Developing a Flight Delay Prediction using Machine learning

PROJECT REPORT

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**1.INTRODUCTION**

**1.1 Project Overview**

Air travel has become increasingly popular and preferred among travellers over the years due to its convenience and short travel time. This has resulted in a significant increase in air traffic and ground traffic, resulting in massive levels of aircraft delays in the air and on the ground. Delays result in environmental and economic losses. The proposed system assists in accurately predicting flight delays in order to optimise flight operations and minimise delays.

**1.2 Purpose**

The system's goal is to help predict flight delays, making it easier for passengers. It saves the passenger a lot of trouble. Flight operations have been optimised and made more reliable.

**2. LITERATURE SURVEY**

2.1 Existing problem

In the Existing system a long short-term memory network of delay prediction is used with an attention mechanism (LSTM-AM) is established to predict flight delays and analyse their primary causes. In this model, the direct and indirect factors related to delays are comprehensively considered. LSTM-AM can focus on input data combined with the attention vector to capture the critical time points, which can make the prediction more accurate. In this model, the direct and indirect factors related to delays are comprehensively considered. LSTM-AM can focus on input data combined with the attention vector to capture the critical time points, which can make the prediction more accurate. The model’s performance is verified by actual operational data of Beijing International Airport, one of the busiest airports in the world. Experimental results show that LSTM-AM has better prediction accuracy than baseline algorithms such as some machine learning methods and deep learning methods. The study found that using the predicted results of this paper to release delayed information in advance can effectively alleviate the nervousness of passengers. The critical time point captured by LSTM-AM combined with runway and apron flow control can reduce or eliminate delays of one flight

2.2 References

[1] Y. Kawamoto, N. Yamada, H. Nishiyama, N. Kato, Y. Shimizu, and

Y. Zheng, “A feedback control-based crowd dynamics management in

iot system,” IEEE Internet of Things Journal, vol. 4, no. 5, pp. 1466–1476, Oct 2017.

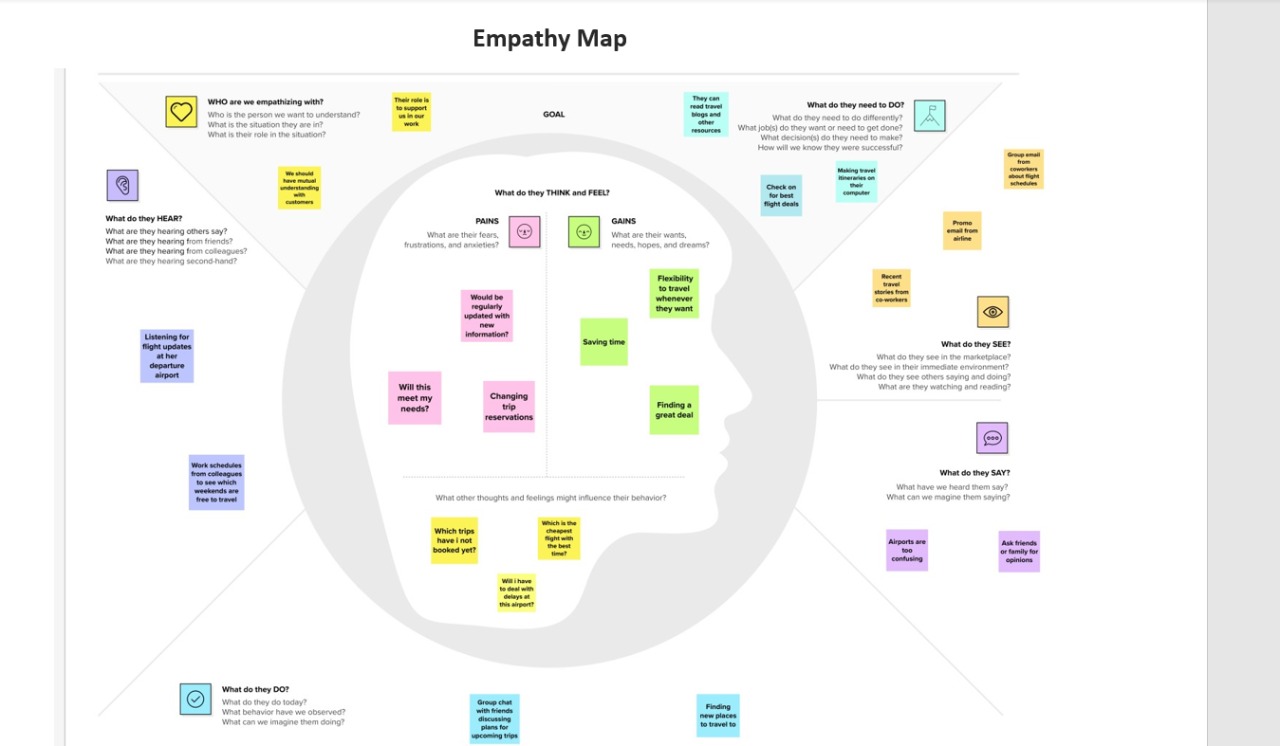
2.3 Problem Statement Definition

Flight delays represent a common problem in everyday air traffic practice. The impact of flight delay can be a risk and this risk represents financial losses, the dissatisfaction of passengers, time losses, loss of reputation and bad business relations. Flight delays not only irritate air passengers and disrupt their schedules but also cause a decrease in efficiency, an increase in capital costs, reallocation of flight crews and aircraft, and additional crew expenses

**3. IDEATION & PROPOSED SOLUTION**

3.1 Empathy Map Canvas

* An empathy map is a simple, easy-to-digest visual that captures knowledge about a user’s behaviours and attitudes
* It is a useful tool to help teams better understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it
* The exercise of creating the map helps participants consider things from the user’s perspective along with his or her goals and challenges.



3.2 Ideation & Brainstorming

Step:1 Team gathering.

Collaboration and select the problem statement. The team was gathered in mural app for collaboration.

The team members are:

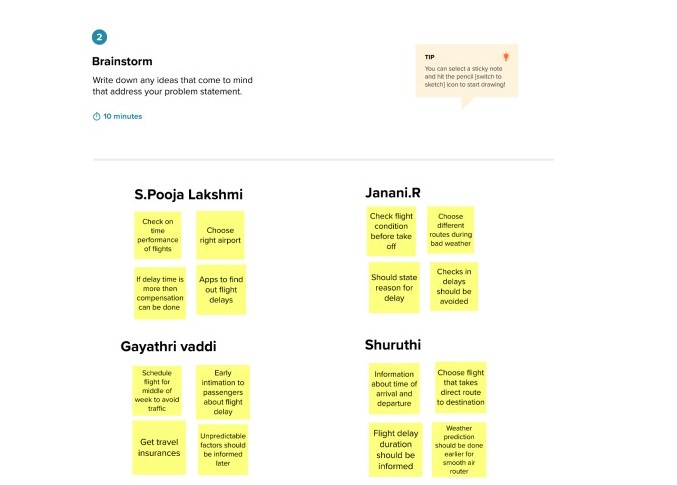
Gayathri. Vaddi

Janani R

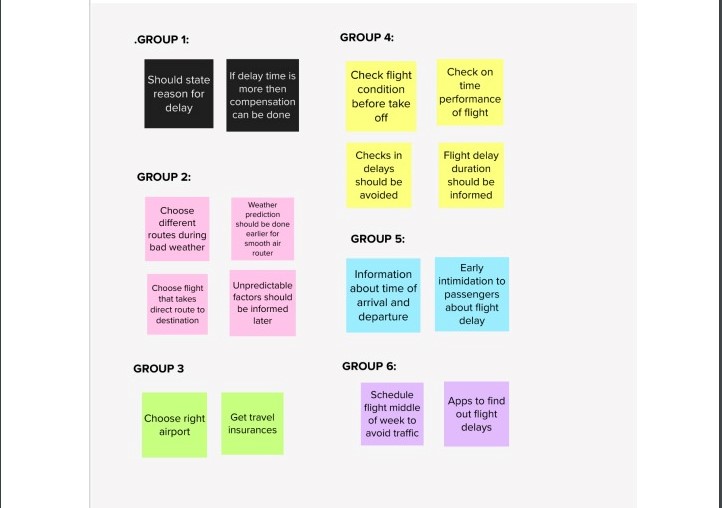
Pooja Lakshmi

Shuruthi U

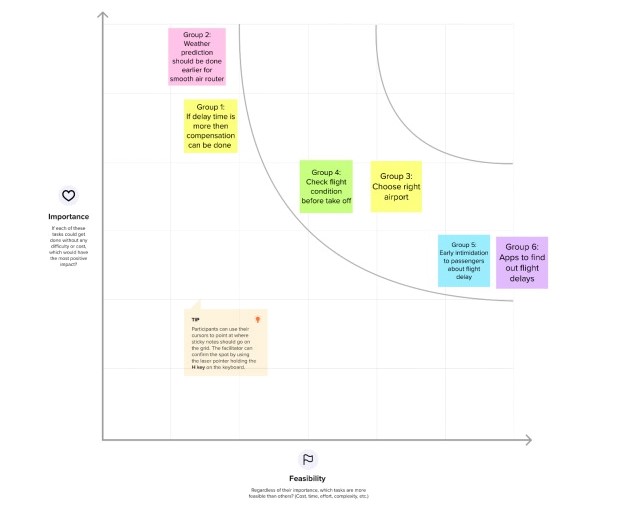
Step 2: Brainstorming



Grouping ideas



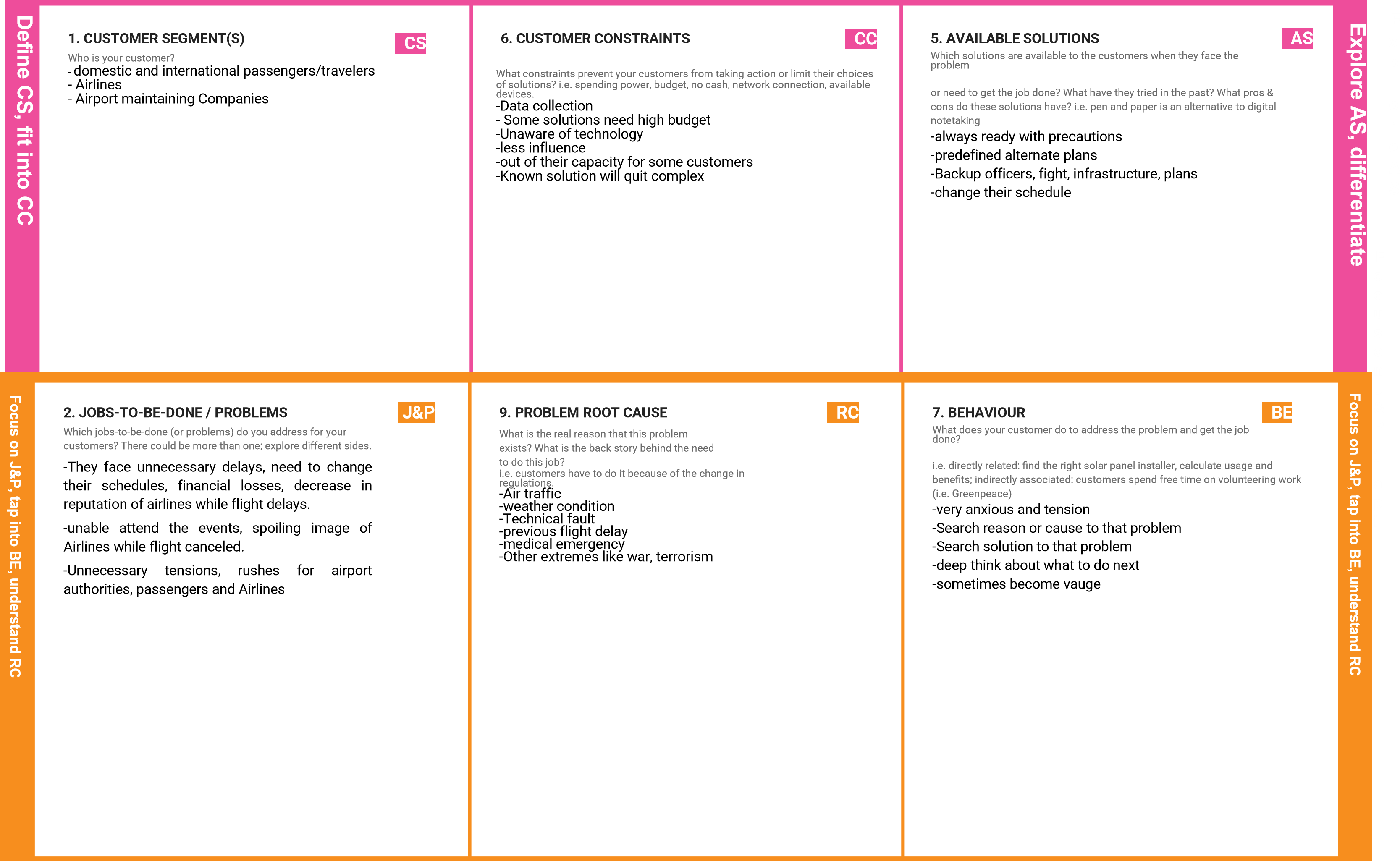
Step 3: Idea Prioritization

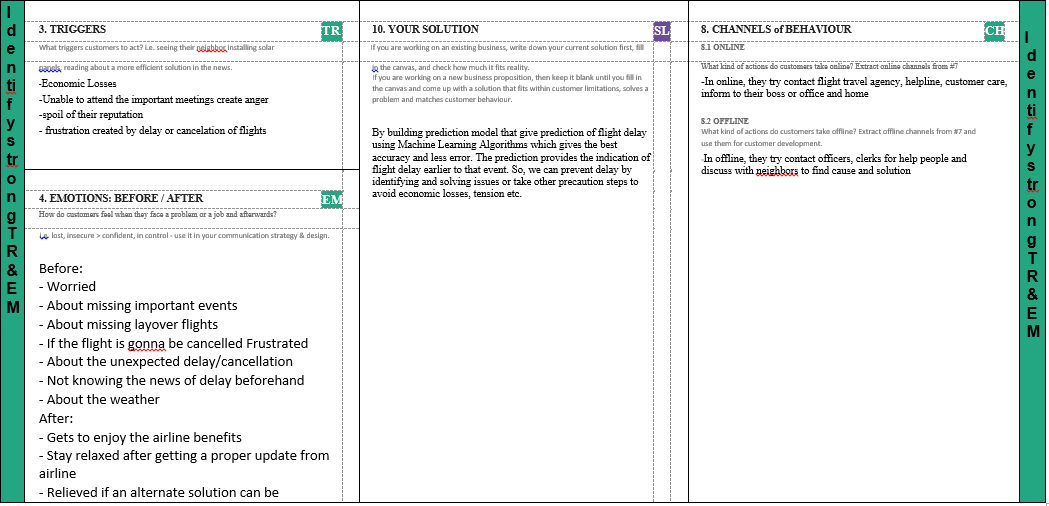


3.3 Proposed Solution

|  |  |  |
| --- | --- | --- |
| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | **Problem:**  Due to poor weather condition, some of technical problems occurred in aircraft leads the fight delay. so , the travellers hates flying .Due to this problem the air travellers count will decreased day by day. We need to fix the problem to improve airline operations and passenger satisfaction, which will result in a positive impact on the economy  **Solution:**  By controlling a mechanical issue occurred in flight and find a daily whether condition. Fast connecting of passengers and bags. |
|  | Idea / Solution description | **Idea:**  Collect the Passengers flight on-time performance data, pre-process the collected data, and apply some learning algorithms with data science to predict a delay of flight. |
|  | Novelty / Uniqueness | **Uniqueness:**   * To collect a data’s of flight and whether conditions to train our model to predict a outcome(delays)   ● Apart from predicting arrival delays,  departure delays are also predicted in order for the passengers to prepare accordingly and for the airline to make arrangements suitably. |
|  | Social Impact / Customer Satisfaction | **Customer Satisfaction:**  A lot of time and money can be saved for the customers and the loyalty and trust of customers towards the company increases. |
|  | Business Model (Revenue Model) | * Application * Website |
|  | Scalability of the Solution | By using this type of application or a website we should know about a flight delays. Add extra features to our traveller’s home page to know a details about our flight and where the flight is being fly and when we reach a destination |

3.4 Problem Solution fit





**4. REQUIREMENT ANALYSIS**

4.1 Functional requirement

