

Project Report

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1.INTRODUCTION

1.1 PROJECT OVERVIEW

This paper is mainly streamered towards child safety solutions by developing a gadget which can be tracked via its GPS locations and also a panic button on gadget is provided to alert the parent via GSM module calling for help. Parental android app is developed to manage and track the device anytime. Smart gadget device is always connected to parental phone which can receive and make phone calls and also receive SMS on gadget via GSM module, also a wireless technology is implemented on device which is useful to bound the device within a region of monitoring range, if device is moving out of monitoring range then an alert will be triggered on binding gadget, this helps you keep a virtual eye on child. Health monitoring system on gadget checking for parameters like heart beat/pulse rate and temperature is included which can be monitored on parental app. Gadget also monitors whether it is plugged on hand or not using contact switch and alert the parent as soon as it is unplug

1.2 PURPOSE

The internet of things (IoT) refers to the set of devices and system that stay interconnected with real-world sensor and to the internet. During years' Child safety is under threat and it is very important to provide a technology-based solution which will help them under panic situations and monitor them using a smart gadget. The

proposed system is equipped with GSM and GPS modules for sending and receiving call and SMS between safety gadget and parental phone, the proposed system also consists of Wi-Fi module used to implement IoT and send all the monitoring parameters to the cloud for android app monitoring on parental phone. Android application can be used to track the current location of safety gadget using its location coordinates on parental phone android app and also via SMS request from parent phone to safety gadget. Panic alert system is used during panic situations and automatic SMS alert and phone call is triggered from safety gadget to the parental phone seeking for help and also monitored for plug and unplug from hand, as soon the gadget is unplugged from hand a SMS is triggered to parental phone and the alert parameter is also updated to the cloud.

Heart-beats, temperature is monitored and the values are updated to cloud continuously for parent app monitoring. Boundary monitoring system is implemented on safety gadget with the help of BEACON technology, as soon as the safety gadget moves far away from the binding gadget an alert is provided to parent on binding gadget. the system is used to monitor the health parameters and also used for location tracking during necessary situations in safety concern.

2.LITERATURE SURVEY

2.1 EXISTING SYSTEM

[1] Authors: M Nandini Priyanka, S Murugan, K. N. H.

Srinivas, T. D. S. Sarveswararao, E. Kusuma Kumari.

Title: Smart IoT Device for Child Safety and Tracking.

Published in: 2019 IEEE.

The system is developed using Link-It ONE board programmed in embedded C and interfaced with temperature, heartbeat, touch sensors and also GPS, GSM & digital camera modules. The novelty of the work is that the system automatically alerts the parent/caretaker by sending SMS, when immediate attention is required for the child during emergency. Merits: The parameters such as touch, temperature & heartbeat of the child are used for parametric analysis and results are plotted for the same.

Demerits: To implement the IoT device which ensures the complete solution for child safety problems. [2]

Authors: Akash Moodbidri, Hamid Shahnasser Title: Child safety wearable device.

Published in: 2017 IEEE.

The purpose of this device is to help the parents to locate their children with ease. At the moment there are many wearable's in the market which helps to track the daily activity of children and also helps to find the child using Wi-Fi and Bluetooth services present on the device.

Merits: This wearable over other wearable is that it can be used in any phone and it is not necessary that an expensive smartphone is required and doesn't want to be very tech savvy individual to operate.

Demerits: As, this device's battery gives short life-time. High power efficient model will have to be used which can be capable of giving the battery life for a longer time.

[3] Authors: Aditi Gupta, Vibhor Harit.

Published in: 2016 IEEE.

Title: Child Safety & Tracking Management System by using GPS.

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.

Merits: The advantages of smart phones which offers rich features like Google maps, GPS, SMS etc.

Demerits: This system is unable to sense human behavior of child.

[4] Authors: Dheeraj Sunehera, Pottabhatini Laxmi Priya. Title: Children Location Monitoring on Google Maps Using GPS and GSM.

Published in: 2016 IEEE.

This paper provides an Android based solution for the parents to track their children in real time. Different devices are connected with a single device through channels of internet.

The concerned device is connected to server via internet. The device can be used by parents to track their children in real time or for women safety. The proposed solution takes the location services provided by GSM module. It allows the parents to get their child's current-location via SMS.

Merits: A child tracking system using android terminal and hoc networks.

Demerits: This device cannot be used in rural areas.

2.3 PROBLEM STATEMENT DEFINITION

Safety Gadget

Figure 1 shows the block diagram of the proposed child safety device. It consists of inbuilt Wi-Fi, GSM, GPS and Bluetooth modules. The link it one board is similar to the

Arduino board and it is termed as all-in-one prototyping board for safety and IoT devices. The link it one is a robust development board for the hardware and also used for industrial applications. Different components such as temperature sensor, heartbeat sensor, panic button, contact switch are connected to the link it ONE board along with built in GSM, GPS modules. Safety gadget consists of BEACON and BLE packet is transmitted through it, this packet is received by binding gadget which has BLE receiver module, the packet usually contains information such as identification number, signal strength etc. Temperature is one of the most commonly measured variables. For measuring body temperature of the child DS18B20 temperature sensor is used. The heartbeat sensor is used in the proposed system for measuring the pulse rate. There is a heartbeat/pulse sensor which is combined to simple optical heart rate sensor with amplification and nullification circuitry making it is fast and easy to get reliable pulse reading. The GSM/GPRS block is activated with a SIM card on the board.

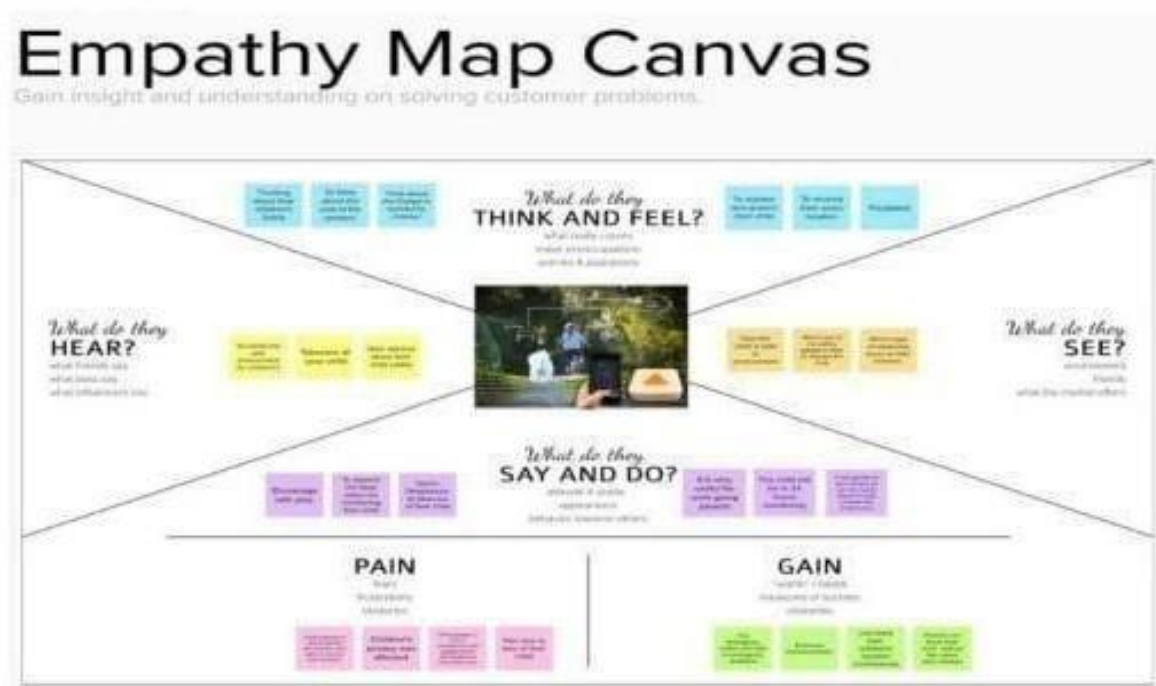
3. IDEATION AND PROPOSED SOLUTON

They mainly differ based on bandwidth and RF carrier frequency. GSM network consists of mobile station, base station subsystem network and operation subsystem. The GPS module is provided for identifying the location of the child. GPS module receives the signals from satellites. The latitude and longitude of the location can be identified by the GPS module. The device sends the monitored parameters data such as temperature and pulse rate to cloud. If any abnormalities occurs in temperature or pulse rate readings, a SMS and call triggers to the parent/caretaker mobile phone immediately and also updated to the mobile app only for the registries mobile no. We can use mobile application, cloud and database as the back end of

storing and retrieving information and also a device for monitoring.Fig. 1. Block diagram of smart gadget

B. BLE Listener deviceFigure 2 shows the BLE Listener device is the device which is used to satisfy this feature along with safety gadget and parental phone. This gadget is also used to monitor safety gadget within a bounded area using wireless technology as follows, this feature of binding gadget is designed to work independently without phone network signal/internet so that safety gadget can even be under monitoring when it reaches remote areas where communication signals is not reachable like forest. Safety gadget consists of BEACON and BLE packet is transmitted through it, this packet is received by binding gadget which has BLE (Bluetooth Low Energy) receiver module, the packet usually contains information such as identification number, signal strength etc. Whenever the packet is received it checks for all the above information in the receiver device. As the distance between safety gadget and binding gadget increases, the signal strength decreases. Once the safety gadget is moving out of threshold distance from the binding gadget then an alert is provided on binding gadget which will be used by parent/guardian. P


3.1 EMPATHY MAP CANVAS



3.2 IDEATION & BRAINSTORMING

Step-1: Team Gathering, Collaboration and Select the Problem Statement

Template



Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

- 10 minutes to complete
- 1 hour to collaborate
- 3-6 people recommended

1

Before your collaboration

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes

2

Team gathering

Invite all relevant participants to the session and send an invite. When relevant information is pre-work shared.

1 hour

3

Set the goal

Share about the problem you're looking to solving in the brainstorming session.

15 minutes

4

Learn how to use the facilitated tools

Use the Facilitated Statements to set a message and generate responses.

Open-ended

5

Define your problem statement

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

10 minutes

6

Brainstorm

Participants take turns with generating creative solutions. They must be based on the problem statement.

1 hour

7

Why values of brainstorming

To have an efficient and collaborative session.

1

Be in focus

2

Encourage new ideas

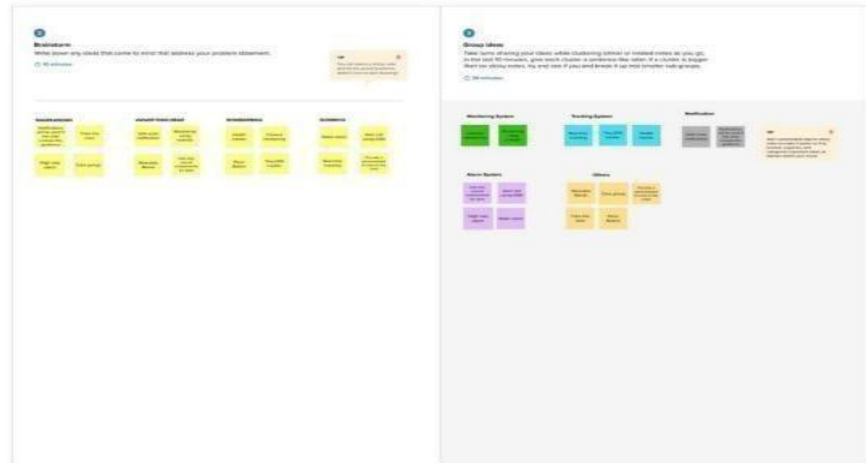
3

Listen to others

4

Be creative, not realistic

7



[illegible]

| S.NO | PARAMETERS | DESCRIPTIONS |
|------|------------|--------------|
|------|------------|--------------|

| | | |
|---|---|--|
| 1 | Problem Statement (Problem to be solved) | Parents who need child monitoring device because they want to keep tracking their children continuously. |
| 2 | Idea / Solution description | Create a Child tracker which helps parents with continuously monitoring the child's location. The notification will be sent according to the child's location to their parents or caretakers. The entire location data will be stored in the database |
| 3 | Novelty / Uniqueness | The novelty of the work is that the system automatically alerts the parent/caretaker by sending notification, when immediate attention is required for the child during emergency |
| 4 | Social Impact / Customer Satisfaction | Make children parents more assure about their kid's security, we have a feature in our device called Geo-Fence. Geo-Fencing feature allows you to mark a particular area as safe-zone. Whenever your child crosses that specific area, you will get an instant notification on your phone. |

| | | |
|---|--------------------------------|---|
| 5 | Business Model (Revenue Model) | <ul style="list-style-type: none"> ● Easy to use ● Low cost ● Weightless ● Compatible |
| 6 | Scalability of the Solution | <ul style="list-style-type: none"> ● Gadget ensures the safety and tracking of the children. ● Parents need not worry about their children. |

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3.4 Problem Solution fit

| | | |
|---|--|--|
| 1. CUSTOMER SEGMENT Working parents or busy parents of 0-10 year old kids. | 6. CUSTOMER CONSTRAINTS Lack of affordable, reliable and hassle free technology, Lack of availability of secure and easy Ui. | 5. AVAILABLE SOLUTIONS There are existing solutions that offer location tracking for kids but they are not very efficient, cost effective and reliable all at the same time. This trade off should be addressed. |
| 2. JOBS-TO-BE-DONE / PROBLEMS Instantaneous tracking and updation of child's location, geofencing and notifying parents of any abnormalities. | 9. PROBLEM ROOT CAUSE Customers have to do this to protect their children from going out on their own, try using easily available safety technologies. | BEHAVIOUR panic, prevent their protect out on their potential threats available safety while being |
| 3. TRIGGERS Coming across news about children being kidnapped and abducted, missing cases being reported. | 10. YOUR SOLUTION Building a reliable technology that can address all the customer needs while being reliable and secure ensuring efficient functioning. | 8. CHANNELS of BEHAVIOUR 8.1 ONLINE Tracking their kids location with their mobile phones GPS, reading news about child safety and other child missing cases. 8.2 OFFLINE Customers accompany their children to ensure safety, send them together with other reliable people, seek for protection in public places. |
| 4. EMOTIONS: BEFORE / AFTER Before : Feel insecure, worried, scared and confused. After : Relieved, calm, confident, happy. | | |

4.

REQUIREMENT ANALYSIS

4.1. FUNCTIONAL REQUIREMENTS

| FR No. | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task) |
|--------|-------------------------------|---|
| FR-1 | Temperature | If the temperature level exceeds the room temperature then the alert message will be sent using GSM to the specified users. |
| FR-2 | Pulse sensors | The Pulse sensor is used to detect any abnormal feelings experienced by the child like fear, anxiety, nervousness, drowsiness and several other illnesses which manipulates the normal heart rate. |
| FR-3 | GPS | GPS is used to track the live location of the child who is wearing that device. With the help of GPS, we can easily perform Geo- fencing concept, in which we can feed a particular boundary to that device |

| | | |
|-------------|-----------------------------|--|
| FR-4 | GSM | If the child goes beyond that particular boundary specified, the respective guardians will receive analert call using GSM |
| FR-5 | Web camera | we can monitor the child lively through live video streaming whenever we get notified in abnormal cases. |
| FR-6 | Raspberry pi microprocessor | Raspberry Pi microprocessor in which all other sensors, GPS and GSM are integrated. The users are required to register using their credentials to use the application. |

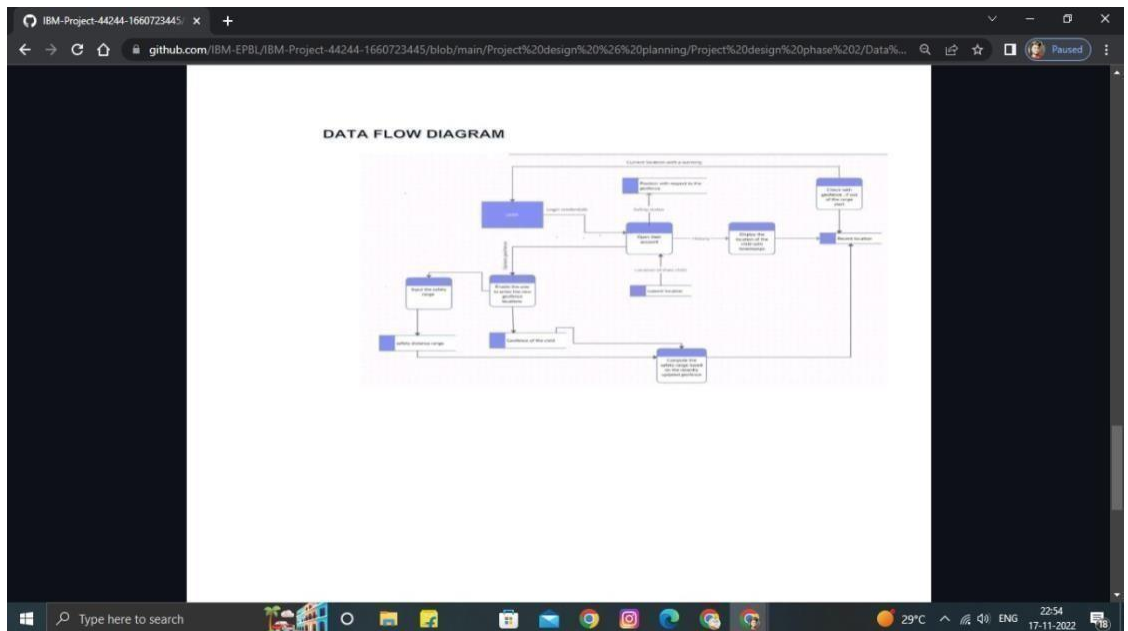
4.2. NON-FUNCTIONAL REQUIREMENTS

| FR No. | Non-Functional Requirement | Description |
|--------|----------------------------|-------------|
| | | □ |

