

# PROJECT REPORT

Project : :IoT Based Safety Gadget for Child Safety  
Title Monitoring & Notification

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## **CHAPTER 1 INTRODUCTION**

### **1.1 PROJECT OVERVIEW**

Child Safety and Tracking Is of Utmost Importance as Children Are the Most Vulnerable. With Increasing Crime Rates Such as Child Kidnaping, Child Trafficking, Child Abuse and So On, The Need for An Advanced Smart Security System Has Become a Necessity. With This Motivation, A Self-alerting "INTELLIGENT CHILD SAFETY SYSTEM USING IOT DEVICES" Is Developed to Aid Parents to Monitor and Track Their Children in Real Time as An Alternate to Stay Beside Them. This System Is Intended as An Everyday Wearable Device on the Child, In the Form of a Wrist Band, Hand Glove, Arm Band or A Belt. The System Is Designed to Continuously Monitor the Location and Body Vitals of Children. This Electronic System Comprises of An Arduino Controller, A Raspberry-pi And Sensors to Detect the Changes in Parameters Such as Temperature, BVP (Blood Volume Pulse) And GSR (Galvanic Skin Response). The System Also Uses A GSM And GPS Module. Decision Tree Classifier Algorithm Is Used to Detect Any Distress

Situation with Sensor Values as Inputs. The Location of the Victim Is Traced Using the GPS Module and Is Sent to The Registered Contact Numbers as a Text Message Using A GSM Module. The Novelty Of This Work Lies In The Autonomous decision-making Process With Increased Accuracy

## **1.2 PURPOSE**

The aim of this device is to provide safety to the child by allowing the parent to locate the child and view their surroundings. This device can be used to monitor the temperature and motion of the child. If any problem persists, the GSM mobile communication module automatically sends a text message to the parent as SMS.

## **CHAPTER 2 LITERATURE SURVEY**

### **2.1 EXISTING PROBLEM**

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.

### **2.2 REFERENCES**

1) [\[PDF\] Survey on Child Safety Wearable Device Using IoT Sensors and Cloud Computing | Semantic Scholar](#)

AUTHOR:

Prakriti Agarwal, R Ramya, Rachana Ravikumar, Sabarish G, Sreenivasa Setty , BE Students, Department of Information Science and Engineering [5] Associate Professor, Department of Information Science and Engineering Dayananda Sagar Academy of Technology and Management, Bangalore, Karnataka, India

2) [A Benchmark Database and Baseline Evaluation for Fall Detection Based on Wearable Sensors for the Internet of Medical Things Platform | Semantic Scholar](#)

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3) [\[PDF\] ChildGuard: A Child-Safety Monitoring System | Semantic Scholar](#)

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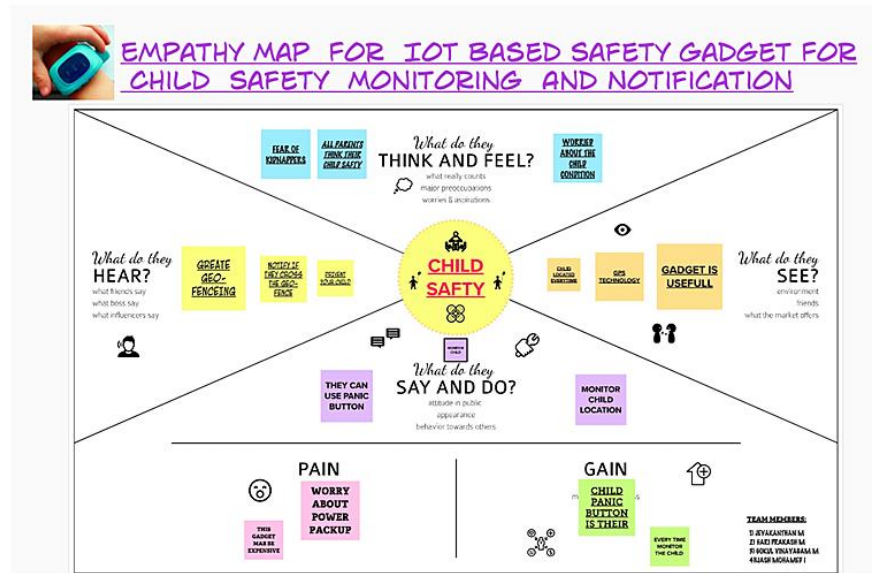
technology from Henan University, China. Contact him at  
guohy4work@foxmail.com.

## **2.3 PROBLEM STATEMENT DEFINITION**

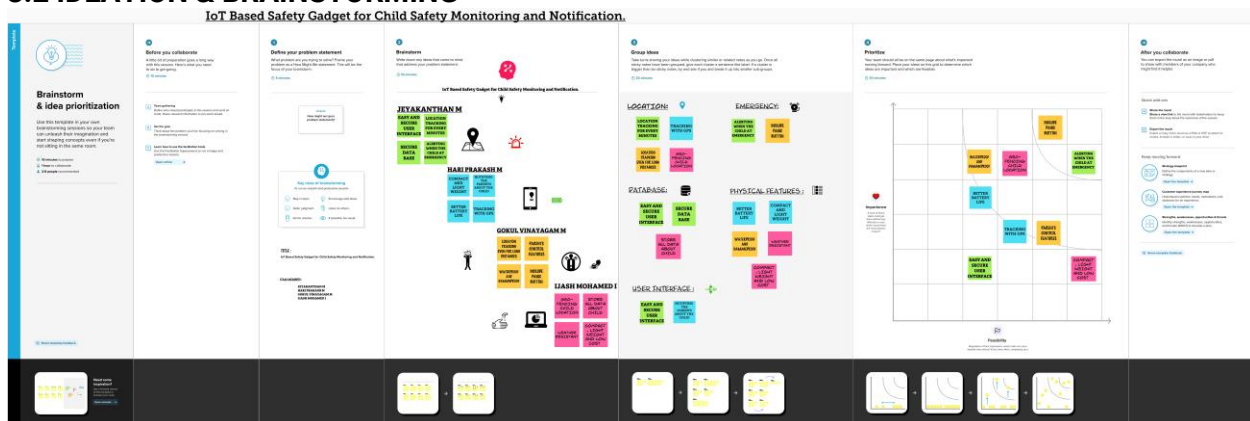
Some people know about the current issues are the most important ones because it is mostly a lot in the news but sometimes other big issues that change our lives are not mentioned in the news because they are issues that can hurt us in the long run or not really important for the modern public. One issue I can tell you about is the forest fires. Sometimes people don't notice or now about the forest fires until it is talk in the news and it's mostly because it has done a great damage.

