outside the geofence,	Passed

		Temperature low	
08.	Latitude, Longitude Temperature	Inside the geofence, Temperature low	Passed
09.	Latitude, Longitude Temperature	Inside the geofence, Temperature high	Passed
10.	Latitude, Longitude Temperature	Inside the geofence, Temperature low	Passed
11.	Latitude, Longitude Temperature	Inside the geofence, Temperature low	Passed
12.	Latitude, Longitude Temperature	Outside the geofence, Temperature low	Passed
13.	Latitude, Longitude Temperature	Inside the geofence, Temperature low	Passed

14.	Latitude, Longitude Temperature	Inside the geofence, Temperature high	Passed
15.	Latitude, Longitude Temperature	Outside the geofence, Temperature high	Passed
16.	Latitude, Longitude Temperature	Outside the geofence, Temperature low	Passed
17.	Latitude, Longitude Temperature	Inside the geofence, Temperature low	Passed

18.	Latitude, Longitude Temperature	Inside the geofence, Temperature high	Passed
19.	Latitude, Longitude Temperature	Outside the geofence, Temperature low	Passed
20.	Latitude, Longitude Temperature	Outside the geofence, Temperature high	Passed
21.	Latitude, Longitude Temperature	Inside the geofence, Temperature low	Passed
22.	Latitude, Longitude Temperature	Inside the geofence, Temperature high	Passed

23.	Latitude, Longitude Temperature	Outside the geofence, Temperature low	Passed
24.	Latitude, Longitude Temperature	Inside the geofence, Temperature low	Passed
25.	Latitude, Longitude Temperature	Outside the geofence, Temperature low	Passed

User Acceptance Testing:

Purpose of Document:

The purpose of this document is to briefly explain the test coverage and open issues of theIOT Based Safety Gadget For Child Safety Monitoring and Notification project at the time of the release to User Acceptance Testing (UAT).

Defect Analysis:

This report shows the number of resolved or closed bugs at each severity level, and howthey were resolved

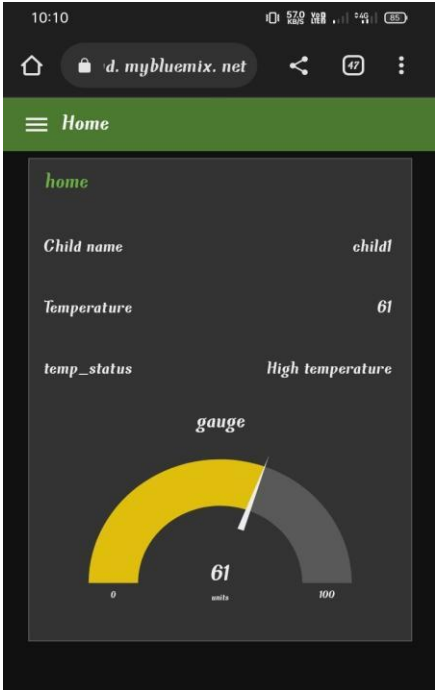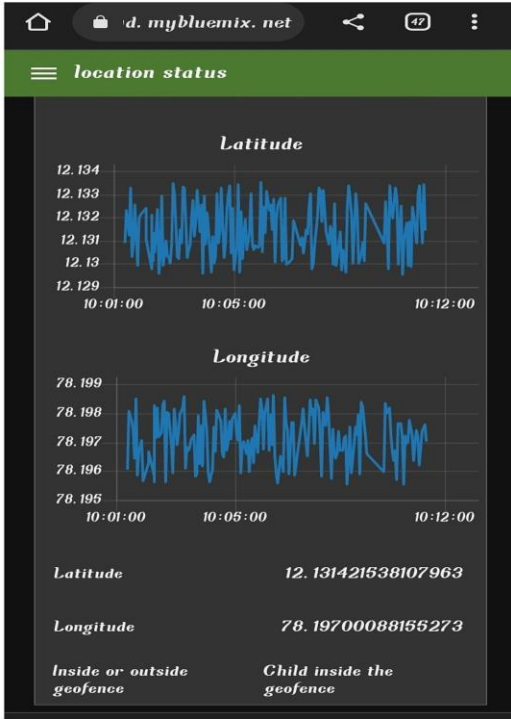| Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	5	3	2	3	13
Duplicate	1	0	0	0	1
External	2	2	0	1	5
Fixed	6	5	3	10	24
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	0	2	1	3
Totals	14	10	9	16	49

