



Airlines Data Analytics for Aviation Industry



NALAIYA THIRAN PROJECT BASED LEARNING

on

PROFESSIONAL READINESS FOR INNOVATION, EMPLOYABILITY AND ENTREPRENEURSHIP

A PROJECT REPORT

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1.INTRODUCTION

The business world is undergoing a revolution driven by the use of data and analytics to guide decision-making. While many forces are at work, a major reason for the business analytics revolution is the rapid proliferation of the amount of data available to be analysed. Recent days, big data is beginning to have a major impact on air travel with more data being created both through the plane sensors and the passengers on board; the opportunities to use this data will only increase. It provides innovative companies with the opportunity to improve major aspects of their business, from using data to improve customer retention through to making planes safer and more reliable.

The big data concept, definitions, and further present some cases for aviation industry to analyse data from every conceivable channel, for instance, customer data to create a unique profile for each customer based on a wide range of demographic data, behaviours, and preferences

The aviation industry has been relying on data analytics for many years now to help improve efficiency and safety. More recently, airlines have begun to use data analytics to help improve the customer experience. By using data to understand how customers are using their services, airlines can make changes to improve the customer experience. Airlines are able to track a number of different data points related to the customer experience, including flight times, ticket prices, and customer feedback.

a. PROJECT OVERVIEW

The aviation industry has been using data analytics for many years to improve performance and operations. In the past, this has been done primarily through manual processes and custom-built software solutions. However, with the advent of more sophisticated data analytics tools, such as IBM Cognos, airlines are now able to leverage data more effectively to improve their operations. IBM Cognos is a powerful data analytics tool that helps organizations transform their data into actionable insights. To provide better airline and airport services and to avoid in air travel across different location at municipality level.the aim is to provide airports,airlines,and the travelling public with a neutral, third party view of which airlines are delivering on their promises to get passengers from point A to point B on time.

b. PURPOSE

The airline industry handles an enormous quantity of data from different sources and actions like- reservation system, departure system, baggage management, revenue management, flight control, CRM, website, and many more, thus collating all this data and analysing this effectively becomes very important as it helps the airlines transform from how they operate to how they achieve business excellence.

Smarter maintenance

Big data helps airlines to better maintain their aircraft. Take fuel for example; fuel accounts for 17% of all airline operating costs, making it the most significant overhead after labor. Therefore, fuel efficiency is a critical metric. With big data, airlines can identify new efficiencies. Greater computational power has allowed airlines to gather and process huge volumes of data that enable them to analyze fuel consumption on a per-trip basis. For instance, Southwest Airlines collects data from sensors embedded in aircraft that measure wind speed, temperature, and plane weight alongside fuel consumption.

Safer flights

By capturing flight incident data, regulators can improve safety across the aviation industry. Recently, the European Aviation Safety Agency launched the Data4Safety program, which collects and analyzes in-flight telemetry data, air traffic control information, and weather forecasts to detect risk. The program will allow regulators to determine safety risks and advise stakeholders. By combining big data analytics and computational power, this program aims to strengthen weak links in the aviation chain.

Improve service

While there are significant operational gains, big data can also help airlines to enhance customer service. Instead of simply identifying successful products, airlines can use big data to drill down into customers' buying habits. By analyzing variables and aggregating historic information, airlines can predict and model customer behavior to generate personalized offers. This smart approach not only drives ticket sales, it also enhances opportunities for upselling, such as baggage fees and onboard refreshments.

2. LITERATURE SURVEY

a. Existing problem

Big Data Analytics in Airlines: Opportunities and Challenges:

The findings illustrate a range of challenges that airlines may face when dealing with big data, such as shortage of qualified human resources, absence of data-driven culture, dealing with and processing huge amounts of data, as well as data privacy and security issues. Finally, implications for practice as well as future researches are discussed.

Big data analytics is a process of examining information and patterns from huge data. The airline industry is interesting because of its importance to the global economy, international presence and fierce competitive environment (Sternberg et al., 2018). The current paper is one of the studies that inductively explain the challenges and opportunities that big data can provide to airlines.

Data Analytics for Air Travel Data: A Survey and New Perspectives:

From the start, the airline industry has remarkably connected countries all over the world through rapid long-distance transportation, helping people overcome geographic barriers. Consequently, this has ushered in substantial economic growth, both nationally and internationally. The airline industry produces vast amounts of data, capturing a diverse set of information about their operations, including data related to passengers, freight, flights, and much more. Analyzing air travel data can advance the understanding of airline market dynamics, allowing companies to provide customized, efficient, and safe transportation services.