## **CHAPTER 3 IDEATION AND PROPOSED SOLUTION**

### 3.1 EMPATHY MAP CANVA



### 3.2 IDEATION & BRAINSTORMING



S.No.	Parameter	Description
1.	Problem Statement	IoT Based Safety Gadget for Child Safety Monitoring and Notification
2.	Solution Description	Child Safety and Tracking is of Utmost Importance as Children Are the Most Vulnerable. With Increasing Crime Rates Such as Child Kidnaping, Child Trafficking, Child Abuse and So On, The Need for An Advanced Smart Security System Has Become a Necessity
3.	Uniqueness	<ul style="list-style-type: none"> <li>❖ PAINC BUTTON</li> <li>❖ PARENTS CONTROL FEATURES</li> <li>❖ GEO-FENCING CHILD LOCATION</li> <li>❖ WEATHER RESISTANT</li> </ul>
4.	Customer Satisfaction	Child Tracker Helps Parents to Monitor the Child Location Improved Safety Index of Places, Provides Freedom for the Children with Special Needs. Parents Track their Children in Real Time of the Location Tracker by GSM
5.	Business Model (Revenue Model)	Selling This Product Parents , Child Organization, and and Needers. After 3 Months we Introduce Subscription Mode
6.	Scalability of the Solution	IoT Based Safety Gadget for Child Safety Monitoring and Notification its Ensure Child Safety

### 3.4 PROBLEM SOLUTION FIT



Project Title: IoT Based Safety Gadget for Child Safety Monitoring and Notification  
 TEAM MEMBERS: JEYAKANTHAN M , HARI PRAKASH M , GOKUL VINAYAGAM M , UASH MOHAMED I

Team ID: PNT2022TMID33201

Define CS, fit into CC	<b>1. CUSTOMER SEGMENT(S)</b> <span>CS</span> <ul style="list-style-type: none"> <li>Our Customer is Parents or Guardians</li> <li>Child Orgainzation</li> </ul>	<b>6. CUSTOMER CONSTRAINTS</b> <span>CC</span> <ul style="list-style-type: none"> <li>Better Battery Life</li> <li>Low Cost</li> <li>Security</li> <li>And Privacy</li> </ul>	<b>5. AVAILABLE SOLUTIONS</b> <span>AS</span> <ul style="list-style-type: none"> <li>We Have Include Panic Button so it's Use when Child Emergency Situation</li> <li>And it's Notify The police</li> </ul>	Techon AS, Affordability
	<b>2. PROBLEMS</b> <span>J&amp;P</span> <ul style="list-style-type: none"> <li>Child safety is a challenging Problem now a days. So child Safety can be highly ensued.</li> </ul>	<b>9. PROBLEM ROOT CAUSE</b> <span>RC</span> <ul style="list-style-type: none"> <li>Now a days child kitnaping and child Missing cases are increasing concurrently so the need more security purposes for childrens. Wearable devices are one of the security device</li> <li>Customers (Parents &amp; Guardian) have their child safety and secure because many numbers of possibilities for child insecurity unsafe.</li> </ul>	<b>7. BEHAVIOUR</b> <span>BE</span> <ul style="list-style-type: none"> <li>Parents implements the security plans for their child themselves. They always think about their child's safety and protection.</li> </ul>	
Focus on J&P, map into BE, understand RC	<b>3. TRIGGERS</b> <span>TR</span> <ul style="list-style-type: none"> <li>When the child crosses the Geo fence</li> <li>When the Child's Temperature, Heart rate are abnormal</li> </ul>	<b>10. YOUR SOLUTION</b> <span>SL</span> <ul style="list-style-type: none"> <li>panic button</li> <li>Handheld gadget with integrated mobile application with Temperature, Heart Rate sensors, Location tracking.</li> <li>Creating Geofence.</li> <li>Water/sweat resistant, high battery power,</li> <li>user-friendly application, good network connectivity</li> </ul>	<b>8.CHANNELS of BEHAVIOUR</b> <span>CH</span> <p><b>8.1 ONLINE</b></p> <ul style="list-style-type: none"> <li>we notify the information about the child in every moment include location</li> </ul> <p><b>8.2 OFFLINE</b></p> <ul style="list-style-type: none"> <li>We are shown offline. The application shows the last information about the child's monitoring location.</li> </ul>	

<p><b>4. EMOTIONS: BEFORE / AFTER</b></p> <p><u>Before:</u> The parents feel secure about their children; they frequently come out/roaming and check their child's activities and tendencies.</p> <p><u>After:</u> The parents feel secure for their child and check their location simultaneously for activities and tendencies in location.</p>		
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**CHAPTER 4**  
**REQUIREMENT ANALYSIS**  
**4.1 FUNCTIONAL REQUIREMENTS**

**FUNCTIONAL REQUIREMENTS: -Following are the functional requirements of the proposed solution**

**Functional Requirements :**

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through
FR-2	User Confirmation	Confirmation via Email/SMS Confirmation via OTP
FR-3	Child information	Child Name, Address, Number, Alternative Number
FR-4	Location	GPS Module, WIFI Module
FR-5	Sensors	Temperature, Heart Rate , Motion
FR-6	Notification	When crossing Geo Fence

**NON-FUNCTIONAL REQUIREMENTS:**

-Following are the non-functional requirements of the proposed solution

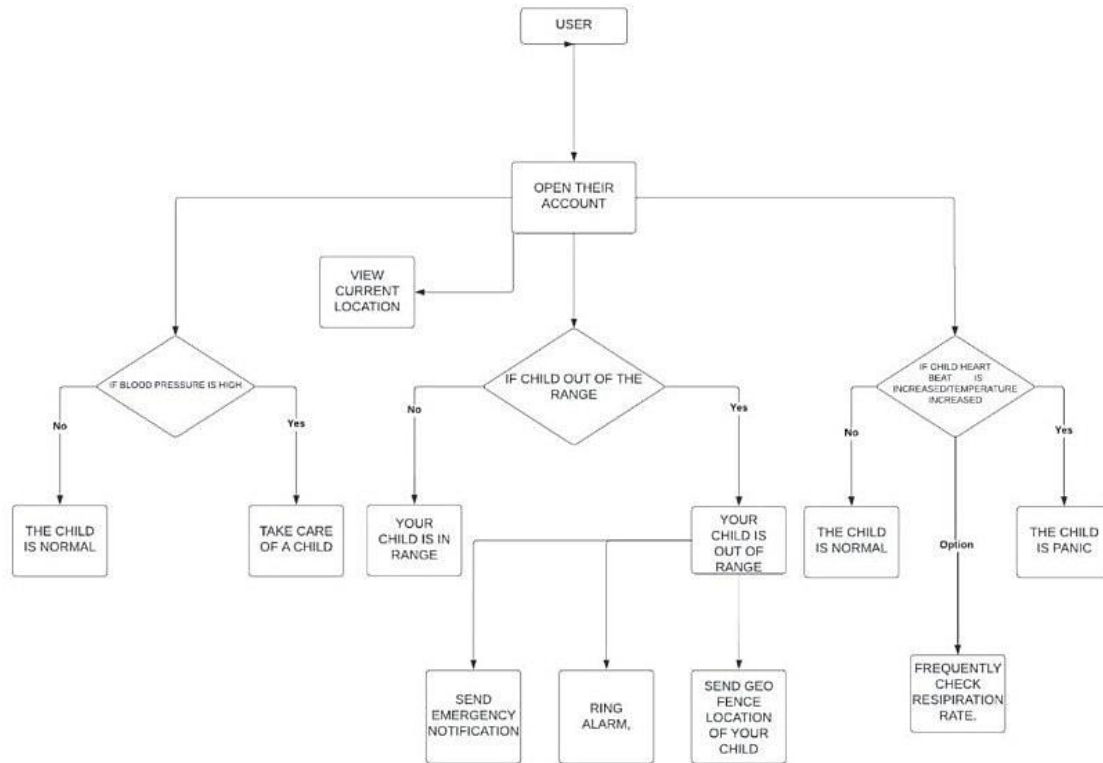
**Non-functional Requirements:**

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	This device is used help the child from critical situation
NFR-2	<b>Security</b>	Data is secure , Information don't share anyone
NFR-3	<b>Reliability</b>	This project will help the parent to monitor the child's location and send a notification to the parents or guardians.
NFR-4	<b>Performance</b>	<ul style="list-style-type: none"><li>• IOT devices and sensors are used to indicate the parents through a message if the child press the emergency button.</li><li>• Long battery life and accuracy</li></ul>
NFR-5	<b>Availability</b>	All the time availability until battery goes low

## **CHAPTER 5**

### **PROJECT DESIGN**

#### **Data Flow Diagram**

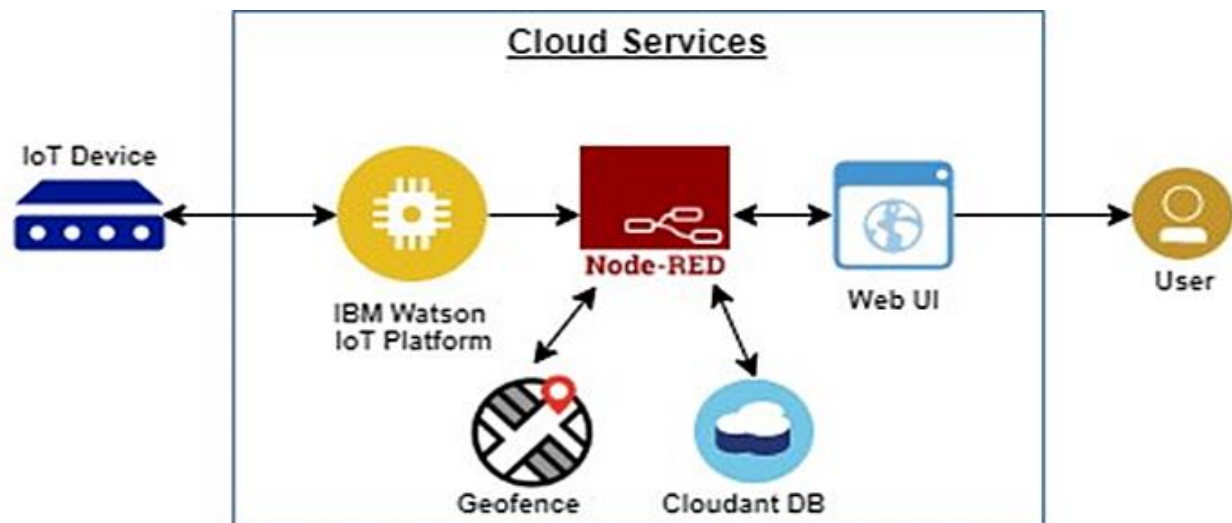
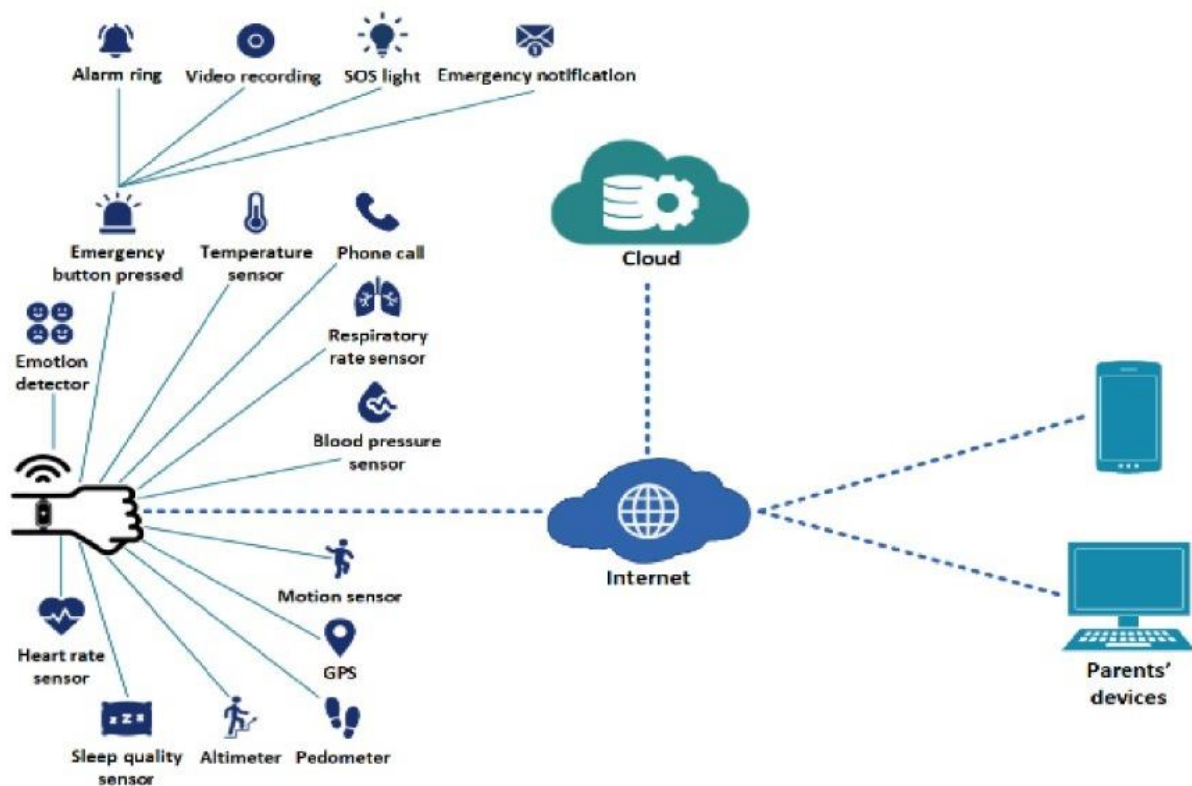


#### USER STORIES :

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook or Google Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail		Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password		High	Sprint-1
	Dashboard	USN-6	Can monitor child location		High	Sprint -3
Customer (Web user)		USN-7	The parent can monitor his/her child's temperature, heart rate blood pressure, location	Notify emergency situation	Medium	Sprint -3
Customer Care Executive		USN-8	ON/OFF notification	Notification is sent every one minute till parent acknowledgement	High	Sprint -4
Administrator		USN-9	Locating their geo fence for further use		Medium	Sprint -4
		USN-10	Adding alternative mobile number Exl parents number, police number	Verify alternate number	Medium	Sprint -3
	Application	USN-11	Integrating gadget with mobile app using WIFI module	Verify connection with device	Medium	Sprint -2
		USN-12	Make user friendly application		Low	Sprint -2
		USN-13	Proper network connection	Ensure network	Medium	Sprint -3

## 5.2 SOLUTION & TECHNICAL ARCHITECTURE

### Solution Architecture Diagram:



### CHAPTER 6 PROJECT PLANNING AND SCHEDULING

## 6.1 SPRINT PLANNING AND ESTIMATION

### Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, and password, and confirming my password.	4	High	JEYAKANTHAN M
Sprint-1	Confirmation Email	USN-2	As a user, I will receive a confirmation email once I have registered for the application	4	High	HARI PRAKASH M
Sprint-1	Authentication	USN-3	As a user, I can register for the application through Gmail and mobile app.	4	Medium	GOKUL VINAYAGAM M
Sprint-1	Login	USN-4	As a user, I can log into the application by entering email & password	4	High	IJASH MOHAMED I

## 6.2 SPRINT DELIVERY SCHEDULE

Sprint-1	Dashboard	USN-1	As a user, I need to be able to view the functions that I can perform	4	High	HARI PRAKASH M
Sprint-2	Notification	USN-1	As a user, I should be able to notify my parent and guardian in emergency situations.	10	High	GOKUL VINAYAGAM M
Sprint-2	Store data	USN-2	As a user, I need to continuously store my location data into the database.	10	Medium	JEYAKANTHAN M
Sprint-3	Communication	USN-3,1	I should be able to communicate with my parents	6	Low	HARI PRAKASH M, GOKUL VINAYAGAM M
Sprint-3	IoT Device – Watson communication	USN-1,4	The data from IoT device should reach IBM Cloud	7	Medium	HARI PRAKASH M IJASH MOHAMED I
Sprint-3	Node RED- Cloudant DB communication	USN-1,2	The data stored in IBM Cloud should be properly integrated with Cloudant DB	7	High	JEYAKANTHAN M IJASH MOHAMED I
Sprint-4	User – WebUI interface	USN-1,4	The Web UI should get inputs from the user	6	High	JEYAKANTHAN M GOKUL VINAYAGAM M

Sprint-4	Geofencing	USN-2,3,1	The geofencing of the child should be done based on the geographical coordinates	7	High	IJASH MOHAMED I, GOKUL VINAYAGAM M JEYAKANTHAN M
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**Project Tracker, Velocity & Burndown Chart: (4 Marks)**

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	10	2 NOV 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	10	9 NOV 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 NOV 2022

## CHAPTER 7 CODING & SOLUTIONING

**import time**

```

import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = "af19wm"
deviceType = "12345678"
deviceId = "12345678"
authMethod = "token"
authToken = "12345678"
try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-
method":authMethod, "auth-token": authToken}
    deviceCli = ibmiotf.device.Client(deviceOptions)
    #.....
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 waston iot...")
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(20,35)#random temperature for your child
    latitude=random.uniform(16.781377,16.78643)#random latitude for your child
    longitude=random.uniform(81.129113,81.134014)#random longitude for your child
    a="Child inside the geofence"
    b=" Child outside the geofence"
    c="High temperature"
    d="Low temperature"
    x={'your_child_Zone':a}
    y={'your_child_Zone':b}
    z={'temp_condition':c}
    w={'temp_condition':d}
    time.sleep(3)

    data = { 'temp' : temperature, 'lat': latitude,'lon':longitude,'name':name }
    #print data
    def myOnPublishCallback():
        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>=16.78200 and latitude<=16.786000 and longitude >=81.130000 and
longitude<=81.133000:
```

```
deviceCli.publishEvent("IoTSensorgpsdata","json",data=x,qos=0,on_publish=myOnPublishCallb
ack)
```

```
    print(x)
    print("\n")
else:
```

```
deviceCli.publishEvent("IoTSensorgpsdata","json",data=y,qos=0,on_publish=myOnPublishCallb
ack)
print(y)
print("\n")
```

```
if (temperature>35):
```

```
deviceCli.publishEvent("IoTSensorgpsdata","json",data=z,qos=0,on_publish=myOnPublishCallb
ack)
print(c)
print("\n")
```

```
else:
```

```
deviceCli.publishEvent("IoTSensorgpsdata","json",data=w,qos=0,on_publish=myOnPublishCall
back)
print(d)
print("\n")
```

```
if not success:
    print("Not connected to IoT")
    print("\n")
    time.sleep(0)
# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

## CHAPTER 8 TESTING

### 8.1 TEST CASES

LoginPage 007	TC	Functional	<p>Application Verify user is able to log</p> <p>1. Click on the</p> <p>2. Enter Valid username in username text box</p> <p>3. Enter valid password in password text box</p> <p>4. Click on submit button</p>	<p>Username: abcd</p> <p>Password: 1234</p>	<p>Application should show 'Incorrect email or password' validation message.</p>	Working as expected	Pass			Gokul vinayagam
LoginPage 008	TC	Functional	<p>Add child Information</p> <p>1. Open the Application</p> <p>2. enter the username and password</p> <p>3. click child 1 and add information i.e.</p>	<p>Username: abcd</p> <p>Password: 1234</p>	<p>Application should show the child information with its</p>	Working as expected	Pass			Ijash mohamed
LoginPage 009	TC	Functional	<p>Check Location</p> <p>1. Click on Location</p> <p>2. Enable location for the app</p> <p>3. Click on track location</p>	<p>Username: abcd</p> <p>Password: 1234</p>	<p>Show the current location of the Child</p>	Working as expected	Pass			Gokul vinayagam
LoginPage 010	TC	Functional	<p>Get Temperature</p> <p>1. Click on Temperature</p> <p>2. Click ENABLE</p>	<p>Username: abcd</p> <p>Password: 1234</p>	<p>To know the temperature</p>	Working as expected	Pass			Jeyakanthan
LoginPage 011	TC	Functional	<p>Create Geo Fence</p> <p>1. Click on Create Geo fence</p> <p>2. Set the radius</p>	<p>Username: abcd</p> <p>Password: 1234</p>	<p>To create geo fence for the respective location</p>	Working as expected	Pass			Hari prakash

Test case ID	Feature Type	Component	Test Scenario	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Comments	BUG ID	Executed By
LoginPage 001	TC	Functional	Home Page	Verify user is able to see the Login/Signup popup •when user opens the application	1.Click on the application 2.Verify login/Signup popup displayed or not	Username: abcd password: 1234	Login/Signup popup should display	Working as expected	Pass		jeyakanthan
LoginPage 002	TC	Functional	Home Page	Verify that error message is displayed when the user enters wrong credentials	•1.Open the App 2. Enter invalid username and password.	Username:• xyw password:• 8765	Error message should be displayed	Working as expected	Pass		Gokul vinayagam
LoginPage 003	TC		Home Page	Verify the UI elements in Login/Signup popup	1.Click on the Application 2.Verify login/Signup popup with below UI elements: a.Username text box	Username: abcd password: 1234	Application should show below UI elements: a. Username text box b. assword text box	Working as expected	Pass		Hari prakash
LoginPage 004	TC	Functional	Home page	Verify user is able to log into application with Valid credentials	1.Click on the Application 2.Enter Valid username in username text box 3.Enter valid password in password text box 4.Click on submit button	Username: abcd password: 1234	User should navigate to screen 2	Working as expected	Pass		Ijash mohamed
LoginPage 005	TC	Functional	Login page	Application Verify user is able to log into application with Invalid credentials	1.Click on the Application 2.Enter Valid username in username text box 3.Enter valid password in password text box 4.Click on submit button	Username: abcd password: 1234	Application should show 'Incorrect email or password' validation message.	Working as expected	Pass		Hari prakash
LoginPage 006	TC	Functional	Login page	Application Verify user is able to log into application with Invalid credentials	1.Click on the Application 2.Enter Valid username in username text box 3.Enter valid password in password text box 4.Click on submit button	Username: abcd password: 1234	Application should show 'Incorrect email or password' validation message.	Working as expected	Pass		jeyakanthan

## 8.2 USER ACCEPTANCE TESTING

### 8.2.1 DEFECT ANALYSIS

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	1	1	0	0	2
Duplicate	0	0	0	0	0
External	1	1	0	0	2
Fixed	1	1	1	0	3
Not Reproduced	0	0	0	0	0

Skipped	0	1	0	0	1
Won't Fix	0	0	0	0	0
Totals	3	4	1	0	8

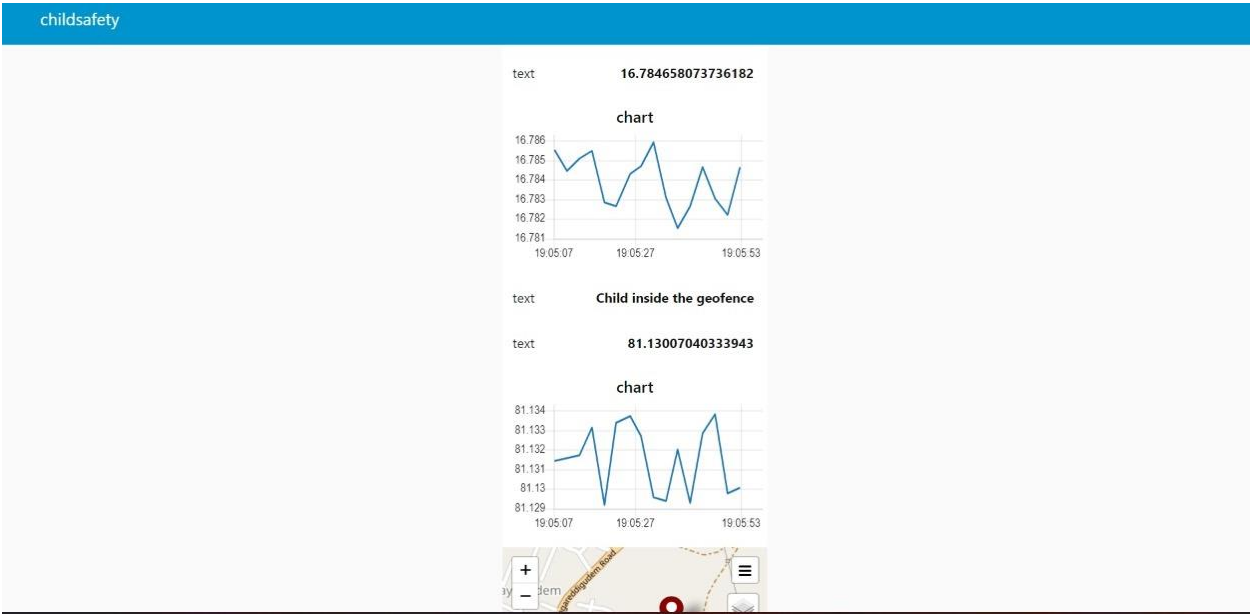
## 8.2.2 TEST CASE ANALYSIS

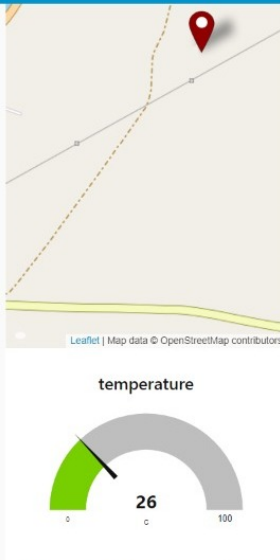
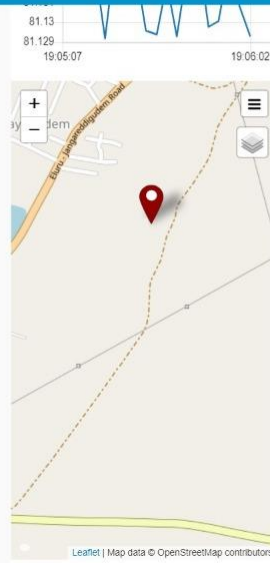
- **Test Case Analysis**

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

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	0	0	0	0
Client Application	5	0	0	5
Security	1	0	0	1
Outsource Shipping	3	0	0	3
Exception Reporting	5	0	0	0

CHAPTER 9  
RESULTS





text({"temp":26,"lat":16.781914061996645,"lon":81.13046253730693,"name":"Jimmy"})

7:15

VoLTE LTE1 44%

Screen1

## REGISTRATION PAGE

FIRST NAME

enter your name

LAST NAME

MAIL ID

enter valid id

PHONE NUMBER

enter your mobile nu

SET YOUR PASSWORD

enter strong password

RE TYPE PASSWORD

re enter

**SUBMIT**



**continue with google**



**LOGIN**



7:16

VoLTE+ 44%

Screen2

**WELCOME TO LOGIN PAGE**

**ENTER MAIL ID**

Hint for TextBox1

**PASSWORD**

**SIGN IN**



USE-FULL





8:56

VoLTE 35%

Screen1

## REGISTRATION PAGE

FIRST NAME

enter your name

LAST NAME

M

P

S

R

### Choose an account



g [redacted]@gmail.com



v [redacted]om



Add account

Cancel OK

SUBMIT

continue with google

LOGIN



8:58

VoLTE1 35%

Screen3

## MONITOR PAGE



24

CHILD TEMPERATURE CHILD LOCATION

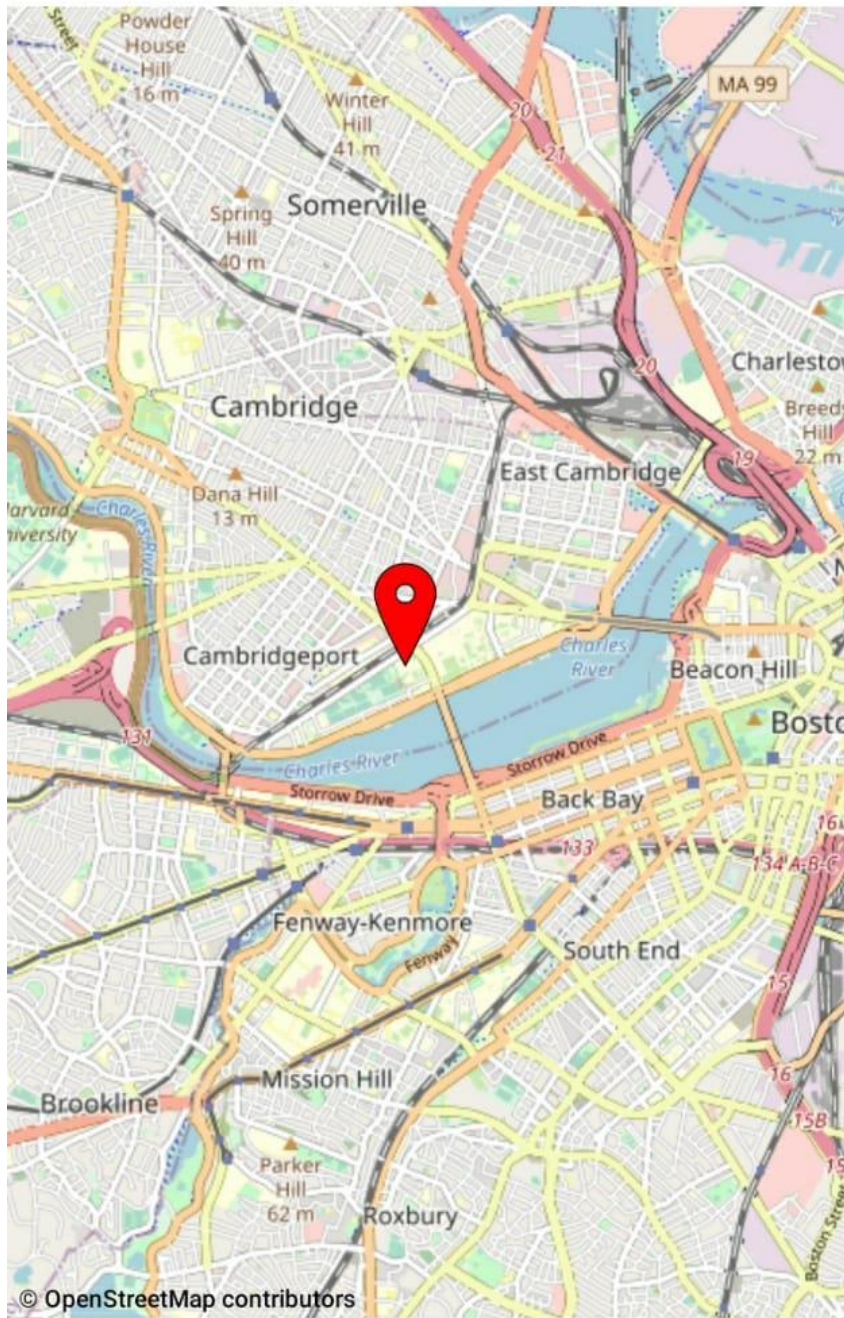


8:58

VoLTE1 35%

Screen4

**LOCATED CHILD**





## CHAPTER 10

### ADVANTAGES & DISADVANTAGES

#### ADVANTAGES

The child safety wearable system acts as a smart device. **Child's surroundings can be located with the help of accurate and precise real-time location.** Surrounding environment temperature, SOS light along with Distress buzzers are provided in this system . This helps in locating their child

#### DISADVANTAGES

The major disadvantage for this important band is that **it employs Bluetooth as the way of communication in between parent and the child.** Therefore, the wearable device implemented in this paper will be effectively communicating the parent via SMS through GSM . This ensures that there is a secure communication link

## CHAPTER 11

### CONCLUSION

This research demonstrates Smart IoT device for child safety and tracking helping the parents to locate and monitor their children. If any abnormal values are read by the sensor then an SMS is sent to the parents mobile and an MMS indicating an image captured by the serial camera is also sent. The future scope of the work is to implement the IoT device which ensures the complete solution for child safety problems.

## **CHAPTER 12**

### **FUTURE SCOPE**

*This project is far from complete and there is a lot of room for improvement. Some of the improvements that can be made to this project are as follows:*

In our system, we automatically monitor the child in real time using Internet of Things, with the help of GPS, GSM, and Raspberry Pi. This system requires network connectivity, satellite communication, and high-speed data connection when we use web camera and GPS to lively monitor. It is difficult to monitor when there occurs any hindrance to satellite communication or any network issue. There also occurs time delay in video streaming through the server. Hence in the future, these issues can be overcome by using Zigbee concept or accessing the system without internet and using high-speed server transmission.

## **APPENDIX**