* A functional requirement defines a function of a system or its component, where a function is described as a specification of behaviour between inputs and outputs.
* It specifies “what should the software system do?”
* Defined at a component level
* Usually easy to define  Helps you verify the functionality of the software

|  |  |  |
| --- | --- | --- |
| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration | Registration through Form  Registration through Gmail  Registration through LinkedIN |
| FR-2 | User Confirmation | Confirmation via Email  Confirmation via OTP |
| FR-3 | Passenger Booking | Booking through nearby airports  Booking through websites |
| FR-4 | Passenger Payment Confirmation | Payment through any E-COMMERCE service |
| FR-5 | Acknowledgement about cancellation from the other end | Acknowledgement through SMS  Acknowledgement through GMAIL |
| FR-6 | Get Feedback | Get feedback and ratings from user |

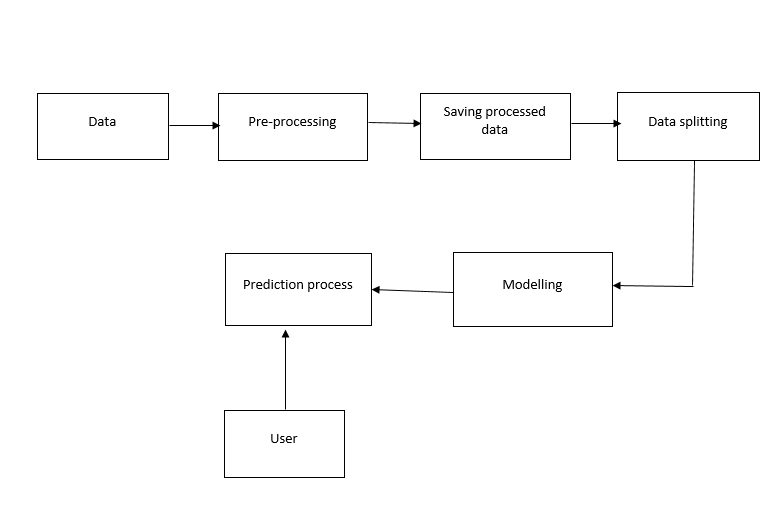
4.2 Non-Functional requirements

* A non-functional requirement defines the quality attribute of a software system
* It places constraint on “How should the software system fulfil the functional requirements?”
* It is not mandatory
* Applied to system as a whole
* Usually more difficult to define  Helps you verify the performance of the software

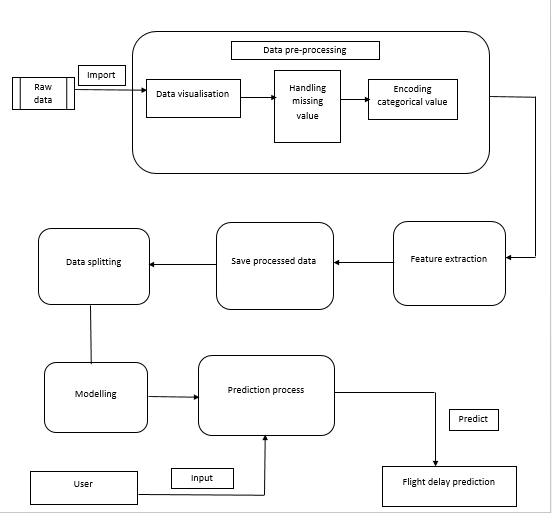
|  |  |  |
| --- | --- | --- |
| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | Improve airline operations and passenger satisfaction, which will result in a positive impact on the economy |
| NFR-2 | **Security** | Provide a secured way of refunding money when the tickets are cancelled due to flight delay |
| NFR-3 | **Reliability** | The system would run without failures for a given period of time under predefined conditions. (There is a less chance to occur any failure, then it has 80% of restoring capability even if the system fails.) |
| NFR-4 | **Performance** | Check whether the flight is delayed or not |
| NFR-5 | **Availability** | Availability of flights can be determined by comparing the delay of flights |
| NFR-6 | **Scalability** | Scalability is improved when the weather is in good condition etc., |