Test Case Analysis

This report shows the number of test cases that have passed, failed, and untested

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	30	0	0	30
Security	2	0	0	2
Outsource Shipping	3	0	0	3
Exception Reporting	9	0	0	9
Final Report Output	4	0	0	4
Version Control	2	0	0	2
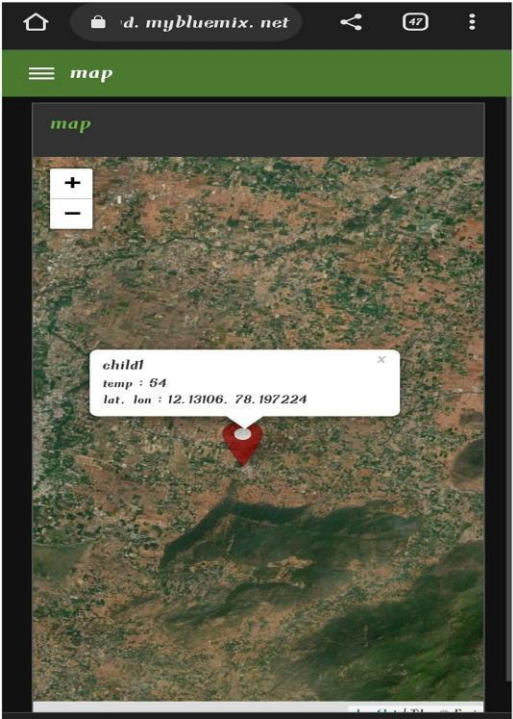
15. RESULTS:

Performance metrics

NFT - Risk Assessment

S.No	Project Name	Scope/feature	Functional Changes	Hardware Changes	Software Changes	Impact of Downtime	Load/Volume Changes	Risk Score	Justification
1	Safety Gadget for Child Safety Monitoring and Notification	existing	Moderate	Low	Moderate	high inital cost	>5 to 10%	RED	this system or child safety monitoring and notification is already existing
	difficult in creation of geofence					OF 5			They do not give live location status
									the risk rate is moderate

NFT - Detailed Test Plan

S.No	Project Overview	NFT Test approach	Assumptions/Dependencies/Risks	Approvals/SignOff
1	Safety Gadget for Child Safety Monitoring and Notification	make a call if the child cross the geofence	Assumptions	

End Of Test Report

S.No	Project Overview	NFT Test approach	NFR - Met	Test Outcome	GO/NO-GO decision	Recommendations	Identified Defects (Detected/Closed/Open)	Approvals/SignOff
	safety Gadget for Child Safety monitoring and notification	Issues occurred		got location of the child		to determine the frequently update locations	detected and closed	
		while running		got some error while connecting with the device				
		while connecting with the device		difficult in creation of geofence				
		while creating geofence						

16. ADVANTAGES AND DISADVANTAGES

Advantages:

1. Save the life of the children.
2. Parent's do their work peacefully without worrying about their children.
3. Continously monitoring the children.
4. Saves time.
5. Recovery of the children is easy, if the children lost.

Disadvantages:

1. Young Children may refuse to cooperate unless allowed to play with their gadgets.
2. Easily misusing the device.
3. No water proof.