Due to bigdata challenges in such a complex environment, the benefits of drawing insights from the air travel data in the airlineindustry have not yet been fully explored.This article aims to survey various components and corresponding proposed data analysis methodologies that have been identified as essential to the inner workings ofthe airlineindustry.

AIRLINES DATA ANALYTICS FOR AVIATION INDUSTRYLITERATURESURVEY:

The Purpose of this chapter to review the previous of Researchers on the Airlines Data Analyticsfor Aviation Industry.This chapter will present the main recent works on the effects ofAirline and AirPort services and to avoid delays in Air Travel across different locations at Municipality level.Wang, Sen & Gao, Yi(2021) investigated identifying contributing factors and understanding theeffect of these factors in causing the variation of air travel demand have been one of the key focusareas in air transportation research.Through our detailed computational results, we compare the performance of solutions arising from these different robust modeling paradigms and discuss theunderlying reasons for their performance differences from a data-driven perspective.

b.References

1. Aguinis,H.,andSolarino,A.M.(2019).Transparency and replicability inqualitative research:The case of interviews with lite informants. Strategic Management. Journal.40,pp.1291–1315.
2. Akter,S.(2016).How to improve firm,performance using big data analytics capability? InternationalJournalofProductionEconomics,8,pp.1-53.
3. Altinay,L.,andParaskevas,A.(2008).Planning research in hospitality and

tourism.Butterworth-Heinemann:Oxford.

4. Wang, Sen & Gao, Yi(2021) A literature review and citation analyses of air travel demand studies published between 2021 and 2020.Journal of air transport management 79.102135.10.1016/j.jairtraman.2021.102135.
5. Shi, Qiang& Masoud, Mahmoud &D'Ariano, Andrea & Chung, Sai-Ho &Kozan, Erhan. (2019). A classification and literature survey on aviation management.10.1109/IESM45758.2019.8948183.

c.Problem Statement Definition

To provide better Airline and AirPort services and to avoid delays in Air Travel across different locations at Municipality level. The aim is to provide airports, airlines, and the travelling public with a neutral, third-party view of which airlines are delivering on their promise to get passengers from Point A to Point B on-time.

3.IDEATION& PROPOSED SOLUTION

a.EMPATHY MAP

Empathy maps should be used throughout any UX process to establish common ground among team members and to understand and prioritize user needs. In user-centered design, empathy maps are best used from the very beginning of the design process.Both the process of making an empathy map and the finished artifact have important benefits for the organization:



b.Ideation&Brainstorming

IDEATION

Ideation is the mode of the design process in which you concentrate on idea generation. Mentally it represents a process of 'going wide' in terms of concepts and outcomes. Ideation provides both the fuel and also the source material for

building prototypes and getting innovative solutions into the hands of your users.

BRAIN STORMING

Brainstorming is a method of generating ideas and sharing knowledge to solve a particular commercial or technical problem, in which participants are encouraged to think without interruption. Brainstorming is a group activity where each participant shares their ideas as soon as they come to mind. At the conclusion of the session, ideas are categorised and ranked for follow-on action.

When planning a brainstorming session it is important to define clearly the topic to be addressed. A topic which is too specific can constrict thinking, while an ill-defined topic will not generate enough directly applicable ideas. The composition of the brainstorming group is important too. It should include people linked directly with the subject as well as those who can contribute novel and unexpected ideas. It can comprise staff from inside or outside the organisation.

To ensure a productive session and one to which all present contribute, there are several brainstorming 'rules' -

- Encourage novel and innovative ideas, however odd they may first appear
- The quantity of ideas is more important than quality, so while ideas are shared with the group they are not discussed or criticised in detail; this is reserved for a later stage
- Build on the ideas put forward by others
- Every person and every idea has equal worth
- Each idea generated belongs to the group rather than the individual who thought of it

MAIN IDEAS GOT BY SESSION :

1] HOW DOES IT AFFECTS THE COMMON PEOPLE?