**5. PROJECT DESIGN**

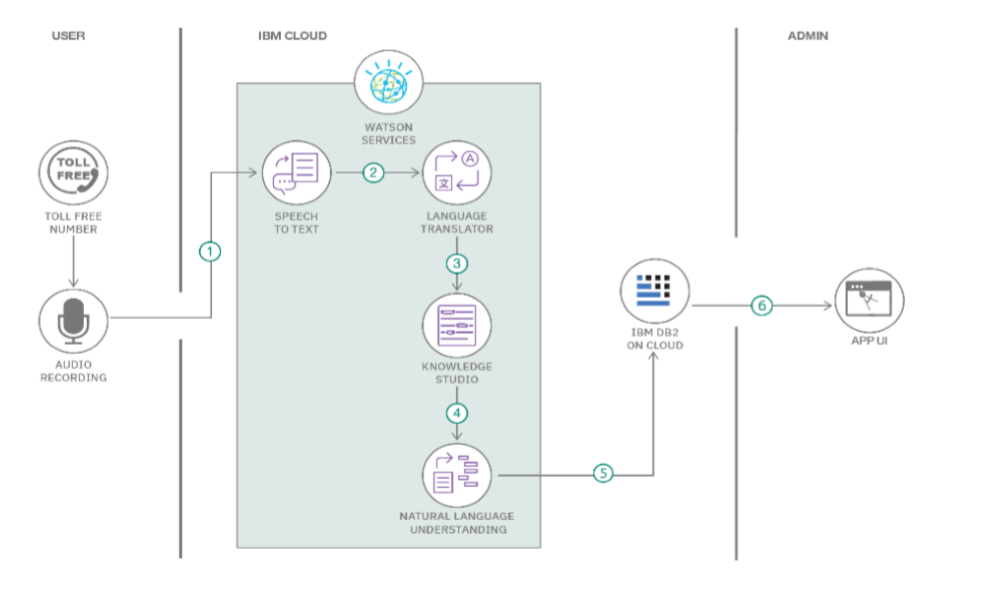
5.1 Data Flow Diagrams



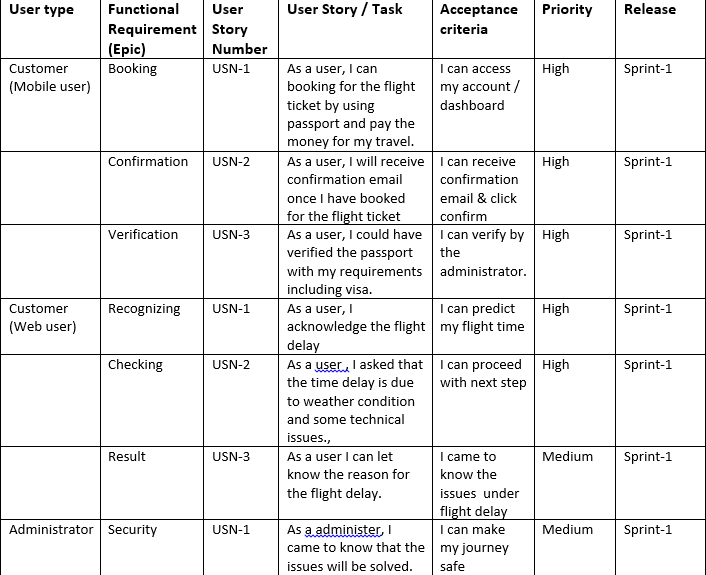
5.2 Solution Architecture



Technical Architecture:

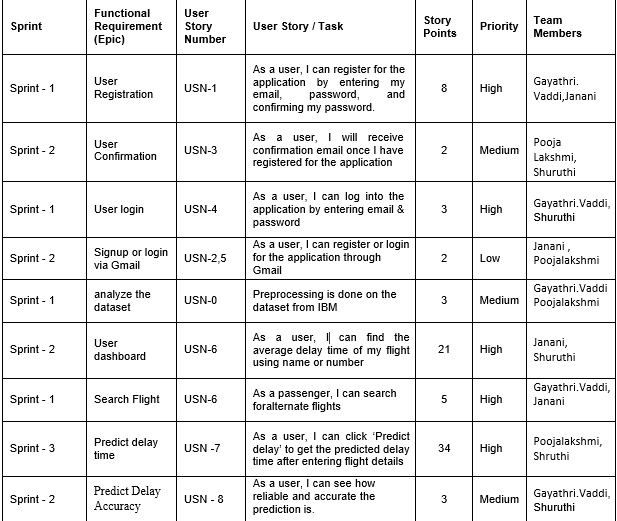


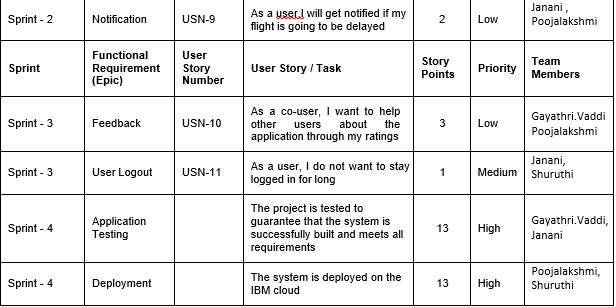
5.3 User Stories



**6.PROJECT PLANNING & SCHEDULING**

* 1. Sprint Planning & Estimation

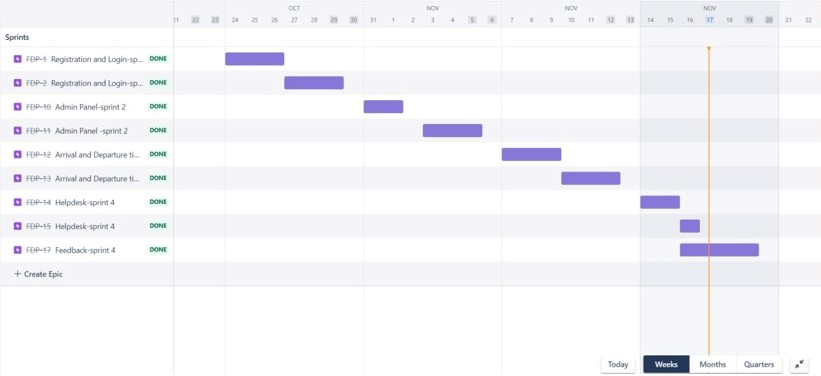




6.2 Sprint Delivery Schedule



* 1. Reports from JIRA



**7. CODING & SOLUTIONING**

7.1 Feature 1

import pandas as pd

import numpy as np

import os, types

import pandas as pd

from botocore.client import Config

import ibm\_boto3

def \_\_iter\_\_(self): return 0

data = pd.read\_csv(body)

data.head()

type(data)

data.head(10)

data['Gender'],fillna(data['Gender'],mode()[0],inplace = True)

data['Age'],fillna(data['Age'],mean(),inplace = True)

data['CreditScore'],fillna(data['CreditScore'],median(),inplace = True)

data.isnull().any()

data.head(10)

from sklearn.preprocessing import LabelEncoder

le = LabelEncoder()

data["Geography"] = le.fit\_transform(data["Geography"])

data["Gender"] = le.fit\_transform(data["Gender"])

x = data.iloc[:,3:13].values

y = data.iloc[:,13].values

data

x

from sklearn.preprocessing import OneHotEncoder

one = OneHotEncoder()

z = one.fit\_transform(x[:,1:2]).toarray()

x = np.delete(x,1,axis = 1)

x = np.concatenate((z,x),axis = 1)

z

x

from sklearn.model\_selection import train\_test\_split

x\_train,x\_test,y\_train,y\_test = train\_test\_split(x,y,test\_size = 0.2,random\_state = 42)

x.shape

x\_train.shape

x\_test.shape

from sklearn.model\_selection import train\_test\_split

x1 = [1,2,3,4,5,6,7,8,9,10]

y1 = [1,0,1,0,1,0,1,0,1,0]

for l in range(5):

x\_train1,x\_test1,y\_train1,y\_test1 = train\_test\_split(x1,y1,test\_size = 0.2,random\_state = 2)

print(x\_train1, "with random state")

for l in range(5):

x\_train1,x\_test1,y\_train1,y\_test1 = train\_test\_split(x1,y1,test\_size = 0.2)

print(x\_train1,"without random state")

from sklearn.ensemble import RandomForestClassifier

forest\_reg = RandomForestClassifier(n\_estimators=10,criterion='entropy',random\_state=42)

forest\_reg.fit(x\_train,y\_train)

x\_train[0]

from ibm\_watson\_machine\_learning import APIClient

wml\_credentials = {

"url":"https://us-south.ml.cloud.ibm.com",

"apikey":"Wv3aXu7-agz7OrqIjR-btR10N\_5Zncy7TqDdiM55xfyN"

}

client = APIClient(wml\_credentials)

def guid\_from\_space\_name(client,space\_name):

space = client.spaces.get\_details()

return(next(item for item in space['resources'] if item['entity']["name"] == space\_name)['metadata']['id'])

space\_uid = guid\_from\_space\_name(client, "models")

print("Space UID = " + space\_uid)

client.set.default\_space(space\_uid)

client.software\_specifications.list()

software\_spec\_uid = client.software\_specifications.get\_uid\_by\_name("default\_ py3.7")

software\_spec\_uid

df\_data\_1 = pd.read\_csv(body)

df\_data\_1.head()

etaNames.NAME:"Churn\_modelling",

client.repository.ModelMetaNames.TYPE:"scikit-learn\_0.22",

client.repository.ModelMetaNames.SOFTWARE\_SPEC\_UID:software\_spec\_uid}

)

model\_id = client.repository.get\_model\_uid(model\_details)

model\_id

x\_train[0]

forest\_reg.predict([[1.0000000e+00, 0.0000000e+00, 0.0000000e+00, 6.8600000e+02,

1.0000000e+00, 3.2000000e+01, 6.0000000e+00, 0.0000000e+00,

2.0000000e+00, 1.0000000e+00, 1.0000000e+00, 1.7909326e+05]])

7.2 FEATURE 2

def home():

return render\_template(‘index.html’)

def y\_predict():

geography = request.form(“geography”)

gender= request.form(“gender”)

age= request.form(“age”)

tenure= request.form(“tenure”)

creditscore= request.form(“creditscore”)

balance= request.form(“balance”)

noof = request.form[“no of”]

hascreditcard = request.form{“has credit card”]

isactivemember = request.form{“isactivemember”]

estimatedsalary = request.form[“estimated salary”]

if(geography == “Spain”):

s1,s2,s3 = 0,0,1

if(geography == “Germany”):

s1,s2,s3 = 0,1,0

if(geography == “Newyork”):

s1,s2,s3 = 0,1,0

if(gender ==”female”):

gender = 0

if(gender == “male”):

gender = 1

if(isactivemember == “no”):

isactivemember = 0

if(isactivemember == “yes”):

isactivemember = 1

if(hascreditcard == “no”):

hascreditcard = 0

if(hascreditcard == “yes”):

hascreditcard = 1

t=[[int(s1),int(s2),int(s3),int(creditscore),int(gender),int(age),int(tenure),int(balance),int(noof),int(hascreditcard),i nt(isactivemember),int(estimatedsalary)]]

print(t)

payload\_scoring = (“input\_data”:[{“field”:[[“G1”,”G2”,”G3”,”CreditScore”,”Gender”,”Age”,”Tenure”,”Balance”,”numofproducts”,” HasCrCard”,”IsActiveMember”)

print(“Scoring response’)

predictions = response\_scoring.json()

print(predictions)

pred = predictions[‘predictions’][0][‘values’][0][0]

if(pred == 0):

output = “he will not get excited”

print(“ he will not get excited”)

else:

output = “he gets excited”

print(“he gets excited”)

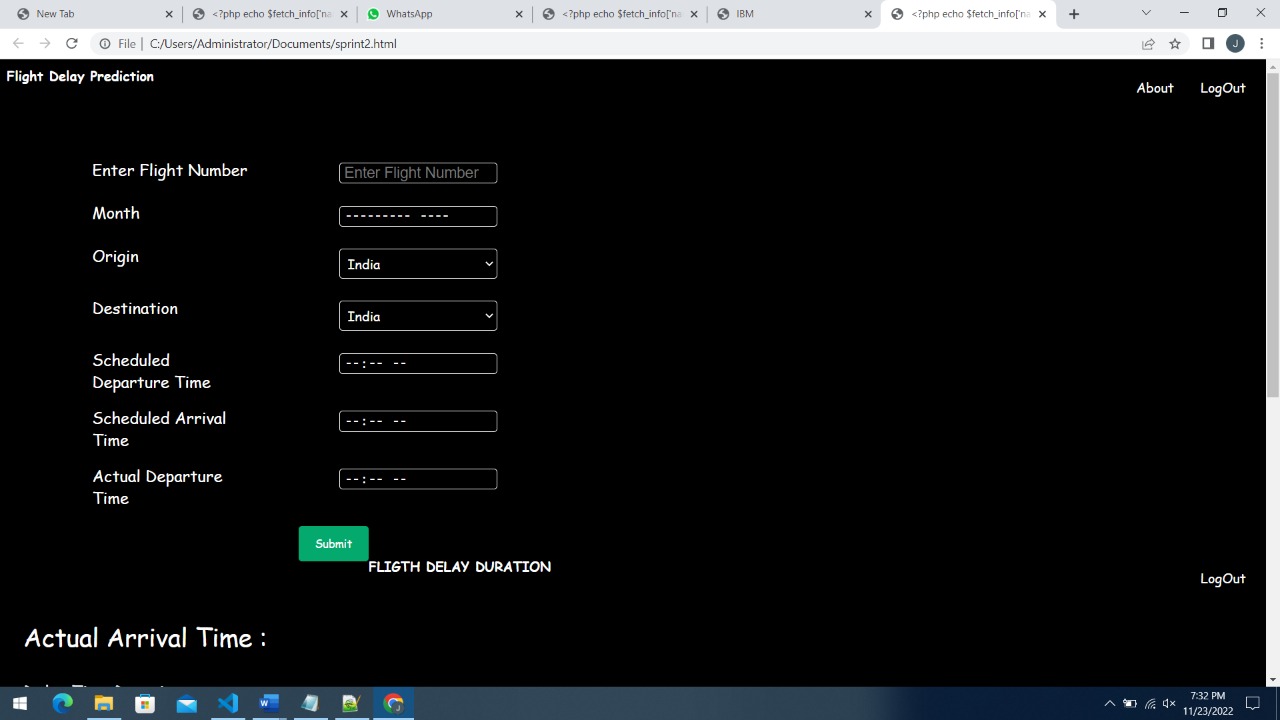
return render\_template(“index.html’,prediction\_text=output)

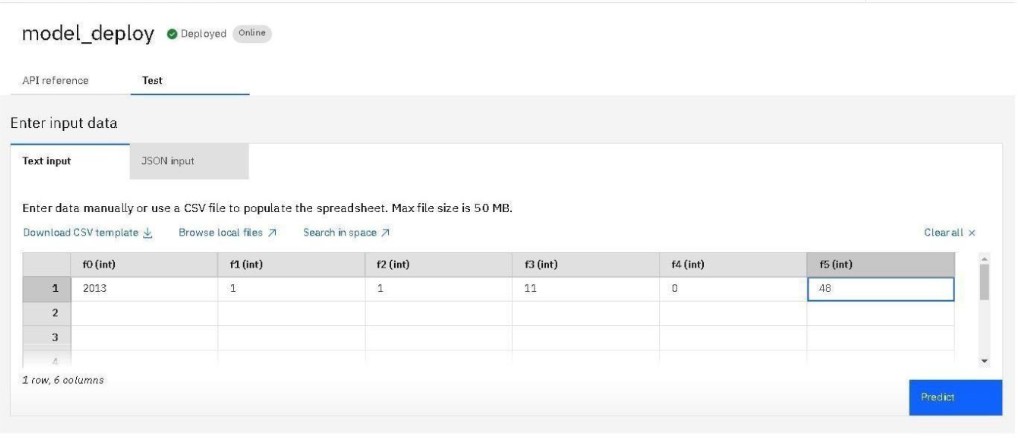
if\_name\_ == “\_main\_”:

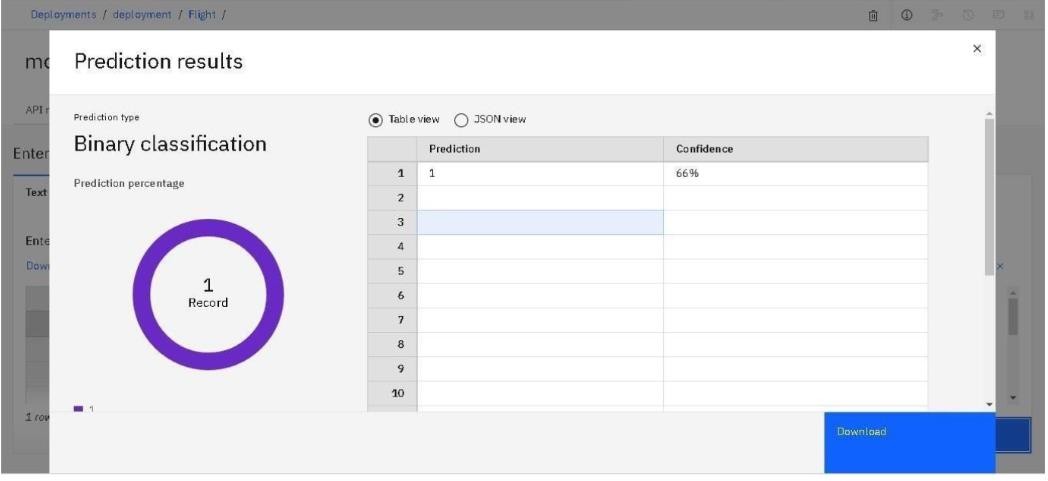
app.run(debug=True)

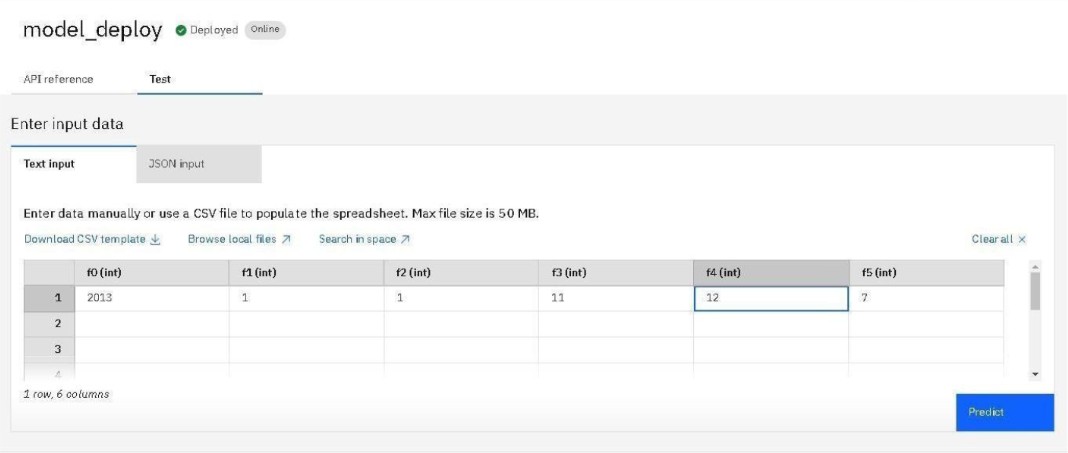
**8. TESTING**

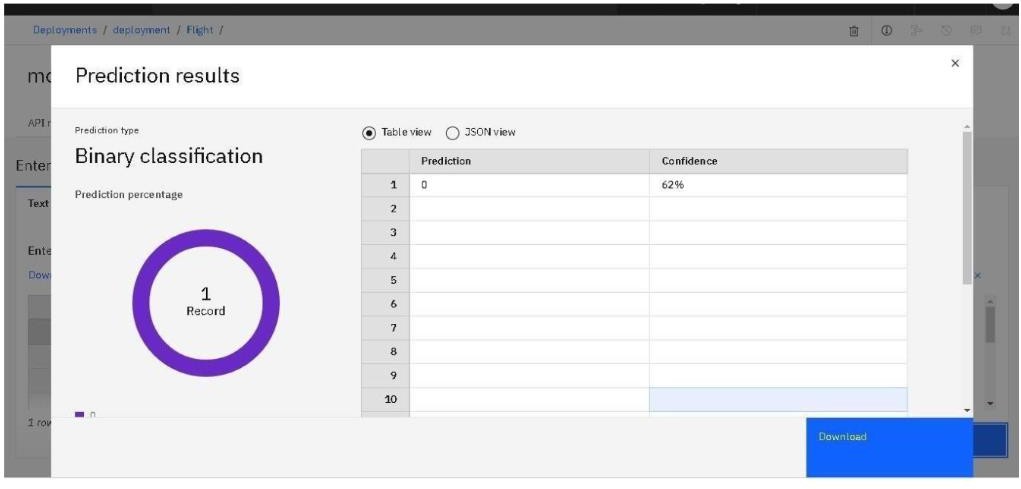
8.1 TEST CASES



PREDICTION VALUE = 1 (FLIGHT IS DELAYED)



PREDICTION VALUE = 0 (FLIGHT WILL BE ON TIME)



**9. RESULTS**

9.1 Performance Metrics

CPU usage

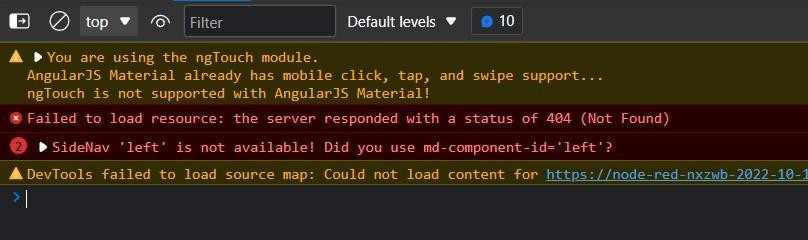
The micro version of C++ makes the most efficient use of the CPU. The programme runs in O(1) time for each loop, ignoring the network and communication. To improve communication with MQTT, the programme sleeps every 1 second. Because the programme runs in O(1) time and the compiler optimises it during compilation, there is less CPU load per cycle. The following instructions are stored on the stack memory and can be popped after execution.

Memory usage

Sensor values and networking data are saved in the ESP32's sram. It's a lot of data because the ESP32 only has 520 KB of memory. To save memory and ensure optimal programme execution, the exact addresses are overwritten with new values for each memory cycle.

Error rates

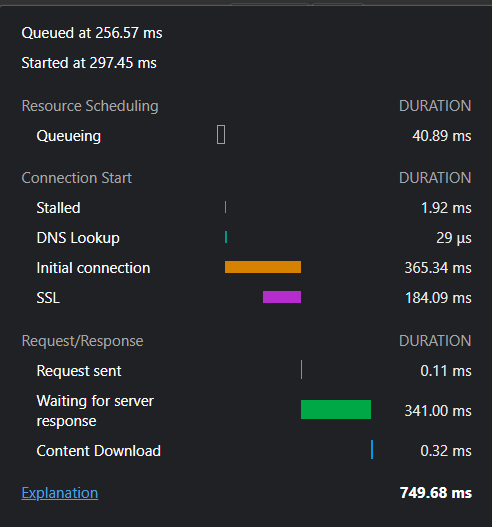
Since the backend and dashboard are handled by node-red, the error rates are extremely low. Exceptions are handled properly so that the system's usability is not harmed.



Latency and Response Time

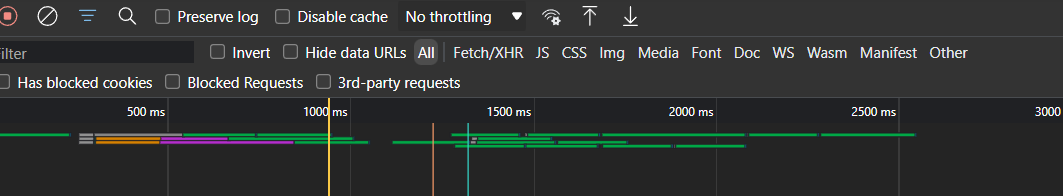
The DOM handling of the received data is optimal and latency is low .After the DOM is loaded the entire site is loaded to the browser

The server also responses quickly . The average time of response is respectable



The response time for data sent from an IoT device is much faster (considering the IoT's one-second sleep). The delay caused by the sleep

The average time is well over optimal value Average time = (5𝑚𝑠 + 2600𝑚𝑠)/2 = 1302.5



Garbage collection

The Node framework handles garbage collection on the server side. C++ does not have garbage collection features in IoT devices. However, in this case, it is not necessary because the memory will be used again to store the data. There is no dangling pointer or poorly handled

**10. ADVANTAGES & DISADVANTAGES**

ADVANTAGES:

• By observing the ripples created when delays in one area occur, we could track those planes and give passengers an estimate of what to expect when they arrive at their gate.

• Predicting flight delays can improve airline operations and passenger satisfaction, resulting in a positive economic impact.

• Data science technologies such as artificial intelligence (AI) and machine learning can assist airlines in obtaining fuel-burn, weather, navigation, and operations data in order to provide actionable insights to optimise fuel utilisation and reduce operational costs.

DISADVANTAGES:

• Requires a massive amount of data.

• Using different types of analysis, such as statistical analysis and probabilistic models.

• A large number of algorithms are used to analyse the data.

**11. CONCLUSION**

It is necessary to develop a system to predict flight delays in order to reduce monetary loss and to ensure higher and smooth operation. Feed forward network, Neural Network, Random Forest, decision trees, Nave Bayes Classification Tree, Regression Tree, and other classification or regression methods are frequently used to determine the delay. For various figures of merit, a decision tree classifier was compared to logistic regression and a simple neural network.

**12. APPENDIX**

MACHINE LEARNING WITH PYTHON:

Machine learning is a field of computer science that uses statistical techniques to give computer programs the ability to learn from past experiences and improve how they perform specific tasks. Machine Learning is simply recognizing patterns in your data to be able to make improvements and intelligent decisions on its own.

DECISION TREE CLASSIFIER:

A decision tree is a flowchart-like tree structure where an internal node represents feature(or attribute), the branch represents a decision rule, and each leaf node represents the outcome. The topmost node in a decision tree is known as the root node. It learns to partition on the basis of the attribute value.

DATA PREPROCESSING IN MACHINE LEARNING:

Data pre processing is a process of preparing the raw data and making it suitable for a machine learning model. It is the first and crucial step while creating a machine learning model. A real-world data generally contains noises, missing values, and maybe in an unusable format which cannot be directly used for machine learning models. Data pre processing is required tasks for cleaning the data and making it suitable for a machine learning model which also increases the accuracy and efficiency of a machine learning model.

SOURCE CODE:

# login.php

<?php

include 'config.php';

use PHPMailer\PHPMailer\PHPMailer;use PHPMailer\PHPMailer\SMTP;

use PHPMailer\PHPMailer\Exception; require 'vendor/autoload.php'; session\_start();

error\_reporting(0);

if (isset($\_SESSION["user\_id"]))

{header("Location:

welcome.php"); }

if (isset($\_POST["signup"])) {

$full\_name = mysqli\_real\_escape\_string($conn, $\_POST["signup\_full\_name"]);

$email = mysqli\_real\_escape\_string($conn, $\_POST["signup\_email"]);

$password = mysqli\_real\_escape\_string($conn, md5($\_POST["signup\_password"]));

$cpassword = mysqli\_real\_escape\_string($conn, md5($\_POST["signup\_cpassword"])); if ($password !== $cpassword) {

echo "<script>alert('Password did not match.');</script>";

} elseif ($check\_email > 0) {

echo "<script>alert('Email already exists in out database.');</script>";

} else {

$sql = "INSERT INTO users (full\_name, email, password, token, status) VALUES ('$full\_name', '$email', '$password', '$token', '0')";

$result = mysqli\_query($conn, $sql); if ($result) {

$\_POST["signup\_full\_name"] = "";

$\_POST["signup\_email"] = "";

$\_POST["signup\_password"] = "";

$\_POST["signup\_cpassword"] = "";

$to = $email;

$subject = "Email verification - Find Me";

$message = "

<html>

<head>

<title>{$subject}</title>

</head>

<body>

<p><strong>Dear {$full\_name},</strong></p>

<p>Thanks for registration! Verify your email to access our website. Click below link toverify your email.</p>

<p><a href='{$base\_url}verify-email.php?token={$token}'>Verify Email</a></p>

</body>

</html> ";