17. CONCLUSION:

The child tracking system that helps parents track the movements of children with thehelp of GPS technology. The entire location data is stored in database. This proposed app can shows the whether the children inside the geofence or outside the geofence to the parent's mobile . Even if the software is not running, the details are shown. It is because location access is available in the background and the software performs well on the mobile device. Based on the availability of the parent user, additional geofences may be required. Performance Requirements are summarized as follows: login, Location status, temperature ,Live on map etc. The system shall allow the user to create and/or log in to an account. The system shall allow the user to find the exact location of the children using GPS. The system shall allow the user to track the current location of the children using GPS.

18. FUTURE SCOPE:

1. Childs surrounding can be located with the help of accurate and precise real time location.

2. Surrounding environment temperature, SOS light along with Distress buzzers are provided inthis system.

3. If child crosses the geofence, call goes to the registered mobile number's.

4. This gadgets will be modified that has been suitable for all environments.

19. APPENDIX:

Python code:

```python
import

time

import

sys

importibmiotf.applicatio

n   importibmiotf.device

import random

#Provide your IBM Watson Device Credentials

organization = "933n2d"

deviceType = "koushik47"

deviceId         =         "07"

authMethod

=  "token"  authToken  =

"87654321"

#apikey {a-illza1-mbdxqo6z0s}

#api                          token

{zSYzISuAWF&F_x7GkT} try:

        deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method":authMethod, "auth-token": authToken}

        deviceCli  =  ibmiotf.device.Client(deviceOptions)
```

\#..

```python
except Exception as e:

    print("Caught exception connecting device: %s" %

    str(e)) sys.exit()

# Connect and send a datapoint "hello" with value "world" into the cloud as an event of type

"greeting"10 times print("power on ")

print("checking   connection   to   wastoniot...")

time.sleep(2)

deviceCli.connect()

print("dear user ... welcome to IBM-IOT ")

print("i  can  provide  your  children  live  location  and

temperature ") print()

name=str(input("enter        your        child

name:"))while True:

temperature=random.randint(20,85)#random        temperature        for        your        child

latitude=random.uniform(12.1295314,12.1335137)#random        latitude        for        your        child

longitude=random.uniform(78.1955059,78.1986357)#random longitude for your child

    a="Child inside the geofence"

    b="   Child   outside   the

    geofence"            c="High

    temperature"

    d="Low temperature"
```

```python
    x={'your_child_zone'

    :a}

    y={'your_child_zone'

    :b}

    z={'temp_condition'

    :c}

    w={'temp_condition'

    :d}
data       =       {       'temp'      :       temperature,       'lat':

    latitude,'lon':longitude,'name':name } #print data

defmyOnPublishCallback():

print ("Published Temperature = %s C" % temperature, "latitude = %s %%" % latitude, "longitude =
%s

%%"  %  longitude,  "to  IBM

Watson") print("\n")

success         =         deviceCli.publishEvent("IoTSensorgpsdata",         "json",         data,
qos=0,on_publish=myOnPublishCallback)

if latitude>=12.1303598 and latitude<=12.1321095 and longitude >=78.1967589 and longitude
<=78.19820833:

deviceCli.publishEvent("IoTSensorgpsdata","json",data=x,qos=0,on_publish=myOnPublishCallba

ck) print(x) print("\n")

else:

deviceCli.publishEvent("IoTSensorgpsdata","json",data=y,qos=0,on_publish=myOnPublishCallba

ck) print(y) print("\n")
```

```python
if (temperature>=40):
```

```python
        deviceCli.publishEvent("IoTSensorgpsdata","json",data=z,qos=0,on_publish=
myOnPublishCallback) print(z)

        print("\n")

    else:

        deviceCli.publishEvent("IoTSensorgpsdata","json",data=w,qos=0,on_publish=myOnPublishCallback)

        print(w) print("\n")

        if not success:

            print("Not    connected    to

IoTF") print("\n")

        time.sleep(1)

# Disconnect  the  device  and  application  from  the  cloud

deviceCli.disconnect()
```

GitHub & Project demo link: