

PROJECT REPORT

PROJECT NAME : IOT BASED SAFETY GADGETS FOR CHILD SAFETY MONITORING AND NOTIFICATION

TITLE	IOT BASED SAFETY GADGETS FOR CHILD SAFETY MONITORING AND NOTIFICATION
DOMAIN	INTERNET OF THINGS
TEAM ID	PNT2022TMID51475
TEAM LEADER	JOB I ALAN REENA A
TEAM MEMBERS	BRINDHA R MALATHI N SEFTY DESHOSHA S

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1.INTRODUCTION:

Project Overview:

Internet of Things (IoT) is a set of systems and devices interconnected with real-world sensors and actuators to the Internet. It is able to make decisions via detecting the surrounding environment without human interaction. In this project, IoT is applied to propose 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, children safety is guaranteed, and crime rate is reduced as immediate actions can be taken in case the child is in danger. The use of IoT in this device is motivated by the need of child security system. Enable tracking of the child's location and capturing of data remotely such as temperature, Latitude and Longitude. 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. Then, emergency notification will be sent to and display in the parents' mobile apps. Cloud computing means shared computing resources (networks, servers, storages, applications, services) are delivered as a service over the Internet from cloud to parents. According to cloud is an interconnected network of servers providing services for people. With the help of cloud we store the entire location data.

Purpose:

It assists parents to monitor their children remotely. In case situations happen, notifications will be sent to parents so that actions can be taken. Through this child safety can be sure and crime rate will be reduced. Parents concentrate to their works without worrying about their children.

2.LITERATURE SURVEY:

2.1 Existing problem:

The tracking system is used to track moving individuals and provide an instant timeline of position information for tracking analysis. People Tracking System in the crowd for Smart Cities is a mobile application that allows parents to monitor the location of their children in a crowded environment. Besides children, there are also elderly and disabled people, so the person responsible for them can use this application to track their location. The parents have the application in which they can track the location and on the other hand, the child or the old person or the disabled person has a device that contains the Global Positioning System chip. The main objective of this study is to design an application with the system that will help the parents to track their children to reduce the cases where the children or the other mentioned categories of people might get lost. The current solution to this problem is that the children first have a wearable wrist where they imprint the phone number of their parents so that if the child is lost, there is an office where the child is taken and taken care of until they contact the parents to come and pick up the child. The problem with the current way that it takes time and there is a risk that child will be lost or kidnapped before ever reaching for any help, so the new way is better to also prevent them from going far away or being lost for hours, so the recovery here will be quick unlike the regularly used way today. This goal will be achieved by systematic objectives, starting from studying the existing systems, planning, and analyzing, designing, and implementing, and finally testing the proposed system.

Recently, all over the world, crime against children is increasing at higher rates and it is high time to offer safety support system for the children going to schools. This paper focuses on implementing children tracking system for every child attending school. However the existing systems are not powerful enough to prevent the crime against children since these systems give information about the children group and not about each child resulting in low assurance about their child safety to parents and also does not concentrate on sensing the cry of the child and intimating the same to its parents. The proposed system includes a child module and two receiver modules for getting the information about the missed child on periodical basis. The child module includes ARM7 microcontroller (lpc 2378), Global positioning system (GPS), Global system for mobile communication (GSM), Voice playback circuit and the receiver module includes Android mobile device in parent's hand and the other

as monitoring database in control room of the school. Finally, implementation results for the proposed system are provided in this paper.

What the world is seeing about the deterioration of public safety in various cities and the increase in the rate of crimes against children makes parents constantly worry about their children when they go to school and until they return from it. To dispel these fears, the idea emerges to create an application that allows parents to know the whereabouts of their children and notify them with a message if the children exceed the area specified for them. In this application, the process of discovering the child's precise location in a specific area is carried out by determining the latitude and longitude using the GSM radio navigation system. After that, the mobile receives all the information about the location via the GSM modem. A GSM modem has been programmed to achieve communication between the modem and the child by two methods of communication through which the child's location is determined. Ensuring that the child's location is known at any time and informing the person responsible for tracking him is the primary function of this system. This device connects to the child in an appropriate manner and it turns on when the child exits the designated area for him, after which a message is sent to the tracker. The device can be triggered using a short messaging system (SMS) where the user can communicate remotely to the GSM using a mobile.

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Nowadays, crime rate associated with children keeps increasing due to which draws peoples' attention regarding child safety. This research is conducted to propose a child security smart band utilizing IOT technology. Online questionnaire and semi-structured interview are methodologies used to collect data. The online questionnaire gains feedbacks by sending questions electronically, where answers need to be submitted online. In the semi structured interview, researcher meets and asks respondents some predetermined questions while other being asked are not planned in advanced. Through information obtained a smart band have been proposed to monitor the safety of children. By this, parents know what is happening remotely and can take actions if something goes wrong. The future

improvements of this device will be adding functions and software to make it works like a phone such as messaging, gallery, Google, YouTube, meanwhile, adding more child security features so that child safety is guaranteed.

Now-a-days attacks on children are increasing at an unprecedented rate and the victims are in dangerous conditions, where they are not allowed to contact the family members. The key idea planned in this research work is an advanced technology that offers “Smart Child Safety” for the children. Therefore, the awareness of this method is to send an SMS from children’s wear tool to their parent or guardian. In the prevailing structure, there is no monitoring method for child, it should create many problems for them and the no protection mechanism to protect the child from the misbehavior. In addition, there is no aware device for the child’s protection; it must be completed by hand only. Thus, the planned method will be highly effective when compared to the other existing techniques in helping the victims. Moreover, it doesn’t need any manual operation. This paper recommends a newfangled technology for child protection by using GSM so that the children will not feel abandoned while facing such social problems. The problems overawed here using Arduino UNO, GSM, sensors, MEMS, temperature and panic button by using IOT. In such case, Heartbeat Sensor tracks the best rate for children and sends the emergency message by using the GSM to save contacts. Such method is actually supportive for children in today’s world. Hence, this provides a security to the children and secures the feeling of parents.

Today, technology is growing rapidly and providing all essential and effective solutions for every requirement. Now a day’s child security is an important area of concern. This model is developed to rectify the worries of parents regarding their child security. In this scenario, our system ensures maximum security and ensures live tracking for their kids because parent worries are genuine. This paper proposed a model for child safety through smart phones that provides the option to track the location of their children as well as in case of emergency children is able to send a quick message and its current location via Short Message services. This proposed system is validated by testing on the Android platform.

Safety of a child in a large public event is a major concern for event organizers and parents. This paper addresses this important concern and proposes an architecture model of the IOT- enable smart child safety tracking digital system. This IOT-enabled digital system architecture integrates the Cloud, Mobile and GPS technology to precisely locate the geographical location of a child on an event map. The proposed architecture model describes the people, information, process, and technology architecture elements, and their relationships for the complex IOT-enable smart child safety tracking digital system. The proposed architecture model can be used as a reference or guide to assist in the safe architecture driven development of the various child tracking digital systems for different public events.

The objective of this project is to safeguard the child from threads. Now a day the safety measures of children have been reduced in huge number. Thus the violence against children increasing day by day. Not only kids even

women are also abused both physically and mentally. We are taking small step towards violence against the kids. Our project mainly focus on sensing the children's Temperature and Heartbeat. By monitoring the activities the state of the child is analyzed. By using GSM, if child reaches the critical state then the latitude and longitude of that particular location is sent as an alert message to the parents. In this system, it has a MEMS sensor which is used to detect the abnormal vibration and it is controlled by Node MCU micro controller.

The objective of this project is to safeguard the child from threats. Now a day the safety measures of children have been reduced in huge number. Thus the violence against children increasing day by day. Not only kids even women are also abused both physically and mentally. We are taking small step towards violence against the kids. Our project mainly focus on sensing the children's Temperature and Heartbeat. By monitoring the activities the state of the child is analyzed. By using GSM, if child reaches the critical state then the latitude and longitude of that particular location is sent as an alert message to the parents.

2.2 References:

Designing and implementing the people tracking system in the crowded environment using mobile application for smart cities. The Society for Reliability Engineering, Quality and Operations Management (SREQOM), India and The Division of Operation and Maintenance, Lulea University of Technology, Sweden 2021

:

Proceedings of the 3rd International Conference on Integrated Intelligent Computing, Communication & Security (ICIIC 2021) IoT-based Child Security Monitoring System

Design and Implementation of a Smart System for School Children Tracking

Design and Implementation of Children Tracking System using ARM7 on Android Mobile Terminals (September-2014)

Proceedings of the 3rd International Conference on Integrated Intelligent Computing Communication & Security (ICIIC 2021) -IoT-based Child Security Monitoring System

Proceedings of the Third International Conference on Intelligent Communication Technologies and Virtual Mobile Networks (ICICV 2021). Design of Wearable Device for Child Safety

2016 Second International Conference on Computational Intelligence & Communication Technology- Child Safety & Tracking Management System

2020 IEEE 14th International Conference on Semantic Computing (ICSC) -IoT-enabled Smart

Child Safety Digital System Architecture

Child Safety Wearable Device.(March 2019)

International Conference on Electrical Engineering and Computer science 2018, An Integrated

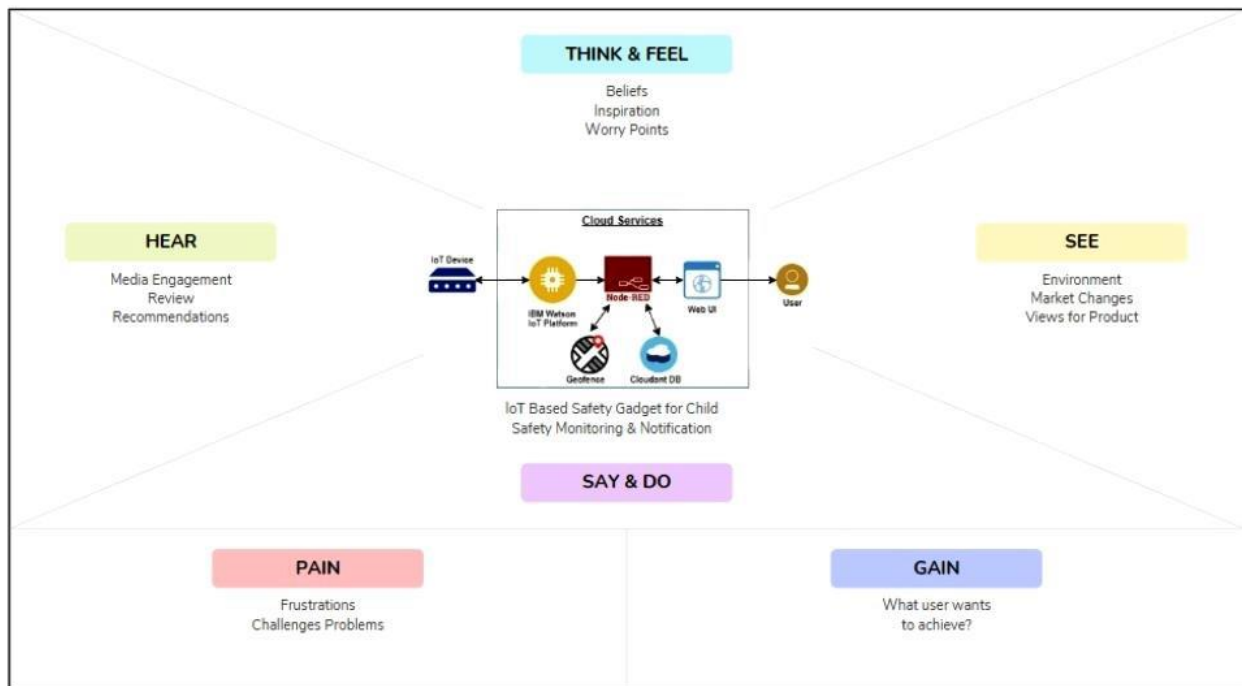
Child Safety using Geo-fencing Information on Mobile Devices

2.3 Problem Statement Definition:

1. Child tracker helps the parents in continuously monitoring the child's location.
2. They can simply leave their children in school or parks and create a geofence around the particular location.
3. By continuously checking the child's location notifications will be generated if the child crosses the geofence.
4. Notifications will be sent according to the child's location to their parents or caretakers.
5. The entire location data will be stored in the database

3.IDEATION AND PROPOSED SOLUTION:

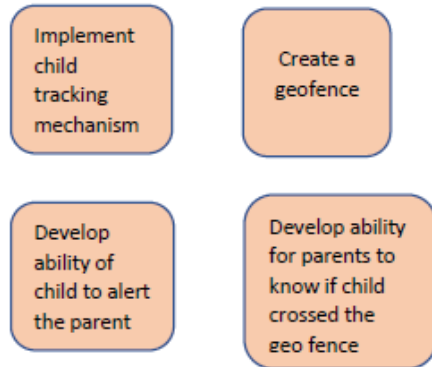
3.1 Empathy Map Canvas.



3.2 Ideation and Brainstorming

BRUNNEN

JOGI AJAN REENA A



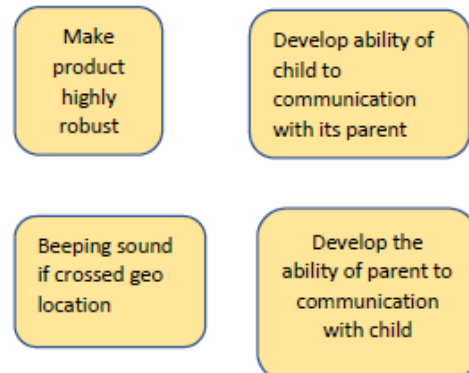
BRINDHA R



MALATHI N



SEFTY DESHOSHA S



3.3Proposed Solution

Project team shall fill the following information in proposed solution template.

S NO	PARAMETER	DESCRIPTION
1	Problem Statement (Problem to be solved)	Children are facing a lot of crimes nowadays whether in society or on any social media platform.
2	Idea / Solution description	The idea is to develop an IOT-based safety gadget to monitor children and ensure their safety.
3	Novelty / Uniqueness	To create a device that is easily carryable, wearable, comfortable, and safe for children to use.
4	Social Impact / Customer Satisfaction	The user will be able to track their children throughout the day. if any emergency will be intimated about it. The user will get the exact information about their child.
5	Business Model (Revenue Model)	Portable, comfortable and small in size. To ensure that the device is safe for children to use.
6	Scalability of the Solution	Reliable and cost-effective.

3.4Problem Solution Fit

<p>1.CUSTOMER SEGMENT</p> <p>Our customers are mainly parents who are working and do not have enough time to take care of their children.Such parents are not provided with availability at anytime to look after their children.if the case so they are in need of something to make their children under the surveillance of them.</p>	<p>2.JOBS TO BE DONE/PROBLEMS</p> <p>To enhance the operating condition of the developed solution the way it is not supposed to deal with any fault at any point of time that the child safety can be highly ensured.To ensure the parents that their surveillance on their children cannever been taken off.</p>	<p>3.TRIGGERS</p> <p>The trigger which induces the customer is the one that when other working parents give a try to this.</p>
<p>4.EMOTION BEFORE/AFTER</p> <p>Customer are being frustrated that their children are doing safe or not befor using the gadget design.Once they start to use the developed solution they might feel free to focus on their work and also the surveillance of their work and also the surveillance of their children would happen with ease at any point of time.</p>	<p>5.CUSTOMER CONSTRAINS</p> <p>The constraints our customers facing are such connectivity issues or may be the protocols being used for communication. There may be chances of issues arised due to technical disefficiencies.Giving a second thought,price to be offered for buying the developed solution kit might be the one they could not afford.</p>	<p>6.AVAILABLE SOLUTIONS</p> <p>Of course the solutions are available ready in the market Such as angel monitoring system.Child safety GSM kit,etc...One such constraint the customers facing are cost and inefficiencies in the working once purchased.</p>
<p>7.BEHAVIOUR</p> <p>The proposed solution always keens/tends to make the gadget work in an efficient way so that it is not supposed meet</p>	<p>8.CHANNELS OF BEHAVIOUR</p> <p>Our proposed solution has the modes of working in both offline and online.In case of any</p>	<p>9.PROBLEM ROOT CAUSE</p> <p>Considering the origination of The problem .It occurs in the base of merely irrespective persons that are no way kind</p>
<p>up with any further constraints.Also the solution tries to ensure that efficient functionalities are to be provided to the fullest to the customers.</p>	<p>Disconnectivities happen the gadgets which has been developed might tend to work On plan B ehich includes the backup of the failure of actual working kit.</p>	<p>relatable to the children but for the currency kind of thing And also the child abuse.</p>
<p>10.YOUR SOLUTION</p> <p>Our term has highly been intending to develop an efficient Solution to overcome all the flaws that the existing solutions hold back still.We are highly on demand to ensure the efficient functionalities of the developing module the way it will not fall at anything.</p>		

4.REQUIREMENT ANALYSIS:

4.1 Functional Requirements:

FUNCTIONAL REQUIREMENTS

Following are the functional requirements of the proposed solution.

FR NO.	FUNCTIONAL REQUIREMENTS	SUB REQUIREMENTS (STORY/ SUB TASK)
FR-1	User Registration	Registration Through Form Registration Through Gmail Registration Through Linedin
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Authentication	Only the authorized person for that product will know ensures security
FR-4	User interface	The inventor able to see the location of children when they are out of geofence will also track the exact information about the children
FR-5	Notificaton	Notified through mobile and email

4.2 Non-Functional Requirements :

NON-FUNCTIONAL REQUIREMENTS

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

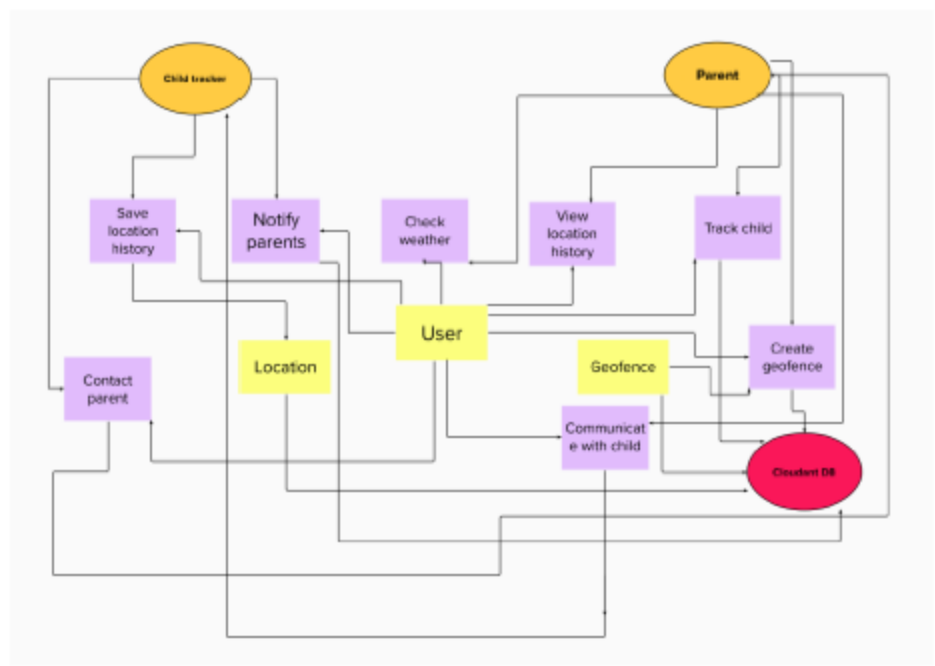
FR NO.	NON- FUNCTIONAL REQUIREMENT	DESCRIPTION
NFR-1	Usability	Accessed through Mobile App Showing location of child and also other measures to ensure safety like notification .Portable and comfortable to use.
NFR-2	Security	Database security and ensuring the safety of the product while in use.
NFR-3	Reliability	Once logged in, the webpage is available until logging out of the app, and a comfortable platform or creates a good environment for users to use.

NFR-4	Performance	Each page must load with in 4 seconds and database needs to be updated every few seconds and a notification must be sent immediately if seen a change in the child location.
NFR-5	Availability	The data must be available whenever needed and the product should be able to use at any time.
NFR-6	Scalability	The process must be flexible to use at any time and versatile.

6 PROJECT DESIGN

5.1 Data Flow Diagrams

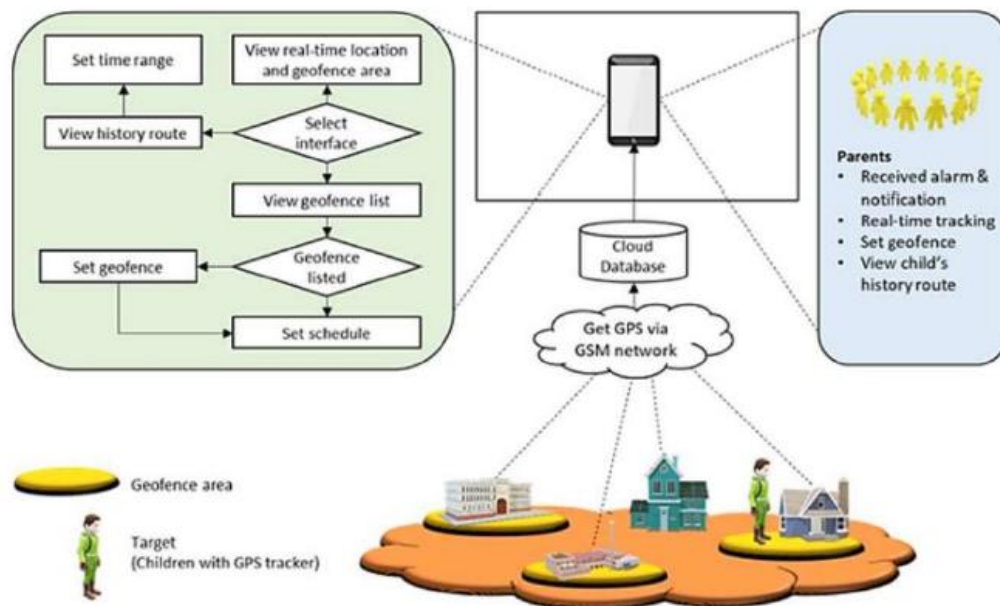
Data Flow Diagram



Parent	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	I can receive confirmation	High	Sprint-1

			confirmation email once I have registered for the application	email & click confirm		
		USN-3	As a user, I can register the application through Gmail		Medium	Sprint-1
	Login	USN-4	As a user, I can log into the application by entering email & password		High	Sprint-1
	Dashboard	USN-5	As a user, I need to be able to view the functions that I can perform		High	Sprint-1
Child	Notification	USN-1	As a user, I should be able to notify my parent in emergency situations		High	Sprint-2
	Store data	USN-2	As a user, I need to continuously store my location data into the db		Medium	Sprint-2
	Communication	USN-3	I should be able to communicate with my parents		Low	Sprint-3

5.2 Technical Architecture:



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:

Product Backlog, Sprint Schedule, and Estimation

Use the below template to create product backlog and sprint schedule

SPRINT	FUNCTIONAL REQUIREMENT(EPIC)	USER STORY NUMBER	USER STORY/ TASK	STORY POINTS	PRIORITY	TEAM MEMBERS
Sprint 1	User Registration	USN 1	Registration Through website registration through app.	2	High	Jobi Alan Reena A Brindha R Malathi N Sefty Deshosh S
Sprint 1	User Confirmation	USN 2	Confirmation via email confirmation via OTP	1	High	Jobi Alan Reena A Brindha R Malathi N Sefty Deshosh S
Sprint 2	User Login	USN 3	Setting up user id and password	2	Low	Jobi Alan Reena A Brindha R Malathi N Sefty Deshosh S
Sprint 1	App Permission	USN 4	Grant the permission for the app to access location, contact etc..	2	Medium	Jobi Alan Reena A Brindha R Malathi N Sefty Deshosh S
Sprint 1	Interface with the device	USN 5	Connecting the device with the registered app with the device ID	1	High	Jobi Alan Reena A Brindha R Malathi N Sefty Deshosh S
Sprint 2	Setting Geo location	USN 6	Creating the Geo location area in the map	2	Low	Jobi Alan Reena A Brindha R Malathi N Sefty Deshosh S
Sprint 3	Database	USN 7	Location history is stored in the cloud. Can be access from the dashboard.	2	High	Jobi Alan Reena A Brindha R Malathi N Sefty Deshosh S

Sprint 4	Tracking location	USN 8	Tracking the location through app. Tracking the location through website.	2	High	Jobi Alan Reena A Brindha R Malathi N Sefty Deshosh S
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PROJECT TRACKER, VELOCITY& BURDOWN CHART (4 MARKS):

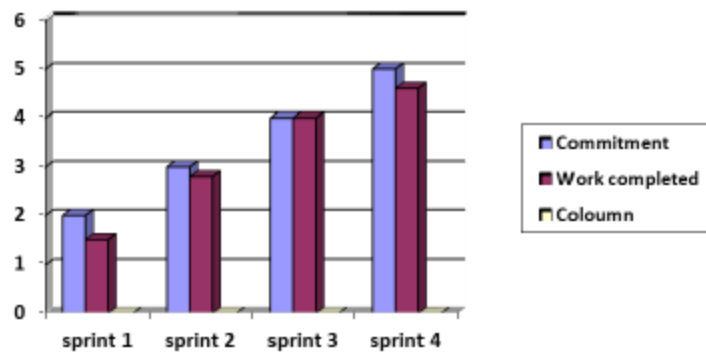
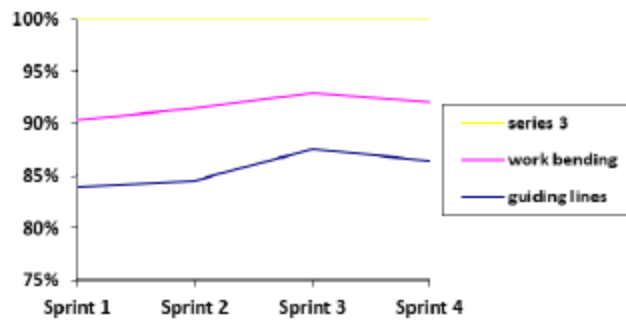
SPRINT	TOTAL STORY PONTs	DURATION	SPRINT START DATE	Sprint End Date(PLANNED)	STORY POINTS COMPLETED (AS ON PLANNED END DATE)	SPRINT RELEASE DATE (ACTUAL)
Sprint 1	20	6 days	24 Octobet 2022	29 October 2022	20	29 October 2022
Sprint 2	20	6 days	31 October 2022	05 November 2022	20	05 November 2022
Sprint 3	20	6 days	07 November 2022	12 November 2022	20	12 November 2022
Sprint 4	20	6 days	14 November 2022	19 November 2022	20	19 November 2022

Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{10} = 2$$

BURNDOWN



7.CODING AND SOLUTIONING:

7.1 Feature Code

- IoT device
- IBM Watson Platform
- Node red
- Cloudant DB
- MIT App Inventor
- Python code

7.2 Feature 2

- Login
- Verrification
- Ticket Booking
- Adding rating

8.TESTING:

8.1Test case:

IBM Watson IoT Platform

Device ID: 13 Status: Connected Device Type: ABCD Class ID: Device Date Added: Nov 2, 2022 10:55 PM

Identity Device Information Recent Events State Logs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
IoTSensor...	{ "temp_condition": "Low temperature" }	json	a few seconds ago
IoTSensor...	{ "your_child_zone": "Child outside the geofence" }	json	a few seconds ago
IoTSensor...	{ "temp": 21, "lat": 12.13102244642139, "lon": 78...	json	a few seconds ago
IoTSensor...	{ "temp_condition": "High temperature" }	json	a few seconds ago
IoTSensor...	{ "your_child_zone": "Child outside the geofence" }	1 Simulation running	

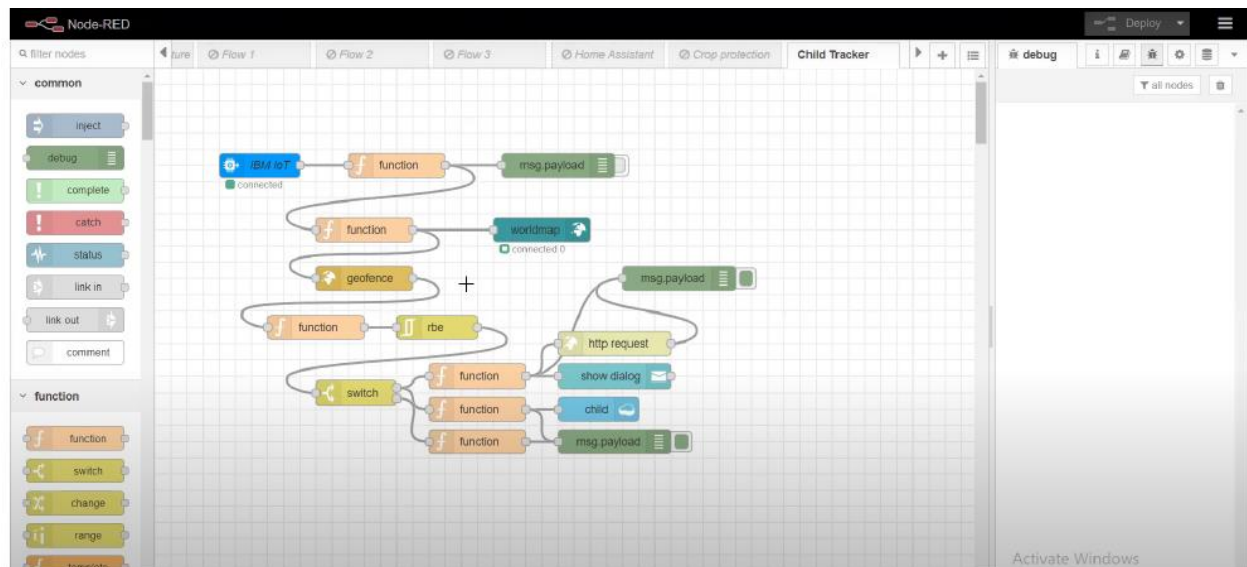
Python 3.7.4 Shell

```
def __init__(self):
    self.device_id = "13"
    self.device_type = "ABCD"
    self.class_id = "Device"
    self.date_added = "Nov 2, 2022 10:55 PM"
    self.status = "Connected"
    self.device_info = {
        "temp_condition": "Low temperature",
        "your_child_zone": "Child outside the geofence",
        "temp": 21,
        "lat": 12.13102244642139,
        "lon": 78.13102244642139
    }
    self.events = []
    self.logs = []
    self.simulation = False

    def add_event(self, event, value, format, last_received):
        self.events.append({
            "event": event,
            "value": value,
            "format": format,
            "last_received": last_received
        })

    def add_log(self, log):
        self.logs.append(log)

    def simulate(self):
        self.simulation = True
        self.add_event("temp_condition", "High temperature", "json", "a few seconds ago")
        self.add_event("your_child_zone", "Child outside the geofence", "json", "a few seconds ago")
        self.add_event("temp", 21, "json", "a few seconds ago")
        self.add_event("your_child_zone", "Child outside the geofence", "json", "a few seconds ago")
        self.add_log("1 Simulation running")
```



8.2 User Acceptance Testing:

Purpose of Document:

The purpose of this document is to briefly explain the test coverage and open issues of the IOT 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 how they were resolved.

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.

11. CONCLUSION:

The child tracking system that helps parents track the movements of children with the help of GPS technology. The entire location data is stored in database. This proposed app can show 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.

12. 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 in this system.
3. If child crosses the geofence, call goes to the registered mobile numbers.
4. These gadgets will be modified that has been suitable for all environments.

13.APPENDIX:

Python code:

```
import time

import sys

import ibmiotf.application

import ibmiotf.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)

    #.....
```

```

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"

```

```

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

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

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 >= 40):

```

```
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=myOnPublishCallba

print(w)

print("\n")

if not success:

print("Not connected to IoT")

print("\n")

time.sleep(1)

# Disconnect the device and application from the cloud

deviceCli.disconnect()
```