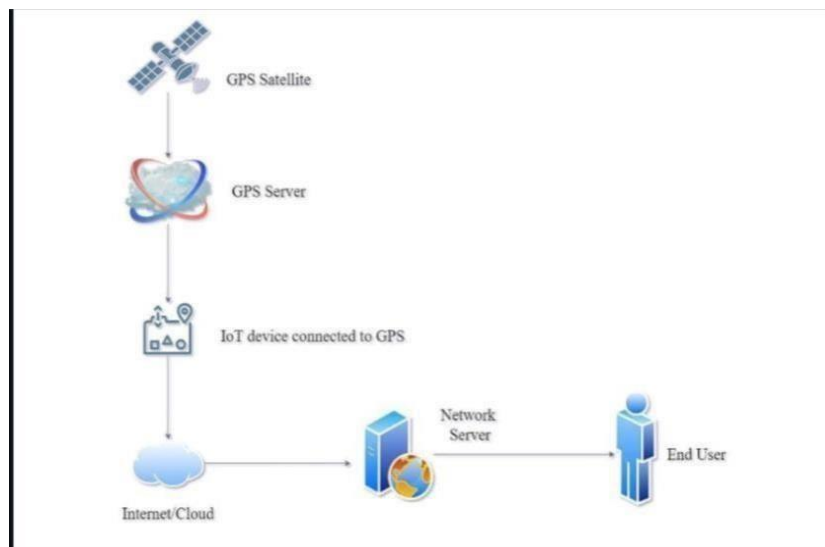
| | | |
|-------|---------------------|---|
| NFR-2 | Security | To trigger the alarm and enable automatic video recording whenever the emergency button is pressed. |
| NFR-3 | Reliability | Enable sending of notification, if the child is out of location or when the device realizes abnormal condition or situations |
| NFR-4 | Performance | When a child is facing an emergency situation, device button should be pressed so that the device captures the image along with the user information to the enrolled mobile numbers |
| NFR-5 | Availability | Child monitor, audio monitor, location monitor, video monitor |
| NFR-6 | Scalability | If problem arises parents can see all the features like location, temperature, heart beat of the child along with live view around the children without hindrance |

5.PROJECT DESIGN

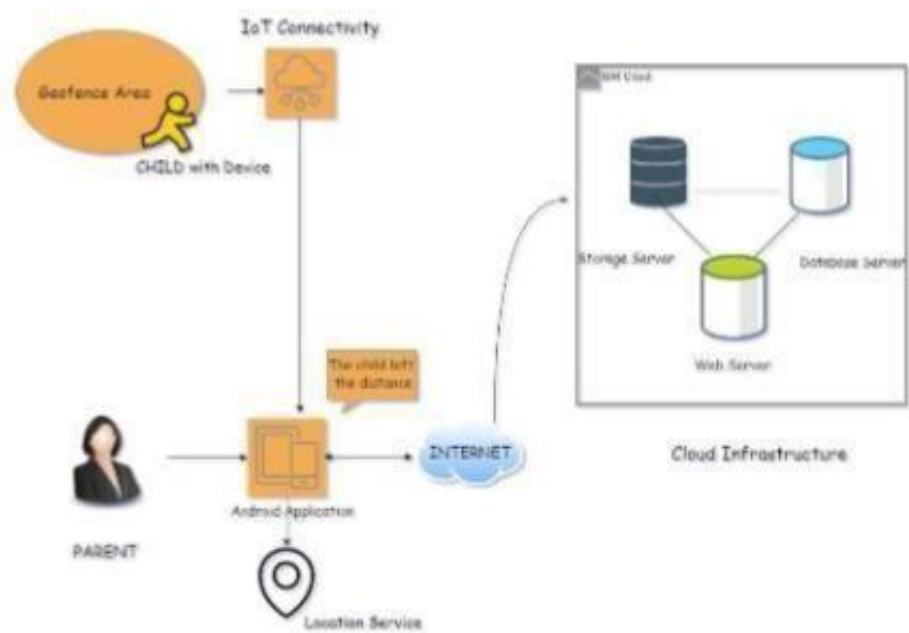
5.1 DATA FLOW DIAGRAMS



5.2 SOLUTION & TECHNICAL ARCHITECTURE



Outline Architecture:



6. PROJECT PLANNING AND SCHEDULING

6.1. SPRINT PLANNING & ESTIMATION

| 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 through the form by Filling in my details | 2 | High | Suvalasini |

| | | | | | | |
|----------|-----------------------|-------|---|---|--------|----------------|
| Sprint-1 | | USN-2 | As a user, I can register through phone numbers, Gmail, Facebook or other social sites | 1 | High | Shanmuga Priya |
| Sprint-1 | Conformation | USN-3 | As a user, I will receive confirmation through email or OTP once registration is successful | 2 | Low | Hari priya |
| Sprint-1 | login | USN-4 | As a user, I can login via login id and password or through OTP received on register phone number | 2 | Medium | Elavarasi |
| Sprint-1 | Display Train details | USN-5 | As a user, I can enter the start and destination to get the list of trains available connecting the above | 1 | High | Suvalasini |
| Sprint-2 | Booking | USN-6 | As a use, I can provide the basic details such as a name, age, gender etc... | 2 | High | Shanmuga Priya |
| Sprint-2 | | USN-7 | As a user, I can choose the class, seat/berth. If a preferred seat/berth isn't available I can be allocated based on the availability | 1 | Low | Hari Priya |
| Sprint-2 | Payment | USN-8 | As a user, I can choose to pay through credit Card/debit card/UPI. | 1 | High | Elavarasi |
| | | | | | | |
| Sprint-2 | | USN-9 | As a user, I will be redirected to the selected | 2 | High | Suvalasini |

| | | | | | | |
|----------|------------------------|--------|---|---|------|----------------|
| Sprint-3 | Ticket generation | USN-10 | As a user, I can download the generated e- ticket for my journey along with the QR code which is used for authentication during my journey. | 1 | High | Shanmuga Priya |
| Sprint-3 | Ticket status | USN-11 | As a user, I can see the status of my ticket | 2 | High | Hari Priya |
| | | | Whether it's confirmed/waiting/RAC. | | | |
| Sprint-3 | Reminders notification | USN-12 | As a user, I get reminders about my journey A day before my actual journey. | 1 | High | Elavarasi |

| | | | | | | |
|----------|---------------------|--------|---|---|--------|----------------|
| Sprint-3 | Ticket cancellation | USN-13 | As a user, I can track the train using GPS and can get information such as ETA, Current stop and delay | 2 | High | Suvalasini |
| Sprint-4 | | USN-14 | As a user, I can cancel my tickets if there's any Change of plan | 1 | High | Shanmuga Priya |
| Sprint-4 | Raise queries | USN-15 | As a user, I can raise queries through the query box or via mail. | 2 | Medium | Hari Priya |
| Sprint-4 | Answer the queries | USN-16 | As a user, I will answer the questions/doubts Raised by the customers. | 2 | High | Elavarasi |
| Sprint-4 | Feed details | USN-17 | As a user, I will feed information about the trains delays and add extra seats if a new compartment is added. | 1 | High | Suvalasini |

7.CODING AND SOLUTIONING

7.1. FEATURE 1

- IOT device
- IBM Watson platform
- Node red
- Cloudbant DB
- Web UI
- Geofence MIT App
- Python code

7.2. FEATURE 2

- Registration
- Login
- Verification
- Adding Queries

7.3. DATABASE SCHEMA

```
labl_0 = Label(base, text="Registration form",width=20,font=("bold",  
20)) labl_0.place(x=90,y=53)
```

```
lb1= Label(base, text="Enter Name", width=10,  
font=("arial",12)) lb1.place(x=20, y=120) en1= Entry(base)  
en1.place(x=200, y=120)
```

```
lb3= Label(base, text="Enter Email", width=10,  
font=("arial",12)) lb3.place(x=19, y=160) en3= Entry(base)  
en3.place(x=200, y=160)
```

```
lb4= Label(base, text="Contact Number", width=13,font=("arial",12))  
lb4.place(x=19, y=200) en4= Entry(base) en4.place(x=200, y=200)
```

```
lb5= Label(base, text="Select Gender", width=15, font=("arial",12))  
lb5.place(x=5, y=240) var = IntVar()
```

```
Radiobutton(base, text="Male", padx=5,variable=var,  
value=1).place(x=180, y=240)
```

```
Radiobutton(base, text="Female", padx =10,variable=var,  
value=2).place(x=240,y=240)
```

```
Radiobutton(base, text="others", padx=15, variable=var,  
value=3).place(x=310,y=240)
```

```
list_of_cntry = ("United States", "India", "Nepal", "Germany") cv =  
StringVar() drplist= OptionMenu(base, cv, *list_of_cntry)  
drplist.config(width=15) cv.set("United States") lb2= Label(base,
```

```
text="Select Country", width=13,font=('arial',12))
lb2.place(x=14,y=280)
drplist.place(x=200, y=275)
```

```
lb6= Label(base, text='Enter Password', width=13,font=('arial',12))
lb6.place(x=19, y=320) en6= Entry(base, show='*') en6.place(x=200,
y=320)
```

```
lb7= Label(base, text='Re-Enter Password',
width=15,font=('arial',12)) lb7.place(x=21, y=360)
en7 =Entry(base, show='*') en7.place(x=200, y=360)
```

```
Button(base, text="Register", width=10).place(x=200,y=400)
base.mainloop()
```

```
def generateOTP() :
```

```
    # Declare a digits variable
    # which stores all digits    digits
    = "0123456789"
    OTP = ""
```

```
    # length of password can be changed    # by changing
    value in range    for i in range(4) :
        OTP += digits[math.floor(random.random() * 10)]
```

```
    return OTP
```



```

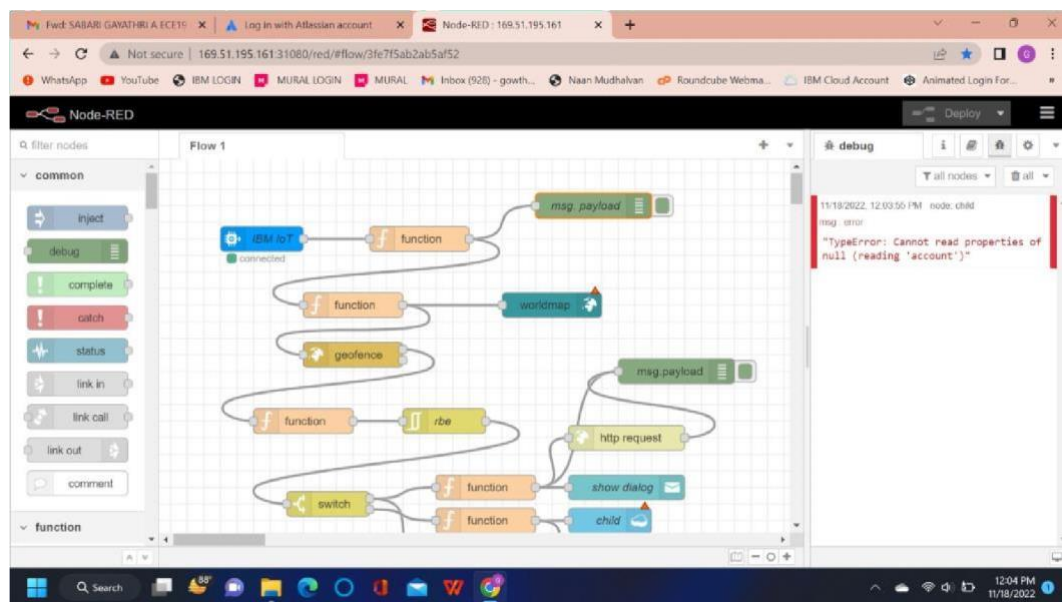
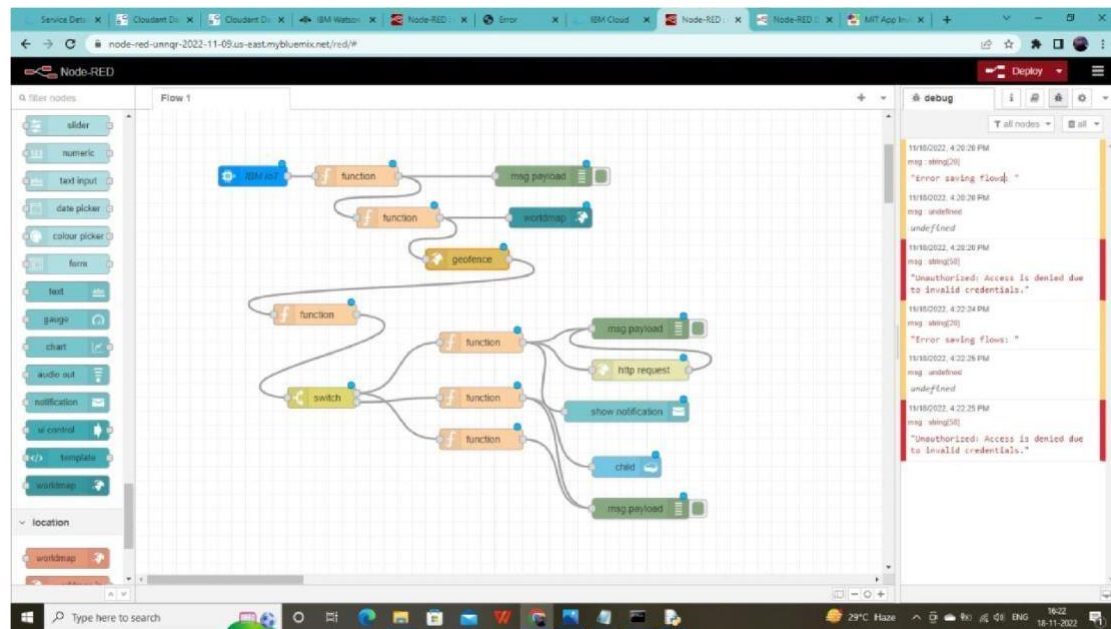
# Driver code if __name__ == "__main__"
:
    print("OTP of 4 digits:", generateOTP())

digits="0123456789" OTP="" for i in range(6):
    OTP+=digits[math.floor(random.random()*10)] otp
= OTP + " is your OTP" msg= otp s = smtplib.SMTP('smtp.gmail.com',
587)
s.starttls()
s.login("Your Gmail Account", "You app password") emailid
= input("Enter your email: ")
s.sendmail('&&&&&&&&&&',emailid,msg
) a = input("Enter Your OTP >>: ") if a == OTP:    print("Verified")
else:
    print("Please Check your OTP again") roo

```

8.TESTING

8.1.TEST CASES



9.RESULTS

9.1.PERFORMANCE METRICS



10.

ADVANTAGES & DISADVANTAGES

10.1. ADVANTAGES

- Openness – compatibility between different system modules, potentially from different vendors;
- Orchestration – ability to manage large numbers of devices, with full visibility over them;
 - Dynamic scaling – ability to scale the system according to the application needs, through resource virtualization and cloud operation;
- Automation – ability to automate parts of the system monitoring application, leading to better performance and lower operation costs.

10.2. DISADVANTAGES

- Approaches to flexible, effective, efficient, and low-cost data collection for both railway vehicles and infrastructure monitoring, using regular trains;
- Data processing, reduction, and analysis in local controllers, and subsequent sending of that data to the cloud, for further processing;

- Online data processing systems, for real-time monitoring, using emerging communication technologies;
- Integrated, interoperable, and scalable solutions for railway systems preventive maintenance.

11.

CONCLUSION

Accidents occurring in Railway transportation system cost a large number of lives. So this system helps us to prevent accidents and giving information about faults or cracks in advance to railway authorities. So that they can fix them and accidents cases becomes less. This project is cost effective. By using more techniques they can be modified and developed according to their applications. By this system many lives can be saved by avoiding accidents. The idea can be implemented in large scale in the long run to facilitate better safety standards for rail tracks and provide effective testing infrastructure for achieving better results in the future.

12.

FUTURE SCOPE

In future CCTV systems with IP based camera can be used for monitoring the visual videos captured from the track. It will also increase security for both passengers and railways. GPS can also be used to detect exact location of track fault area, IP cameras can also be used to show fault with the help of video. Locations on Google maps with the help of sensors can be used to detect in which area track is broken

13.

APPENDIX

13.1. SOURCE PROGRAM

```
import math, random                import os
import
smtpplib                          import sqlite3          import
requests                          from bs4 import BeautifulSoup
from django.contrib.auth.base_user import
AbstractBaseUser                  from django.db import
models
import logging
import pandas as pd
import pytsx3
from plyer import notification      import
time                               import numpy as np
import matplotlib.pyplot as
plt                               from PIL import Image,
ImageDraw                         from pickle import
load,dump
import smtplib, ssl
from email.mime.text import MIMEText          from
email.mime.multipart import MIMEMultipart      import email

from email import encoders
from email.mime.base import MIMEBase

import attr
from flask import Blueprint, flash, redirect, request,
```

```

url_for          from flask.views import MethodView
from flask_babelplus import gettext as _
                from flask_login import current_user, login_required          from
pluggy import HookimplMarker

from tkinter import*   base = Tk()
base.geometry('500x500')
base.title('registration form')

labl_0 = Label(base, text='Registration form',width=20,font=('bold',
20))  labl_0.place(x=90,y=53)

lb1= Label(base, text='Enter Name', width=10,
font=('arial',12))  lb1.place(x=20, y=120)  en1= Entry(base)
en1.place(x=200, y=120)

lb3= Label(base, text='Enter Email', width=10,
font=('arial',12))  lb3.place(x=19, y=160)  en3= Entry(base)
en3.place(x=200, y=160)

lb4= Label(base, text='Contact Number', width=13,font=('arial',12))
lb4.place(x=19, y=200)  en4= Entry(base)  en4.place(x=200, y=200)

lb5= Label(base, text='Select Gender', width=15, font=('arial',12))
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Radiobutton(base, text='others', padx=15, variable=var,
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```



```
list_of_cntry = ("United States", "India", "Nepal", "Germany") cv =
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drplist.place(x=200, y=275)
```

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```

```
Button(base, text="Register", width=10).place(x=200,y=400)
base.mainloop()
```

```
def generateOTP() :
```

```
    # Declare a digits variable
    # which stores all digits    digits
    = "0123456789"
    OTP = ""
```

```
    # length of password can be changed    # by changing
value in range    for i in range(4) :
        OTP += digits[math.floor(random.random() * 10)]
```

```
    return OTP
```

```
# Driver code if __name__ == "__main__"
```

```

:
    print("OTP of 4 digits:", generateOTP())

digits="0123456789" OTP="" for i in range(6):
    OTP+=digits[math.floor(random.random()*10)] otp
= OTP + " is your OTP" msg= otp s = smtplib.SMTP('smtp.gmail.com',
587)
s.starttls()
s.login("Your Gmail Account", "You app password") emailid
= input('Enter your email: ')
s.sendmail('&&&&&&&&&&',emailid,msg) a =
input('Enter Your OTP >>: ') if a == OTP:
print('Verified') else:    print('Please
Check your OTP again') root
= Tk() root.title('Python: Simple Login
Application') width = 400 height = 280 screen_width
= root.winfo_screenwidth() screen_height =
root.winfo_screenheight() x =
(screen_width/2) - (width/2)  y = (screen_height/2) - (height/2)
root.geometry('%dx%d+%d+%d' %
(width, height, x, y)) root.resizable(0, 0)
USERNAME = StringVar()
PASSWORD = StringVar()
Top = Frame(root, bd=2, relief=RIDGE)
Top.pack(side=TOP, fill=X)
Form = Frame(root, height=200) Form.pack(side=TOP, pady=20)
lbl_title = Label(Top, text = "Python: Simple Login Application",
font=('arial', 15)) lbl_title.pack(fill=X) lbl_username = Label(Form, text
= "Username:", font=('arial', 14), bd=15) lbl_username.grid(row=0,
sticky="e") lbl_password = Label(Form,
text = "Password:", font=('arial', 14), bd=15)
lbl_password.grid(row=1, sticky="e") lbl_text = Label(Form)

```

```

lbl_text.grid(row=2, columnspan=2) username = Entry(Form,
textvariable=USERNAME, font=(14)) username.grid(row=0,
column=1) password = Entry(Form, textvariable=PASSWORD,
show="*", font=(14)) password.grid(row=1, column=1) def Database():
    global conn, cursor    conn = sqlite3.connect('pythontut.db')
cursor = conn.cursor()    cursor.execute("CREATE TABLE IF
NOT EXISTS `member` (mem_id INTEGER NOT NULL PRIMARY
KEY
AUTOINCREMENT, username TEXT, password TEXT)")
cursor.execute("SELECT * FROM `member` WHERE `username` =
'admin' AND `password` = 'admin'")    if
cursor.fetchone() is None:
    cursor.execute("INSERT INTO `member` (username, password)
VALUES('admin', 'admin')")    conn.commit() def
Login(event=None):    Database()    if USERNAME.get() == ""
or PASSWORD.get() == "":        lbl_text.config(text="Please
complete the required field!", fg="red")    else:
    cursor.execute("SELECT * FROM `member` WHERE `username`
= ? AND `password` = ?", (USERNAME.get(), PASSWORD.get()))
if cursor.fetchone() is not None:
    HomeWindow()
    USERNAME.set("")        PASSWORD.set("")
lbl_text.config(text="")    else:        lbl_text.config(text="Invalid
username or password", fg="red")
    USERNAME.set("")
    PASSWORD.set("")
    cursor.close()    conn.close()
btn_login = Button(Form, text="Login", width=45, command=Login)
btn_login.grid(pady=25, row=3, columnspan=2)
btn_login.bind('<Return>', Login)

```

```

def HomeWindow():    global Home
root.withdraw()
Home = Toplevel()
    Home.title("Python: Simple Login Application")    width =
600    height = 500    screen_width = root.winfo_screenwidth()
screen_height = root.winfo_screenheight()    x =
(screen_width/2) - (width/2)    y = (screen_height/2) - (height/2)
root.resizable(0, 0)
    Home.geometry("%dx%d+%d+%d" % (width, height, x, y))
lbl_home = Label(Home, text="Successfully Login!", font=('times new
roman', 20)).pack()    btn_back = Button(Home, text='Back',
command=Back).pack(pady=20, fill=X)

```

```

def Back():
Home.destroy()
root.deiconify()
def
getdata(url):    r =
requests.get(url)    return
r.text

```

```

# input by geek
from_Station_code = "GAYA"
from_Station_name = "GAYA"

To_station_code = "PNBE"
To_station_name = "PATNA"
# url
url = "https://www.railatri.in/booking/trains-between-
stations?from_code="+from_Station_code+"&from_name="+from_Stat
ion_name+"JN+&journey_date="+Wed&src=tbs&to_code="+ \
    To_station_code+"&to_name="+To_station_name + \

```

```
" +JN+&user_id=-  
1603228437&user_token=355740&utm_source=dwebsearch_tbs_search_  
trains"
```

```
# pass the url  
# into getdata function htmldata =  
getdata(url) soup = BeautifulSoup(htmldata,  
'html.parser')
```

```
# find the Html tag  
# with find()  
# and convert into string data_str = "" for item in soup.find_all("div",  
class_="col-xs-12 TrainSearchSection"): data_str = data_str +  
item.get_text() result = data_str.split("\n")
```

```
print("Train between "+from_Station_name+" and "+To_station_name)  
print("")
```

```
# Display the result for  
item in result: if item  
!= "":  
print(item) print("\n\nTicket Booking System\n")  
restart = ('Y') while restart != ('N','NO','n','no'):  
print("1.Check PNR status") print("2.Ticket  
Reservation")
```

```
option = int(input("\nEnter your option : "))  
if option == 1:  
print("Your PNR status is t3") exit(0)
```

```
elif option == 2: people = int(input("\nEnter no. of Ticket you want : "))  
name_l  
=
```

```

    [] age_l = [] sex_l = [] for
p in range(people): name =
    str(input("\nName : "))
    name_l.append(name)
    age = int(input("\nAge : ")) age_l.append(age) sex =
str(input("\nMale or Female : "))
    sex_l.append(sex)

    restart = str(input("\nDid you forgot someone? y/n:
'')) if restart in ('y','YES','yes','Yes'):
    restart = ('Y') else :
    x = 0
    print("\nTotal Ticket : ",people) for p in
range(1,people+1): print("Ticket : ",p)
    print("Name : ", name_l[x]) print("Age : ",
age_l[x]) print("Sex : ",sex_l[x]) x
+= 1

```

```

last_name = models.CharField(

```

```
verbose_name="Last name",      max_length=40
)
```

```
city = models.CharField(verbose_name="City",
max_length=40
)
```

```
stripe_id = models.CharField(
```

```
response_ca = stripe.Account.create(type="custom",
country="PL", email=user2.email, default_currency="pln",
business_type="individual", settings={"payouts":
{"schedule": {"interval": "manual", }}},
requested_capabilities=["card_payments", "transfers", ],
business_profile={"mcc": mcc_code, "url": url}, individual={
    "first_name": user2.first_name,
    "last_name": user2.last_name,
    "email": user2.email,
    "dob": {
        "day": user2.profile.date_of_birth.day,
        "month": user2.profile.date_of_birth.month,
        "year": user2.profile.date_of_birth.year,
    },
    "phone": user2.profile.phone_number,
    "address": {
        "city": user2.city,
        "postal_code": user2.profile.postal_code,
        "country": "PL",
        "line1": user2.profile.address,
    },
},
},
```

)

user2.stripe_id = response_ca.stripe_id user2.save()

tos_acceptance = {"date": int(time.time()), "ip": user_ip},

stripe.Account.modify(user2.stripe_id, tos_acceptance=tos_acceptance)

passport_front = stripe.File.create(purpose="identity_document",

file=_file,

ContentFile object

stripe_account=user2.stripe_id,

)

individual = { "verification":

{

"document": {"front": passport_front.get("id"),},

"additional_document": {"front": passport_front.get("id"),},

}

}

stripe.Account.modify(user2.stripe_id, individual=individual)

new_card_source = stripe.Customer.create_source(user1.stripe_id,

source=token)

stripe.SetupIntent.create(payment_method_types=["card"],

customer=user1.stripe_id, description="some description",

payment_method=new_card_source.id,

)


```
payment_method =  
stripe.Customer.retrieve(user1.stripe_id).default_source
```

```
payment_intent = stripe.PaymentIntent.create(    amount=amount,  
currency="pln",    payment_method_types=["card"],  
capture_method="manual",    customer=user1.stripe_id, # customer  
payment_method=payment_method,  
application_fee_amount=application_fee_amount,  
transfer_data={"destination": user2.stripe_id}, # connect account  
description=description,  
    metadata=metadata,  
)
```

```
payment_intent_confirm = stripe.PaymentIntent.confirm(  
payment_intent.stripe_id, payment_method=payment_method  
)
```

```
stripe.PaymentIntent.capture(  
payment_intent.id, amount_to_capture=amount  
)  
stripe.Balance.retrieve(stripe_account=user2.stripe_id)  
stripe.Charge.create(    amount=amount,    currency="pln",  
source=user2.stripe_id,  
    description=description  
)
```

```
stripe.PaymentIntent.cancel(payment_intent.id)
```

```
    unique_together = ("user", "group")  
@attr.s(frozen=True, cmp=False, hash=False, repr=True) class  
UserSettings(MethodView):
```

```

    form = attr.ib(factory=settings_form_factory)
settings_update_handler = attr.ib(factory=settings_update_handler)

    decorators = [login_required]

    def get(self):
return self.render()

    def post(self):    if self.form.validate_on_submit():    try:
self.settings_update_handler.apply_changeset(
current_user, self.form.as_change()
    )
        except StopValidation as e:
self.form.populate_errors(e.reasons)    return
self.render()    except PersistenceError:
logger.exception("Error while
updating user settings")    flash(_("Error while updating user
settings"), "danger")    return
self.redirect()

        flash(_("Settings updated."), "success")
        return self.redirect()
    return self.render()

    def render(self):    return
render_template("user/general_settings.html", form=self.form)

    def redirect(self):
        return redirect(url_for("user.settings"))

```

```

@attr.s(frozen=True, hash=False, cmp=False, repr=True) class
ChangePassword(MethodView):
    form = attr.ib(factory=change_password_form_factory)
    password_update_handler = attr.ib(factory=password_update_handler)
    decorators = [login_required]

    def get(self):
    return self.render()

    def post(self):
        if self.form.validate_on_submit():    try:
self.password_update_handler.apply_changeset
(
            current_user,
self.form.as_change()
        )
            except StopValidation as e:
self.form.populate_errors(e.reasons)
                return                self.render()
except                PersistenceError:
logger.exception("Error                while
changing                password")
flash(_("Error while
            changing            password"),
            "danger")                return
self.redirect()

            flash(_("Password updated."), "success")
            return self.redirect()
return self.render()

    def render(self):
        return render_template("user/change_password.html",
form=self.form)

```

```

def redirect(self):
    return redirect(url_for("user.change_password"))
@attr.s(frozen=True, cmp=False, hash=False, repr=True) class
ChangeEmail(MethodView):
    form = attr.ib(factory=change_email_form_factory)
    update_email_handler = attr.ib(factory=email_update_handler)
    decorators = [login_required]

    def get(self):
    return self.render()

    def post(self):        if self.form.validate_on_submit():
try:
self.update_email_handler.apply_changeset(
current_user, self.form.as_change()
)
    except StopValidation as e:
self.form.populate_errors(e.reasons)
        return        self.render()
except        PersistenceError:
logger.exception("Error        while
updating        email")
flash(_("Error        while        updating
email"), "danger")        return
self.redirect()

        flash(_("Email address updated."), "success")
return self.redirect()        return self.render()    def
render(self):
        return render_template("user/change_email.html", form=self.form)

```

```

def redirect(self):          return
redirect(url_for("user.change_email")) def berth_type(s):

```

```

    if s>0 and s<73:
        if s % 8 == 1 or s % 8 == 4: print
            (s, "is lower berth"      elif s % 8 == 2
or s % 8 == 5:          print (s, "is middle
berth"      elif s % 8 == 3 or s % 8 == 6:
print (s, "is upper berth"      elif s % 8 == 7:
print (s, "is side lower berth"      else:          print
(s, "is side upper berth"      else:
print (s, "invalid seat number"

```

```

# Driver code s = 10 berth_type(s)    # fxn
call for berth type

```

```

s = 7 berth_type(s)    # fxn call for berth type

```

```

s = 0 berth_type(s)    # fxn call for berth type class
Ticket:  counter=0    def
__init__(self,passenger_name,source,destination):
self.__passenger_name=passenger_name
self.__source=source      self.__destination=destination
self.Counter=Ticket.counter      Ticket.counter+=1    def
validate_source_destination(self):      if
(self.__source=="Delhi"                      and
(self.__destination=="Pune"                      or
self.__destination=="Mumbai"                      or
self.__destination=="Chennai"                      or
self.__destination=="Kolkata")):      return True
else:      return False

```

```

def generate_ticket(self):
    if True:
        __ticket_id=self.__source[0]+self.__destination[0]+"0"+str(self.Counter)
        print( "Ticket id will be:",__ticket_id)
    else:
        return False
def get_ticket_id(self):
    return self.ticket_id
def get_passenger_name(self):
    return self.__passenger_name
def get_source(self):
    if self.__source=="Delhi":
        return self.__source
    else:
        print("you have written invalid source option")
        return None
def get_destination(self):
    if self.__destination=="Pune":
        return self.__destination
    elif self.__destination=="Mumbai":
        return self.__destination
    elif self.__destination=="Chennai":
        return self.__destination
    elif self.__destination=="Kolkata":
        return self.__destination
    else:
        return None
# user define function # Scrape the data
def getdata(url):
    r = requests.get(url)
    return r.text

# input by geek train_name = "03391-rajgir-new-delhi-clonespecialrgdto-ndls" # url url =
"https://www.railyatri.in/livetrainstatus/"+train_name

# pass the url # into getdata function
htmldata = getdata(url)
soup = BeautifulSoup(htmldata, 'html.parser')

# traverse the live status from
# this Html code data = []
for item in soup.find_all('script', type="application/ld+json"):
    data.append(item.get_text())

```

convert into dataframe

df = pd.read_json(data[2])

display this column of # dataframe

print(df['mainEntity'][0]['name'])

print(df['mainEntity'][0]['acceptedAnswer']['text']) Speak method

def Speak(self, audio):

Calling the initial constructor

of pyttsx3

engine = pyttsx3.init('sapi5')

Calling

the getter method voices =

engine.getProperty('voices')

Calling the setter method

engine.setProperty('voice', voices[1].id)

engine.say(audio)

engine.runAndWait()

def
Take_break():

Speak("Do you want to start sir?")

#

question = input() if

"yes" in question:

Speak("Starting Sir")

if "no" in question:

Sir.")

Speak("We will automatically start after 5 Mins

time.sleep(5*60)

Speak("Starting Sir")

A notification we will held that

Let's Start sir and with a message of

will tell you to take a break after 45

mins for 10 seconds

while(True):

notification.notify(title="Let's Start sir",
mins",
message="will tell you to take a break after 45

timeout=10)

For 45 min the will be no notification but after
45 min a notification will pop up.


```

time.sleep(0.5*60)

Speak("Please Take a break Sir")
notification.notify(title="Break Notification", message="Please do
use your device after sometime as you have"
"been continuously using it for 45 mins and it will affect your eyes",
timeout=10)

# Driver's Code if __name__ == '__main__':
Take_break()
data_path = 'data.csv' data = pd.read_csv(data_path,
names=['LATITUDE', 'LONGITUDE'], sep=',') gps_data =
tuple(zip(data['LATITUDE'].values, data['LONGITUDE'].values))

image = Image.open('map.png', 'r') # Load map image. img_points
= [] for d in gps_data: x1, y1 = scale_to_img(d, (image.size[0],
image.size[1])) # Convert GPS coordinates to image coordinates.
img_points.append((x1, y1)) draw = ImageDraw.Draw(image)
draw.line(img_points, fill=(255, 0, 0), width=2) # Draw converted
records to the map image.

image.save('resultMap.png') x_ticks = map(lambda x: round(x, 4),
np.linspace(lon1, lon2, num=7)) y_ticks = map(lambda x: round(x, 4),
np.linspace(lat1, lat2, num=8)) y_ticks = sorted(y_ticks, reverse=True) #
y ticks must be reversed due to conversion to image coordinates. fig,
axis1 = plt.subplots(figsize=(10, 10))
axis1.imshow(plt.imread('resultMap.png')) # Load the image to
matplotlib plot.
axis1.set_xlabel('Longitude')
axis1.set_ylabel('Latitude') axis1.set_xticklabels(x_ticks)
axis1.set_yticklabels(y_ticks) axis1.grid() plt.show() class
tickets: def __init__(self):

```

```

self.no_ofac1stclass=0
self.totaf=0
self.no_ofac2ndclass=0
self.no_ofac3rdclass=0      self.no_ofsleeper=0
self.no_oftickets=0      self.name=''
self.age=''      self.resno=0      self.status=''
def ret(self):
    return(self.resno)      def retname(self):
return(self.name)      def
display(self):              f=0
fin1=open('tickets.dat','rb')      if
not fin1:                    print "ERROR"
else:                        print
    n=int(raw_input('ENTER PNR NUMBER : '))      print
    "\n\n"
    print ("FETCHING DATA ...".center(80))      time.sleep(1)
print      print('PLEASE
WAIT...!!'.center(80))      time.sleep(1)      os.system('cls')
try:        while True:
    tick=load(fin1)
if(n==tick.ret()):          f=1
print "="*80      print("PNR
STATUS".center(80))      print "="*80      print
print "PASSENGER'S NAME :",tick.name      print
    print "PASSENGER'S AGE :",tick.age
print
    print "PNR NO :",tick.resno      print
print "STATUS :",tick.status      print      print
"NO OF SEATS BOOKED : ",tick.no_oftickets
print      except:      pass      fin1.close()      if(f==0):
print      print "WRONG PNR NUMBER..!!"

```

```

print          def pending(self):          self.status="WAITING
LIST"          print "PNR NUMBER :",self.resno          print
time.sleep(1.2)          print
"STATUS = ",self.status
          print
          print "NO OF SEATS BOOKED : ",self.no_oftickets
print          def          confirmation          (self):
self.status="CONFIRMED"          print "PNR NUMBER
: ",self.resno          print          time.sleep(1.5)          print
"STATUS
= ",self.status
print def
cancellation(self):
z=0
          f=0
fin=open("tickets.dat","rb")          fout=open("temp.dat","ab")
print
          r= int(raw_input("ENTER PNR NUMBER : "))
try:          while(True):          tick=load(fin)
z=tick.ret() if(z!=r):          dump(tick,fout)
elif(z==r):          f=1          except:          pass
fin.close()
          fout.close()          os.remove("tickets.dat")
os.rename("temp.dat","tickets.dat")          if
(f==0):          print
          print "NO SUCH RESERVATION NUMBER FOUND"
print          time.sleep(2)          os.system('cls')          else:
print          print "TICKET CANCELLED"          print"RS.600
REFUNDED...."          def reservation(self):
trainno=int(raw_input("ENTER THE TRAIN NO:"))z=0
f=0

```

```

fin2=open('tr1details.dat')      fin2.seek(0)
if not fin2:      print "ERROR"      else:
try:
    while True:
        tr=load(fin2)
z=tr.gettrainno()      n=tr.gettrainname()
if (trainno==z):
    print      print
    "TRAIN NAME IS : ",n
f=1      print      print "-"*80
no_ofac1st=tr.getno_ofac1stclass()
no_ofac2nd=tr.getno_ofac2ndclass()
no_ofac3rd=tr.getno_ofac3rdclass()
no_ofsleeper=tr.getno_ofsleeper()      if(f==1):
        fout1=open('tickets.dat',"ab")      print
self.name=raw_input('ENTER THE PASSENGER'S NAME ')
print
        self.age=int(raw_input('PASSENGER'S AGE : '))
print
        print"\t\t SELECT A CLASS YOU WOULD LIKE TO
TRAVEL IN :- "
        print "1.AC FIRST CLASS"      print
print "2.AC SECOND CLASS"      print
print "3.AC THIRD CLASS"      print      print
"4.SLEEPER CLASS"      print
c=int(raw_input("\t\t\t ENTER YOUR CHOICE = "))
os.system('cls')      amt1=0      if(c==1):
        self.no_oftickets=int(raw_input('ENTER NO_OF
FIRST CLASS AC SEATS TO BE BOOKED : '))      i=1
while(i<=self.no_oftickets):
        self.totaf=self.totaf+1
amt1=1000*self.no_oftickets      i=i+1

```

```

print                                print "PROCESSING. .",
time.sleep(0.5)
print ". ",                          time.sleep(0.3)
print '. '                            time.sleep(2)                        os.system('cls')
print "TOTAL AMOUNT TO BE PAID = ",amt1
self.resno=int(random.randint(1000,2546))
                                x=no_ofac1st-self.totaf                                print
if(x>0):
                                self.confirmation()                                dump(self,fout1)
break                                else:                                self.pending()
dump(tick,fout1)                                break
elif(c==2):
self.no_oftickets=int(raw_input("ENTER
NO_OF SECOND CLASS AC SEATS
TO BE BOOKED : "))                                i=1

```

```

def menu():
    tr=train()    tick=tickets()    print
    print "WELCOME TO PRAHIT AGENCY".center(80)    while
True:
    print                                print "="*80                                print
    "\t\t\t RAILWAY"
    print                                print
    "="*80
    print
    print "\t\t\t1. **UPDATE TRAIN DETAILS."                                print
print "\t\t\t2. TRAIN DETAILS. "                                print                                print "\t\t\t3.
RESERVATION OF TICKETS."                                print                                print "\t\t\t4.
CANCELLATION OF TICKETS. "                                print                                print
"\t\t\t5. DISPLAY PNR STATUS."                                print                                print "\t\t\t6.

```



```

        print"*"*80
tr=load(fin)
        tr.output()
        print

        raw_input("PRESS ENTER TO VIEW NEXT TRAIN
DETAILS")
        os.system('cls')
        except
EOFError:
        pass
elif ch==3:
        print'*'*80
        print "\t\t\tRESERVATION OF TICKETS"
print'*'*80
        print
        tick.reservation()
elif
ch==4:
        print"*"*80
print"\t\t\tCANCELLATION OF TICKETS"
print
        print"*"*80
        print
        tick.cancellation()
elif ch==5:
        print
        print"*"*80
print("PNR STATUS".center(80))
        print"*"*80
        printclass
tickets:
def__init__(self):
self.no_ofac1stclass=0
        self.totaf=0
self.no_ofac2ndclass=0
self.no_ofac3rdclass=0
        self.no_ofsleeper=0
self.no_oftickets=0
        self.name=""
        self.age=""
self.resno=0
        self.status=""
        def ret(self):
        return(self.resno)
        def retnome(self):
return(self.name)
        def display(self):
f=0

```



```

fin1=open('tickets.dat','rb')
if not fin1:      print
"ERROR"      else:      print
n=int(raw_input('ENTER PNR
NUMBER : '))      print
"\n\n"      print
('FETCHING DATA ..
.'.center(80))      time.sleep(1)      print
      print('PLEASE WAIT...!!'.center(80))
      time.sleep(1)
os.system('cls')      try:      while
True:
      tick=load(fin1)
if(n==tick.ret()):      f=1
print "="*80      print("PNR
STATUS".center(80))
      print"="*80      print
print "PASSENGER'S NAME :",tick.name      print
      print "PASSENGER'S AGE :",tick.age
print
      print "PNR NO :",tick.resno      print
print "STATUS :",tick.status      print      print
"NO OF SEATS BOOKED : ",tick.no_oftickets
print      except:      pass      fin1.close()      if(f==0):
print      print "WRONG PNR
NUMBER..!!"      print      def pending(self):
      self.status="WAITING LIST"      print "PNR
NUMBER :",self.resno      print
time.sleep(1.2)      print "STATUS = ",self.status
print      print "NO OF SEATS BOOKED :
",self.no_oftickets

```

```

print    def confirmation (self):        self.status="CONFIRMED"
print
"PNR NUMBER : ",self.resno        print
time.sleep(1.5)        print  "STATUS
= ",self.status
        print    def  cancellation(self):
z=0        f=0
fin=open("tickets
.dat","rb")
fout=open("temp
.dat","ab")

        print
        r= int(raw_input("ENTER PNR NUMBER : "))
try:        while(True):        tick=load(fin)
z=tick.ret()        if(z!=r):        dump(tick,fout)
elif(z==r):        f=1        except:        pass
fin.close()

        fout.close()        os.remove("tickets.dat")
os.rename("temp.dat","tickets.dat")        if
(f==0):        print
        print "NO SUCH RESERVATION NUMBER FOUND"
print        time.sleep(2)        os.system('cls')
else:        print        print "TICKET
CANCELLED"        print"RS.600
REFUNDED...."    def reservation(self):
trainno=int(raw_input("ENTER THE TRAIN NO:"))        z=0
f=0
fin2=open("tr1details.dat")        fin2.seek(0)        if
not fin2:
print
"ERROR"        else:        try:        while True:
        tr=load(fin2)

```

```

z=tr.gettrainno()                n=tr.gettrainname()
if (trainno==z):
    print                        print
    "TRAIN NAME IS : ",n
f=1                                print "-"*80
no_ofac1st=tr.getno_ofac1stclass()
no_ofac2nd=tr.getno_ofac2ndclass()
no_ofac3rd=tr.getno_ofac3rdclass()
no_ofsleeper=tr.getno_ofsleeper()    if(f==1):
    fout1=open("tickets.dat","ab")    print
self.name=raw_input("ENTER THE PASSENGER'S NAME ")
    print
    self.age=int(raw_input("PASSENGER'S AGE : "))
print
    print"\t\t SELECT A CLASS YOU WOULD LIKE TO
TRAVEL IN :- "
    print "1.AC FIRST CLASS"                print
print "2.AC SECOND CLASS"                print
print "3.AC THIRD CLASS"                print
print "4.SLEEPER CLASS"                print
c=int(raw_input("\t\t\t ENTER YOUR CHOICE = "))
os.system('cls')                amt1=0                if(c==1):
    self.no_oftickets=int(raw_input("ENTER NO_OF
FIRST CLASS AC SEATS TO BE BOOKED : "))    i=1
while(i<=self.no_oftickets):
    self.totaf=self.totaf+1
amt1=1000*self.no_oftickets                i=i+1
print                print "PROCESSING. .",
time.sleep(0.5)                print ".",
time.sleep(0.3)
print'.'                time.sleep(2)                os.system('cls')

```



```

('.','),          time.sleep(0.5)
print ('.')          time.sleep(2)
os.system('cls')      if
ch==1:
j="*****"
r=raw_input("\n\n\n\n\  \n\n\n\n\n\n\n\t\t\t\t\tENT
ER THE
PASSWORD: ")
          os.system('cls')          if
(j==r):          x='y'          while (x.lower()=='y'):
          fout=open("tr1details.dat","ab")
tr.getinput()          dump(tr,fout)          fout.close()
print"\n\n\n\n\n\n\n\n\n\n\n\n\t\t\t\t\tUPDATING TRAIN LIST PLEASE
WAIT ..",
          time.sleep(1)          print ('.'),
time.sleep(0.5)          print
('.','),          time.sleep(2)          os.system('cls')
          print "\n\n\n\n\n\n\n\n\n\n\n\n"
          x=raw_input("\t\t\t\t\tDO YOU WANT TO ADD ANY MORE
TRAINS DETAILS ? ")
          os.system('cls')          continue          elif(j<>r):
print"\n\n\n\n\n\n"          print "WRONG
PASSWORD".center(80)          elif ch==2:
fin=open("tr1details.dat",'rb')          if not fin:
print "ERROR"          tick.display()          elif
ch==6:
quit()

          raw_input("PRESS ENTER TO GO TO BACK
MENU".center(80))
          os.system('cls')

```

```
menu() sender_email = "my@gmail.com" receiver_email =  
"your@gmail.com" password = input("Type your  
password and press enter:")
```

```
message = MIMEMultipart("alternative")  
message["Subject"] = "multipart test" message["From"]  
= sender_email message["To"]  
= receiver_email
```

```
# Create the plain-text and HTML version of your message text = """"\nHi,  
How are you?  
Real Python has many great tutorials:  
www.realpython.com"""" html  
= """"\ <html>    <body>  
    <p>Hi,<br>  
    How are you?<br>  
    <a href="http://www.realpython.com">Real Python</a>    has  
many great tutorials.  
    </p>  
    </body>  
</html>  
""""
```

```
# Turn these into plain/html MIMEText objects part1  
= MIMEText(text, "plain")  
part2 = MIMEText(html, "html")
```

```
# Add HTML/plain-text parts to MIMEMultipart message #  
The email client will try to render the last part first  
message.attach(part1) message.attach(part2)
```

```

# Create secure connection with server and send email context =
ssl.create_default_context() with smtplib.SMTP_SSL('smtp.gmail.com',
465, context=context) as server:      server.login(sender_email,
password)      server.sendmail(      sender_email, receiver_email,
message.as_string()
    )
subject = "An email with attachment from Python" body =
"This is an email with attachment sent from Python"
sender_email = "my@gmail.com" receiver_email =
"your@gmail.com" password = input("Type your password
and press enter:") # Create a multipart message and set headers
message = MIMEMultipart() message["From"] = sender_email
message["To"] = receiver_email
message["Subject"] = subject message["Bcc"] = receiver_email
# Recommended for mass emails

# Add body to email message.attach(MIMEText(body, "plain"))
filename
= "document.pdf" # In same directory as script

# Open PDF file in binary mode with open(filename, "rb")
as attachment:
# Add file as application/octet-stream
    # Email client can usually download this automatically as attachment
part = MIMEBase("application", "octet-stream")
part.set_payload(attachment.read())

# Encode file in ASCII characters to send by email
encoders.encode_base64(part)

# Add header as key/value pair to attachment part part.add_header(
"Content-Disposition",

```

```

f"attachment; filename= {filename}",
)
# Add attachment to message and convert message to string
message.attach(part)    text = message.as_string()
# Log in to server using secure context and send email context =
ssl.create_default_context() with
smtpplib.SMTP_SSL("smtp.gmail.com", 465, context=context) as
server:
    server.login(sender_email, password)
server.sendmail(sender_email, receiver_email, text)
api_key = "Your_API_key"

# base_url variable to store url
base_url = "https://api.railwayapi.com/v2/pnr-status/pnr/"
# Enter valid pnr_number
pnr_number = "6515483790"

# Stores complete url address complete_url = base_url + pnr_number +
"/apikey/" + api_key + "/"

# get method of requests module # return
response object response_ob =
requests.get(complete_url) # json method of
response object convert # json format data
into python format data
result = response_ob.json()

# now result contains list # of nested
dictionaries if
result["response_code"] == 200: #
train name is extracting # from the

```



```
result variable data train_name =  
result["train"]["name"]
```

```
# train number is extracting from # the result variable data  
train_number = result["train"]["number"]
```

```
# from station name is extracting # from the result variable  
data  
from_station = result["from_station"]["name"]
```

```
# to_station name is extracting from # the result variable  
data  
to_station = result["to_station"]["name"]
```

```
# boarding point station name is # extracting from the result  
variable data boarding_point = result["boarding_point"]["name"]  
# reservation upto station name is # extracting from the result variable  
data  
reservation_upto =  
result["reservation_upto"]["name"]
```

```
# store the value or data of "pnr"  
# key in pnr_num variable pnr_num =  
result["pnr"] # store the value or data  
of "doj" key # in variable  
date_of_journey variable  
date_of_journey = result["doj"]
```

```
# store the value or data of  
# "total_passengers" key in variable total_passengers =  
result["total_passengers"]
```

```

# store the value or data of "passengers" # key in variable
passengers_list

passengers_list = result["passengers"]

# store the value or data of #
"chart_prepared" key in variable
chart_prepared = result["chart_prepared"]

# print following values
print(" train name : " + str(train_name) + "\n train number : "
+ str(train_number)
+ "\n from station : " + str(from_station)
+ "\n to station : " + str(to_station)
+ "\n boarding point : " + str(boarding_point)
+ "\n reservation upto : " + str(reservation_upto)
+ "\n pnr number : " + str(pnr_num)
+ "\n date of journey : " + str(date_of_journey)
+ "\n total no. of passengers: " + str(total_passengers)
+ "\n chart prepared : " + str(chart_prepared))

# looping through passenger list for
passenger in passengers_list: #
store the value or data # of "no" key
in variable passenger_num =
passenger["no"]

# store the value or data of # "current_status" key in variable
current_status = passenger["current_status"]

# store the value or data of # "booking_status" key in variable
booking_status = passenger["booking_status"]

```

```
        # print following values
    print(" passenger number : " + str(passenger_num)          + "\n
current status : " + str(current_status)
      + "\n booking_status : " + str(booking_status))    else:
        print("Record Not Found")
```

13.2. GIT HUB LINK

<https://github.com/IBM-EPBL/IBM-Project-36246-1660293710>