IoT Based Safety Gadget for Child Safety Monitoring & Notification

TEAM ID: PNT2022TMID36286

TEAM MEMBERS:

KATHI CHANDU **(TEAM LEADER)**

GP CHANDRIKA

CHERUKURU NAVEENA

RAVURU CHARITHA

INTRODUCTION

Child safety is a challenging problem nowadays due to antisocial Elements in the society. The crime rate is day by day increasing. Schools and working places need high surveillance for ensuring the Safety among children. Smart Gadget major role for ensuring the Safety, where some mobile based applications provide alert systems. During the emergency, Application alert the control room of nearby Police station or caretakers of children. The literature shows that Location tracking devices are available in the market, but it does not Provide the complete solution to the problem. The solution to this problem is to design an IoT device, which senses the child's location And environment and during emergency, it should send the alert to the Parents automatically.

PROJECT OVERVIEW

Child tracker helps the parents in continuously monitoring the Child's location. They can simply leave their children in school or parks And create a geofence around the particular location. By continuously Checking the child's location notifications will be generated if the child Crosses the geofence. 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.

PURPOSE

IoT Based Safety Gadget for Child Safety Monitoring & Notification Plays a key role in providing better care for the lost children until they Reconvene with the parents. In this present era, most of the wearable Devices today are designed based on the location, activity temperature, Pressure, etc of the child and in form the parents via GPS. Therefore it Is intended to use voice call as the way of communication between the Parent mobile and child' s wearable device. The system operates on the Microcontroller board and the functions of sending and receiving Notifications ,calls, voice messages via GPS.

- 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 protectionmechanism 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 track the best rate for children and sends the emergency message by using the GSM to save contacts.
- Such method is actually suppove for children in today’s world.
- Hence, this provides a security to the children and secures the feeling of parents.

Keyword:

Arduino UNO; wearable device; IOT; GSM; GPS

Advantages:

- Staying connected,
- Data accuracy ,
- Efficiency.

Disadvantages:

- High cost but once it is implemented the expenses can be reduced.

Intelligent Child Safety System using Machine Learning in IoT Devices

Author :

(Dr. Sreeja B S, Aparajith Srinivasan, Akshaya R, Abirami S,Divya N.)

- Child safety and tracking is of most importance as children are the most vulnerable.
- With increasing crime rates such as child kidnaping, child trafficking, child abuse and so on such as child kidnaping, child trafficking, child abuse and so on the need for an advanced smart security system has become a nnecessity
- With this motivation, a self-alerting“INTELLIGENT CHILD SAFETY SYSTEM USING MACHINE LEARNING IN 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 work lies in the autonomous decision making process with increased accuracy.

Keywords:

Child safety, GPS, GSM, Sensors, Arduino, Raspberry-Pi, Decision Tree Classifier, Autonomous Decision, Intelligent Child Safety System using Machine Learning in IoT Devices.

Advantage:

- According to the child mental and physical condition, when kids are in danger automatically the message notification will be sent to the parents (register number).
- Distance is not a barrier to track a child location - (GPS Tracker).

Disadvantage:

- Decision Tree Classifier Algorithm is a complex structure.
- Cost is too high.

IoT Based Safety Gadget for Child Safety Monitoring and Notification

Authors:

(H.M. Sabaa Fathima)

- This project discusses the concept of a smart wearable device for little children.
- The major pros of this wearable over other wearable is that it can be used in any cellphone and doesn't necessarily require an expensive smartphone and not a very tech savvy individual to operate.
- The purpose of this device is to help the parents to locate their child with ease.
- At the moment there are many wearables in the market which help track the daily activity of children and also help find the child using Wi-Fi and Bluetooth services present on the device.
- But Wi-Fi (Wireless Fidelity) and Bluetooth appear to be an unreliable medium of communication between the parent and child.
- Therefore, the focus of this project is to have an SMS text enabled communication medium between the child's wearable and the parent as theenvironment for GSM mobile communication.
- The parent can send a text as SMS with specific keywords such as “LOCATION”, “TEMPERATURE”, “SOS”, “BUZZ”, etc., to the wearable device.
- The device will replay backwith a text containing the real time accurate location of the child and will also provide the surrounding temperature, so that the parents can keep track if the temperature not suitable for the child.

- The secondary measure implemented was using a bright SOS Light and distress alarm buzzer present on the wearable device which can be activated by the parents via SMS text to display the SOS signal brightly and sound an alarm which a bystander can instantly react for the child's safety till the parents arrive or they could contact the parents and help locate them.
- Hence this project aims at providing parents with a sense of security for their child intoday's time.

Keywords :

Children, Arduino, Safety, Wearable.

Advantages:

- The ability to locate and track your child in real time is all made possible with IoT-enabled technology. They are many other benefits that IoT-enabled child tracks include; Keeps track of children in case of abduction.

Disadvantages:

- The child could not produce the exact alert command during a panic condconditio
- The command

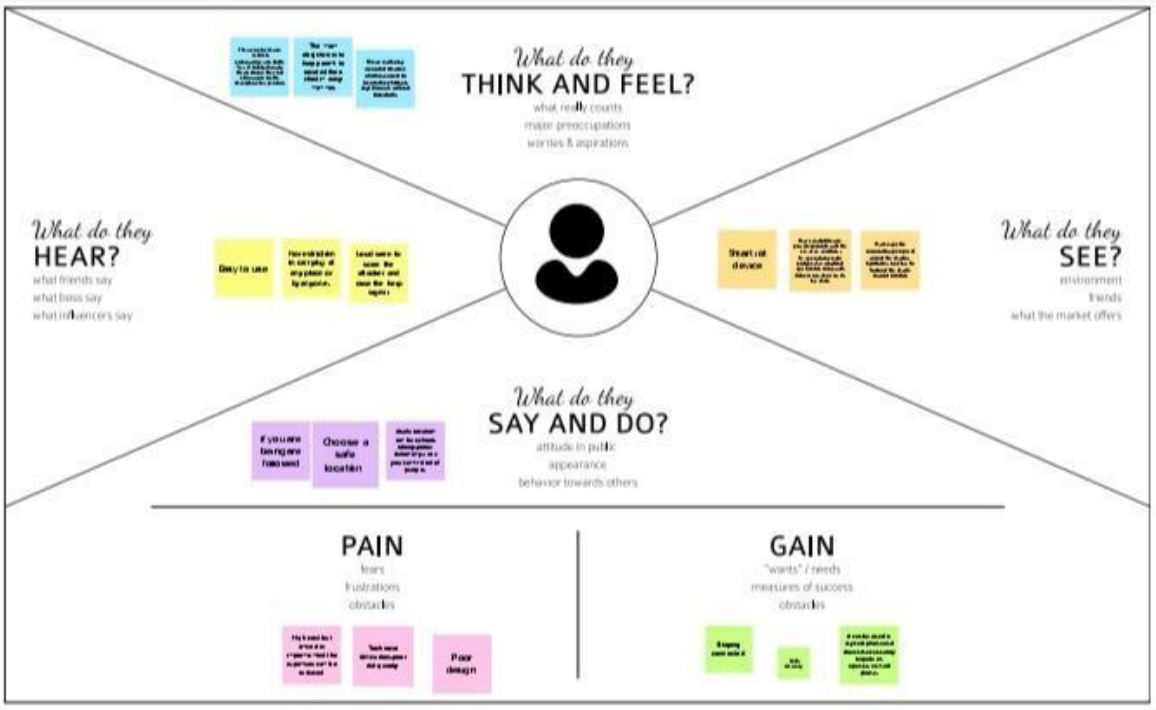
Problem statement:

Empathy Map Canvas

Gain insight and understanding on solving customer problems.

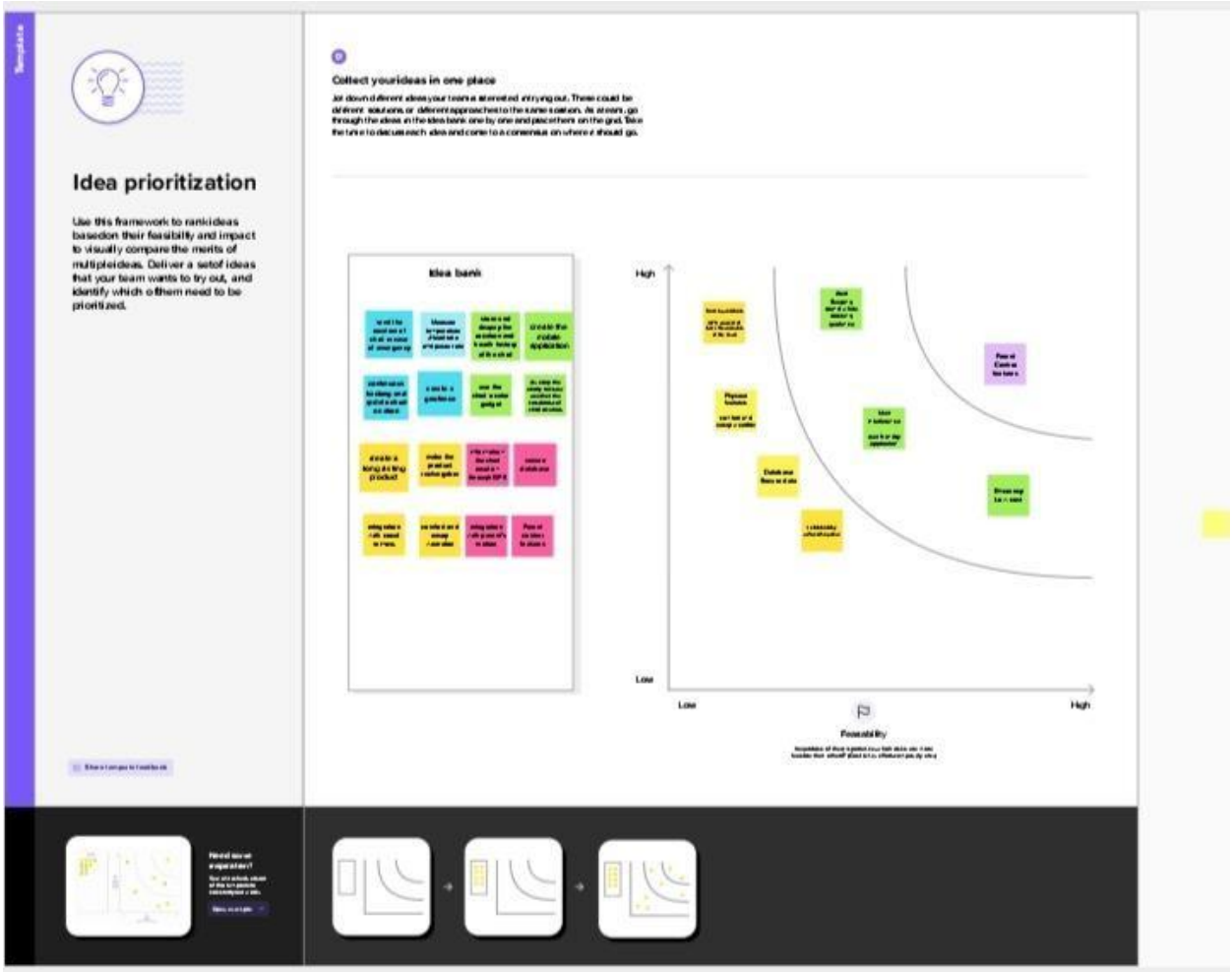
1

Build empathy and keep your focus on the user by putting yourself in their shoes.



Share your feedback

			difficult to tracking		


Idea prioritization
Use this framework to rank ideas based on their feasibility and impact to visually compare the merits of multiple ideas. Deliver a set of ideas that your team wants to try out, and identify which of them need to be prioritized.
Collect your ideas in one place
Jot down different ideas your team is interested in trying out. These could be different solutions, or different approaches to the same problem. As a team, go through the ideas in the Idea bank one by one and place them on the grid. Take the time to discuss each idea and come to a consensus on where it should go.
Idea bank
High
Low
Low
High
Feasibility

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

1) Parents who are not able to look after their child.
2) Care-taker who are aged.
3) Customer who can't be with their child.

6. CUSTOMER CONSTRAINTS — CC

1) The network connectivity is not interrupted
2) Affordability.

5. AVAILABLE SOLUTIONS — AS

Developing an application that is able to monitor and track the child.

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS — J&P

1) To constantly monitor the child.
2) Alert the parents via messages ,once they cross the created geofence.

9. PROBLEM ROOT CAUSE — RC

Most of the children are getting kidnapped and facing many issues and these cases are growing rapidly. Each and every day the children are being assaulted and facing many problems and issues.

7. BEHAVIOUR — BE

1) By setting a Geofence using GPS module.
2) Alert the parents by developing an application

Focus on J&P, tap into BE, understand RC

3. TRIGGERS — TR

As a child can't be able to take care of itself and may commit any mistake unknowingly. 4. EMOTIONS: BEFORE / AFTER

EM

10. YOUR SOLUTION — SL

To design a gadget that monitors the location of the child and also alert the parents in case of any emergency situation like child out of geofence.

8. CHANNELS of BEHAVIOUR — CH

Online:Application is developed to track the child's location and send an alert message to the parents in case of abnormality.
Offline: biosensors and an emergency buzzer can be used.

Identify strong TR & EM

Before:uneasy,concerned, worried.

. After:assured,positive, hopeful.

Identify strong TR & EM

Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridgesthe gap between business problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.
- Describe the structure, characteristics, behavior, and other aspects of thesoftware to project stakeholders.
- Define features, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered. **Solution**

Architecture:

Proposed Solution Template:

S. No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Child safety is the foremost common issue emerging around the world. Parents terrify to send their kids to schools located at longer distances due to the behaviour of unexpected strangers. For every 40 seconds, a child is missing in this world which is a major drawback of the society. Parents are responsible for taking care of their own children as the children are immature about what happens to them. Nowadays, due to economic condition and aims to focus on their child's future and career, parents are forced to crave for money. Hence, it becomes difficult for them to cling on to their children all the time. This problem must be rectified as the safety of children is very important.
2.	Idea / Solution description	The idea of this proposal is to design and implement the "Child Safety Wearable Device" for the safety of the children. According to this proposal, parents can monitor the security of their children at any

		time. **Panic button:** When a child feels threatened in any situation, he/she can press the panic button, which sends an automatic message and a phone call to the parent or guardian, as well as a precise live GPS location. Panic buttons are pushbuttons which can be pressed by a person in danger. It allows users to ask for help directly. The actuation of a panic button immediately leads to an alarm and notification as explained above. It enables children to attract the attention of their parents. It is a security device. **Heart beat sensor:** The heartbeat sensor detects the child's heart rate and delivers it to the guardian on a regular basis. Heart rate is a standard vital sign and has become a routine measurement in healthcare. The monitoring of this signal provides information about the physiologic status of the child. Periodic update of heartbeat is done through the GSM module to deliver frequent updates to the caregiver via SMS. **Fall Detection and Alert:** When the user falls, there will be a large spike in acceleration, which will be detected and the live GPS location will be retrieved using the GPS module via serial communication, process the GPS data, and send the live location coordinates to the caretaker through SMS, indicating the possibility of the user falling. In addition, an automatic call will be made to the caretaker.

		Temperature Sensor: A temperature sensor is a device used to measure temperature. In our case, it is used to determine the temperature of the child's immediate environment. It uses the GSM module to deliver frequent updates to the caregiver via SMS. **Battery:** A battery is a device that is able to store electrical energy in the form of chemical energy, and convert that energy into electricity. Batteries are used in various things that we use in our house. Batteries are used to power things like remote controls, torches, wall clocks, flashlights, hearing aids, weight scales, etc. **Accelerometer:** An accelerometer is an electronic sensor that measures the acceleration forces acting on an object in order to determine the object's position in space and monitor the object's movement. They are used in many ways, such as in many electronic devices, smartphones, and wearable devices, etc. The data from the accelerometer is analysed using several threshold values if there is any sudden fall movement. The user-supplied parameters, such as height, weight, and degree of activity, are used to adjust the threshold. **GPS:** The GPS stands for Global Positioning System. It is used for several functions. The main functions of GPS are to determine the location (position of the child), navigation (getting from one location to another), tracking (monitoring object or personal

		movement), mapping (creating maps of the world), timing (making it possible to take precise time measurements). **GSM:** The Global System for Mobile Communications module is intended for SMS monitoring. It is used for data security and data transmission. The GSM technology is used which uses mobile stations, base substations, and network systems.This module may be used to perform practically whatever a basic mobile phone can, such as send and receive SMS, text messages, make and receive phone calls, connect to the internet via GPRS, TCP/IP, and so on. When the panic button is touched, a text message is sent to the registered phone, coupled with a phone call and a live GPS location. Periodic updates are delivered to the caretaker through SMS using this module. **Internet of Things (IOT):** Internet of Things (IOT) is the latest technology that connects entire world. It is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-tocomputer interaction. It establishes connectivity (through internet) among the various devices or services or systems in order to little by little make automation development in all areas. Safety is the most wanted power for everyone in today's world. Technology is the best way to solve this problem. That's the reason to develop this project that can act as a rescue device and protect at the

		time of danger.
3.	Novelty / Uniqueness	The novelty of this project is to use Internet Of Things to create a gadget that provides "Smart Child Safety" to protect children, which will be far more effective than current methods in assisting victims. 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 and also aids the bystanders to rescue the child. The other main purpose of this project is to use a GSM module to enable SMS communication between the child's wearable and the parent. Parents can text particular phrases such as "LOCATION," "TEMPERATURE","SOS","BUZZ," "UV," and so on, and the wearable device will answer with a text outlining the child's current location, which when pressed will show the child's exact location on Google maps. It also shows the temperature and UV radiation index so that parents can keep an eye on their children's surroundings. Also as a future scope, more power efficient model can be created that holds the battery for a long time.

5.	Business Model (Revenue Model)	A business with a large profit margin naturally attracts many manufacturers to do it. Children's watches, even considered a "window" by them, continue to produce a large number of similar inferior products. Nowadays, GPS tracking technology is widely used in personal households and businesses. The GPS tracking market is rapidly growing and has an amazing potential in the future. People are becoming more and more concerned about their safety and the safety of their valuables. That's why families are starting to use mobile tracking apps and GPS trackers for their children and other loved
		ones. Companies are also tracking and managing their vehicles, delivery trucks, cargo or employees. According to Global Market Insights, "the vehicle tracking market size was valued at $8 billion in 2015 and is anticipated to exceed $22 billion by 2022." Really, there's no doubt you should start GPS tracking business today!
6.	Scalability of the Solution	The proposed model can be used in each and every house containing small kids. It is helpful for the parents who are playing role as an employee. As it ensures the safety of the children, it would be very much useful for the society. It can be used and monitored from anywhere.

User journey

Phases	Needs	Awareness	Action	Monitoring
Steps	The Child wants to wear the smart watch	If the child is in any dangerous zone	The Child will press the emergency button	The parent will receive the notifcation from the child
Feelings				
		The parents /guardian simultaneously check the child status	The child in danger zone the parents/guardian verify the child monitoring location	Then parents check the received captured videos and recordings and communicate the child
Pain points		If the watch get lost	If any network issues occur	The parent can't track the childs location if the smart watch battery power is down
Opportunities		Market about the devices in advertisements	Child exact locations updating continuesly without interpreted The device send audio and video are in better quality	The wearble devices features are update particular time Maitenance the imageoi wearable device.

Functional Requirements:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Register phone number	1. Confirmation by sending OTP. 2. Confirmation by calling.
FR-2	Navigation and tracking	1. Monitoring the live location of the child by GPS tracker. 2. Check whether the child is within the limited area or not.
FR-3	Notification	1. When the child is out of the range. 2. When the child is reaching and leaving the school. 3. Sudden changes in the health of the child.
FR-4	Alarm ring and sending message	1. When the panic button is ON. 2. When the child is kidnapped or missing. 3. When the sensed data exceed the threshold value.
FR-5	Privacy and encryption	1. End to end encryption where strangers cannot operate. 2. Access only by parents and some family members.

Non Functional Requirements:

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	The system shall be usable within few minutes of training.
NFR-2	Security	The system and sensed data can be accessed only by the parents not by the strangers.
NFR-3	Maintainability	The system shall be maintainable whenever failure occurs.
NFR-4	Accuracy	The system shall give the accurate result for different factors using sensing material. As a result, their will not be any distractive messages.
NFR-5	Reliability	The timing of the notification directly affects how the effectivity of the system is perceived.
NFR-6	Performance	The system is cost effective comparing to the features it provides.

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

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 app	10	High	Apsan A Vinitha C V Anitha K
Sprint-1	User Confirmation	USN-2	Confirmation through SMS	5	High	Apsan A Vinitha C V Anitha K
Sprint-1	Authentication	USN-3	Authentication through app	5	High	Apsan A Vinitha C V Anitha K
Sprint-2	User login	USN-4	Log into the application by entering username & password.	5	Low	Apsan A Vinitha C V Anitha K
Sprint-2	App permission	USN-5	Grant the permission for the app to access location, contact	10	Medium	Apsan A Vinitha C V Anitha K
Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-2	Communication	USN-6	The child and the parent able to communicate.	5	Medium	Apsan A Vinitha C V Anitha K
Sprint-3	Interface with the Device	USN-7	Connecting the device with the registered app with IP address	10	High	Apsan A Vinitha C V Anitha K
Sprint-3	Setting Geo-Fencing	USN-8	Creating the Geo-Fencing area in the map	10	High	Apsan A Vinitha C V Anitha K
Sprint-4	Database	USN-9	Location history is stored in the cloud. Can be accessed from the dashboard.	10	Medium	Apsan A Vinitha C V Anitha K

Sprint-4	Tracking Location	USN-10	Tracking the location through app.	5	Low	Apsan A Vinitha C V Anitha K
Sprint-4	Real-Time Capturing	USN-11	Captures the image/video through camera	5	Medium	Apsan A Vinitha C V Anitha K

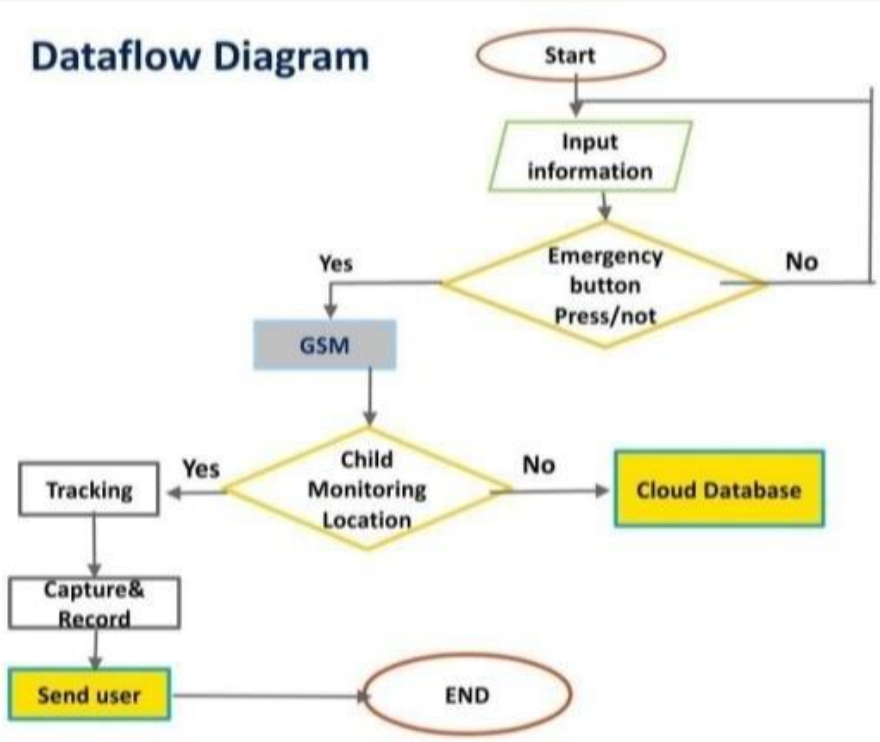
Project Tracker, Velocity & Burndown Chart: (4 Marks)

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		
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022		
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 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)

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


Dataflow Diagram
Start
Input information
Emergency button Press/not
Yes
No
GSM
Child Monitoring Location
Yes
No
Tracking
Cloud Database
Capture& Record
Send user
END

MILESTONES AND ACTIVITY LISTS

TEAM ID : PNT2022TMID45857

IOT Based Safety Gadget For Child Safety Monitoring &Notification

1. Prerequisties

- 》 IBM Cloud Services
- 》 Software

2.Project Objectives

- 》 Abstract
- 》 Brainstorming

3.Create And Configure IBM Cloud Services

- 》 Create IBM Watson Iot Platform And Device
- 》 Create Node- Red Service
- 》 Create A Database In Clodant DB

4.Develop The Python Script

- 》 Develop A Python Script

5.Develop A Web Application Using Node-RED Service.

- 》 Develop The Web Application Using Node-RED

6.Ideation Phase

- 》 Literature Survey On The Selected Project & Information Gathering
- 》 Prepare Empathy Map
- 》 Ideation

7.Project Design Phase -1

- 》 Proposed Solution
- 》 Prepare Solution Fit

- Solution Architecture

8. Project Design Phase -2

- Customer journey
- Functional Requirement
- Data Flow Diagram
- Technology Architecture

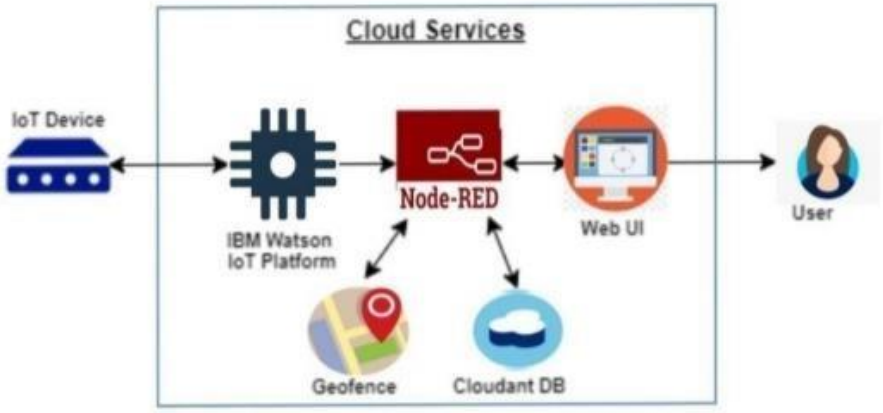
9.Project planning Phase

- Prepare Milestones & Activity List
- Sprint Delivery Plan

10.Project Development Phase

- Project Development-Delivery Of Sprint-1
- Project Development-Delivery Of Sprint-2
- Project Development-Delivery Of Sprint-3
- Project Development-Delivery Of Sprint-4

TECHNICAL ARCHITECTURE



FINAL CODE

PYTHON CODE:

```
import wiotp.sdk.device
import time
import json
myConfig = {
"identity": {
"orgId": "crmwpw",
"typeId": "childdevice",
"deviceId":"CHILD"
},
"auth": {
"token": "1234567890"
}
}
client = wiotp.sdk.device.DeviceClient(config=myConfig,
logHandlers=None)
client.connect()
while True:
name="smartbridge"
#in area location
latitude=11.651145
longitude=78.156674
#out area location
#latitude=11.651165
#longitude=78.158672
myData={'name':name, 'lat':latitude, 'lon':longitude}
client.publishEvent(eventId="status", msgFormat="json", data=my
qos=0,
onPublish=None)
print("Published data Successfully: %s", myData)
time.sleep(5)
client.disconnect()
```

ADDING GEOFENCE:

```
package com.example.geofence;
import android.app.PendingIntent;
import android.content.Context;
import android.content.ContextWrapper;
import android.content.Intent;
import android.widget.Toast;
import com.google.android.gms.common.api.ApiException;
import com.google.android.gms.location.Geofence;
import com.google.android.gms.location.GeofenceStatusCodes;
import com.google.android.gms.location.GeofencingRequest;
import com.google.android.gms.maps.model.LatLng;
public class GeofenceHelper extends ContextWrapper
{
private static final String TAG = "GeofenceHelper";
PendingIntent pendingIntent;
public GeofenceHelper(Context base)
{
super(base);
}
public GeofencingRequest getGeofencingRequest(Geofence geo
{
return new GeofencingRequest.Builder()
.addGeofence(geofence)
.setInitialTrigger(GeofencingRequest.INITIAL_TRIGGER_ENTER)
.build();
}
public Geofence getGeofence(String ID, LatLng latLng, float radi
transitionTypes)
{
return new Geofence.Builder()
.setCircularRegion(latLng.latitude, latLng.longitude, radius)
.setRequestId(ID)
.setTransitionTypes(transitionTypes)
.setLoiteringDelay(5000)
.setExpirationDuration(Geofence.NEVER_EXPIRE)
```

```
.build();
}
public PendingIntent getPendingIntent()
{
if (pendingIntent != null)
{
return pendingIntent;
}
Intent intent = new Intent(this, GeofenceBroadcastReceiver.clas
pendingIntent = PendingIntent.getBroadcast(this, 2607, intent,
PendingIntent.FLAG_IMMUTABLE);
return pendingIntent;
}
public String getErrorString(Exception e)
{
if (e instanceof ApiException)
{
ApiException apiException = (ApiException) e;
switch (apiException.getStatusCode())
{
case GeofenceStatusCodes
.GEOFENCE_NOT_AVAILABLE:
return "GEOFENCE_NOT_AVAILABLE";
case GeofenceStatusCodes
.GEOFENCE_TOO_MANY_GEOFENCES:
return "GEOFENCE_TOO_MANY_GEOFENCES";
case GeofenceStatusCodes
.GEOFENCE_TOO_MANY_PENDING_INTENTS:
return "GEOFENCE_TOO_MANY_PENDING_INTENTS";
}
}
return e.getLocalizedMessage();
```

ALERT NOTIFICATION:

```
package com.example.geofence;
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.location.Location;
import android.os.CountDownTimer;
import android.util.Log;
import android.widget.Toast;
import com.google.android.gms.location.Geofence;
import com.google.android.gms.location.GeofencingEvent
import java.util.List;
import android.os.Handler;
public class GeofenceBroadcastReceiver extends BroadcastReceiver
{
private static final String TAG = "GeofenceBroadcastReceiv";
@Override public void onReceive(Context context, Intent intent)
{
// TODO: This method is called when the BroadcastReceiver is receiving
// an Intent broadcast
//. /*
Toast.makeText(context, "GEOFENCE_ENTERED", Toast.LENGTH_SHORT)
final Toast mToastToShow; int toastDurationInMilliSeconds = 1200000;
mToastToShow = Toast.makeText(context, "GEOFENCE_EXITED",
Toast.LENGTH_LONG);
// Set the countdown to display the toast CountDownTimer toastCountDov
toastCountDown = new CountDownTimer(toastDurationInMilliSeconds, 10
{
public void onTick(long millisUntilFinished)
{
mToastToShow.show();
}
public void onFinish()
{
mToastToShow.cancel();
}
}; // Show the toast and starts the countdown mToastToShow.show();
toastCountDown.start();*/
NotificationHelper notificationHelper = new NotificationHelper(context);
notificationHelper.sendHighPriorityNotification("GEOFENCE_TRANSITION_
"",
```

```
MapsActivity.class);
GeofencingEvent geofencingEvent = GeofencingEvent.fromIntent(intent);
if (geofencingEvent.hasError())
Log.d(TAG, "onReceive: Error receiving geofence event...");
return;
}
List geofenceList = geofencingEvent.getTriggeringGeofences ();
for (Geofence geofence: geofenceList)
{
Log.d(TAG, "onReceive: " + geofence.getRequestId());
}
// Location location = geofencingEvent.getTriggeringLocation();
int transitionType = geofencingEvent.getGeofenceTransition();
switch (transitionType)
{
case Geofence.GEOFENCE_TRANSITION_ENTER:
notificationHelper.sendHighPriorityNotification("Entered the Location", "",
MapsActivity.class);
break;
case Geofence.GEOFENCE_TRANSITION_EXIT:
notificationHelper.sendHighPriorityNotification("Exited the Location ", "",
MapsActivity.class);
break;
}
}
}
```

Result:

successfully completed.

FUTURESCOPE

This project is actually developed for parents to keep track The child where about. Nowadays, child is easier influenced by their Friends, and they might even get cheated or kidnapped by any of the Strangers. By developing this system can track child current location. The application will deal with the Android platform and is Utilized for GPS following between different mobile devices .The Application is mindful to keep track the location of the device. The parent Or child account can be edit by parents. The application will include the Route history trace where the parent track for the route their child Traversed during a certain period of time. The application in the device Will update the location of the child to the application by having the Interval time for 30 in, 1 hour and 2 hour. Parent can select the interval Time to view the current location of the child. Parent also can make call From the application if any inconvenience happens when the location not Found or track.