//Create an instance; passing `true` enables exceptions

$mail = new PHPMailer(true); try {

//Server settings

$mail->SMTPDebug = 0;

$mail->isSMTP();

$mail->Host = $smtp['host'];

$mail->SMTPAuth = true;

$mail->Username = $smtp['user'];

$mail->Password = $smtp['pass'];

$mail->SMTPSecure = PHPMailer::ENCRYPTION\_SMTPS;

$mail->Port = $smtp['port']; //TCP port to connect to; use 587 if you have set `SMTPSecure = PHPMailer::ENCRYPTION\_STARTTLS`

//Recipients

$mail->setFrom($my\_email);

$mail->addAddress($email, $full\_name); //Add a recipient

//Content

$mail->isHTML(true); //Set email format to HTML

$mail->Subject = $subject;

$mail->Body = $message;

$mail->send();

echo "<script>alert('We have sent a verification link to your email - {$email}.');</script>";

} catch (Exception $e) {

echo "<script>alert('Mail not sent. Please try again.');</script>";

}

} else {

echo "<script>alert('User registration failed.');</script>";

}

}

}

if (isset($\_POST["signin"])) {

$email = mysqli\_real\_escape\_string($conn, $\_POST["email"]);

$password = mysqli\_real\_escape\_string($conn, md5($\_POST["password"]));

$check\_email = mysqli\_query($conn, "SELECT id FROM users WHERE email='$email' AND password='$password' AND status='1'");

if (mysqli\_num\_rows($check\_email) > 0) {

$row = mysqli\_fetch\_assoc($check\_email);

$\_SESSION["user\_id"] = $row['id']; header("Location: welcome.php");

} else {

echo "<script>alert('Login details is incorrect. Please try again.');</script>";

}

}

?>

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8" />

<meta name="viewport" content="width=device-width, initial-scale=1.0" />

<link rel="stylesheet" href="style.css" />

<title>Find Me</title>

</head>

<body>

<div class="container">

<div class="forms-container">

<div class="signin-signup">

<form action="" method="post" class="sign-in-form">

<h2 class="title">Sign in</h2>

<div class="input-field">

<i class="fas fa-user"></i>

<input type="text" placeholder="Email Address" name="email" value="<?php echo

$\_POST['email']; ?>" required />

</div>

<div class="input-field">

<i class="fas fa-lock"></i>

<input type="password" placeholder="Password" name="password" value="<?php echo

$\_POST['password']; ?>" required />

</div>

<input type="submit" value="Login" name="signin" class="btn solid" />

<p style="display: flex;justify-content: center;align-items: center;margin-top: 20px;"><a href="forgot-password.php" style="color: #4590ef;">Forgot Password?</a></p>

</form>

<form action="" class="sign-up-form" method="post">

<h2 class="title">Sign up</h2>

<div class="input-field">

<i class="fas fa-user"></i>

<input type="text" placeholder="Full Name" name="signup\_full\_name" value="<?php echo $\_POST["signup\_full\_name"]; ?>" required />

</div>

<div class="input-field">

<i class="fas fa-envelope"></i>

<input type="email" placeholder="Email Address" name="signup\_email" value="<?phpecho

$\_POST["signup\_email"]; ?>" required />

</div>

<div class="input-field">

<i class="fas fa-lock"></i>

<input type="password" placeholder="Password" name="signup\_password" value="<?php echo $\_POST["signup\_password"]; ?>" required />

</div>

<div class="input-field">

<i class="fas fa-lock"></i>

<input type="password" placeholder="Confirm Password" name="signup\_cpassword" value="<?php echo $\_POST["signup\_cpassword"]; ?>" required />

</div>

<input type="submit" class="btn" name="signup" value="Sign up" />

</form>

</div>

</div>

<div class="panels-container">

<div class="panel left-panel">

<div class="content">

<h3>New here ?</h3>

<br>

<button class="btn transparent" id="sign-up-btn"> Sign up

</button>

</div>

<img src="img/download.png" class="image" alt="" />

</div>

<div class="panel right-panel">

<div class="content">

<h3>One of us ?</h3>

<br>

<button class="btn transparent" id="sign-in-btn"> Sign in

</button>

</div>

<img src="img/image.png" class="image" alt="" />

</div>

</div>

</div>

<script src="https://kit.fontawesome.com/64d58efce2.js" crossorigin="anonymous"></script>

<script src="app.js"></script>

</body>

</html>

# logout.php

<?php session\_start(); session\_unset(); session\_destroy(

);

header("Location: login.php");

?>

# Verify-email.php

<?php session\_start();

if (isset($\_GET["token"]))

{include 'config.php';

$sql = "UPDATE users SET status='1' WHERE token='{$\_GET["token"]}'"; mysqli\_query($conn, $sql);

$showUserId = mysqli\_fetch\_assoc(mysqli\_query($conn, "SELECT id FROM users WHERE token='{$\_GET["token"]}'"));

$\_SESSION["user\_id"] = $showUserId['id']; header("Location: welcome.php");

} else {

header("Location: login.php");

}

?>

reset-password.php

<?php

include 'config.php';

error\_reporting(0);

session\_start();

if (isset($\_SESSION["user\_id"]))

{header("Location: welcome.php");

}

if (isset($\_POST["resetPassword"])) {

$password = mysqli\_real\_escape\_string($conn, md5($\_POST["new\_password"]));

$cpassword = mysqli\_real\_escape\_string($conn, md5($\_POST["cnew\_password"])); if ($password === $cpassword) {

$sql = "UPDATE users SET password='$password' WHERE token='{$\_GET["token"]}'"; mysqli\_query($conn, $sql);

header("Location: login.php");

} else {

echo "<script>alert('Password not matched.');</script>";

}

}

?>

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8" />

<meta name="viewport" content="width=device-width, initial-scale=1.0" />

<link rel="stylesheet" href="style.css" />

<title>Find Me</title>

</head>

<body>

<div class="container">

<div class="forms-container">

<div class="signin-signup">

<form action="" method="post" class="sign-in-form">

<h2 class="title">Reset Password</h2>

<div class="input-field">

<i class="fas fa-lock"></i>

<input type="password" placeholder="New Password" name="new\_password" value="<?php echo $\_POST['new\_password']; ?>" required />

</div>

<div class="input-field">

<i class="fas fa-lock"></i>

<input type="password" placeholder="Confirm New Password" name="cnew\_password" value="<?php echo $\_POST['cnew\_password']; ?>" required />

</div>

<input type="submit" value="Reset Password" name="resetPassword" class="btn solid" />

</form>

</div>

</div>

<div class="panels-container">

<div class="panel left-panel">

<div class="content">

<h3>Reset Password ?</h3>

</div>

<img src="img/log.svg" class="image" alt="" />

</div>

</div>

</div>

<script src="https://kit.fontawesome.com/64d58efce2.js" crossorigin="anonymous"></script>

<script src="app.js"></script>

</body>

</html>

GITHUB LINK:

https://github.com/IBM-EPBL/IBM-Project-10722-1659198851

DEMO VIDEO:

https://youtu.be/cDAepwdOYkk

[](https://www.youtube.com/watch?v=cDAepwdOYkk)