```
script.py - C:\Users\GOKUL\Downloads\script.py (3.7.4)
File Edit Format Run Options Window Help

import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "af19qm"
deviceType = "12345678"
deviceId = "12345678"
authMethod = "token"
authToken = "12345678"

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method":authMethod, "auth-token": authToken}
    deviceCli = ibmiotf.device.Client(deviceOptions)
    #.....
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 waston iot...")
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(20,35)#random temperature for your child
    latitude=random.uniform(16.781377,16.78643)#random latitude for your child
    longitude=random.uniform(81.129113,81.134014)#random longitude for your child
    a="Child inside the geofence"
    b=" Child outside the geofence"
    c="High temperature"
    d="Low temperature"
    x=('your_child_Zone':a)
    y=('your_child_Zone':b)
    z=('temp_condition':c)
    w=('temp_condition':d)
    time.sleep(3)

data = { 'temp' : temperature, 'lat': latitude, 'lon':longitude, 'name':name }
#print data

Ln:5 Col:13
```

```
script.py - C:\Users\GOKUL\Downloads\script.py (3.7.4)
File Edit Format Run Options Window Help

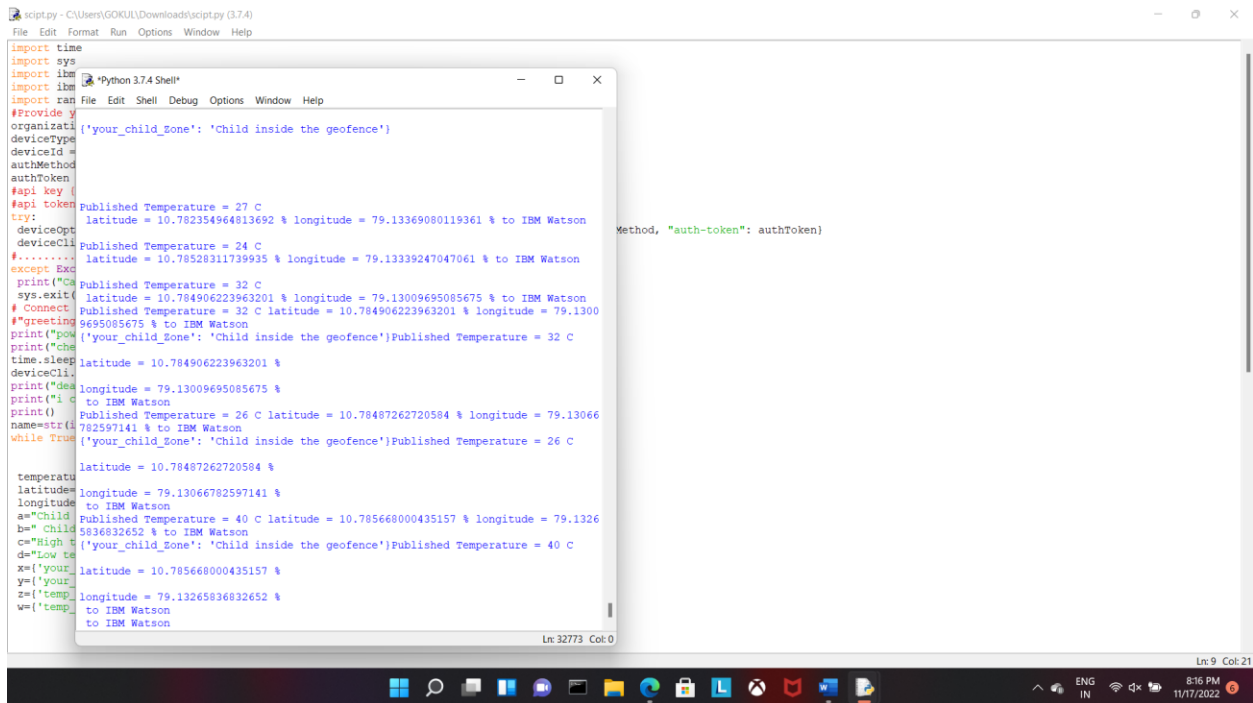
y=('your_child_Zone':b)
z=('temp_condition':c)
w=('temp_condition':d)
time.sleep(3)

data = { 'temp' : temperature, 'lat': latitude, 'lon':longitude, 'name':name }
#print data
def myOnPublishCallback():
    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>=16.78200 and latitude<=16.786000 and longitude >=81.130000 and longitude<=81.133000:
        deviceCli.publishEvent("IoTSensorgpsdata", "json", data=x, qos=0, on_publish=myOnPublishCallback)
        print(x)
        print("\n")
    else:
        deviceCli.publishEvent("IoTSensorgpsdata", "json", data=y, qos=0, on_publish=myOnPublishCallback)
        print(y)
        print("\n")

    if (temperature>35):
        deviceCli.publishEvent("IoTSensorgpsdata", "json", data=z, qos=0, on_publish=myOnPublishCallback)
        print(c)
        print("\n")
    else:
        deviceCli.publishEvent("IoTSensorgpsdata", "json", data=w, qos=0, on_publish=myOnPublishCallback)
        print(d)
        print("\n")

if not success:
    print("Not connected to IoT")
    print("\n")
    time.sleep(0)
# Disconnect the device and application from the cloud
deviceCli.disconnect()

Ln:5 Col:13
```



```
script.py - C:\Users\GOKUL\Downloads\script.py (3.7.4)
File Edit Format Run Options Window Help

import time
import sys
import ibm
import ibm
import ran
#Provide y
organizati
deviceType
deviceId =
authMethod
authToken
#api key (
#api token
try:
    deviceOpt
    deviceCli
    #.....
except Exc
    print("C
    sys.exit(
    # Connect
    #greeting
    print("po
    print("che
    time.sleep
    deviceCli
    print("des
    print("i
    print()
    name=str(
    while True
        latitude = 10.78487262720584 %
        longitude = 79.13066782597141 %
        to IBM Watson
        Published Temperature = 26 C latitude = 10.78487262720584 % longitude = 79.13066
        782597141 % to IBM Watson
        ('your_child_zone': 'Child inside the geofence')Published Temperature = 26 C
        latitude = 10.78487262720584 %
        longitude = 79.13066782597141 %
        to IBM Watson
        Published Temperature = 40 C latitude = 10.785668000435157 % longitude = 79.1326
        5836832652 % to IBM Watson
        ('your_child_zone': 'Child inside the geofence')Published Temperature = 40 C
        latitude = 10.785668000435157 %
        longitude = 79.13265836832652 %
        to IBM Watson
        to IBM Watson

Method, "auth-token": authToken)
```

**GITHUB:**[IBM-EPBL/IBM-Project-2326-1658469793: IoT Based Safety Gadget for Child Safety Monitoring & Notification \(github.com\)](https://github.com/IBM-EPBL/IBM-Project-2326-1658469793)

**PROJECT DEMO VIDEO LINK:**  
[IBM-child\\_saftey.mp4 - Google Drive](#)

**APP LINK:**[child\\_safety.apk - Google Drive](#)