2] SURVEYS FROM STUDENTS WHO TRAVEL

3] SURVEYS FROM FREQUENT TRAVEL GROUPS

4] SUGGESTING POLLS AT ONLINE

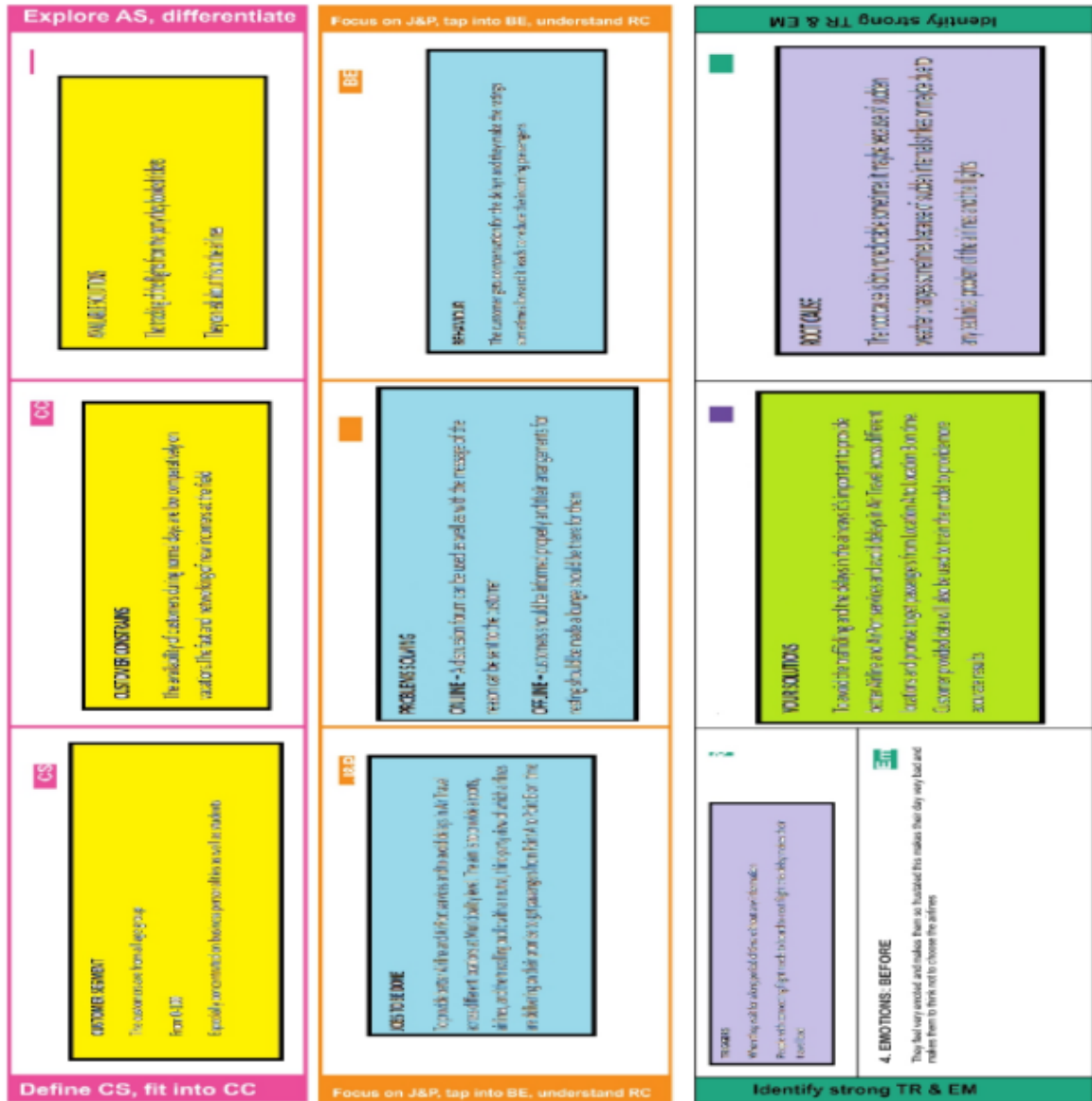
[illegible]

To provide better Airline and AirPort services and to avoid delays in Air Travel across different locations at Municipality level. The aim is to provide airports, airlines, and the travelling public with a neutral, third-party view of which airlines are delivering on their promise to get passengers from Point A to Point B on-time.

C.PROPOSED SOLUTION

S.No.	Parameter	Description
1.	ProblemStatement(Problemto be solved)	To provide better Airline and AirPort servicesandtoavoiddelaysinAirTravelacrossdifferentlocations at Municipality level. The aim is toprovide airports, airlines, and the travellingpublic with a neutral, third-party view of whichairlines are delivering on their promise to getpassengersfromPointAtoPointBon-time.
2.	Idea/Solutiondescription	Toavoidthetraffickingandthedelaysintheairways it's important to provide better Airline andAirPortservicesandavoiddelaysinAirTravelacross different locations and promise to getpassengers from Location A to Location B ontime.
3.	Novelty/Uniqueness	Customerprovideddatawillalsobeusedtotrain the model to provide more accurateresults
4.	SocialImpact/CustomerSatisfaction	End user feels that they can travel so freewithoutanyhesitationandtravelwithoutanydelays
5.	BusinessModel(RevenueModel)	Calculating and predicting the delays andclearing it with possible ways and make thecustomertogetsatisfactionanditsmakesthecustomer to come back to them again andagainforthebest service
6.	ScalabilityoftheSolution	The model which is framed is bound to be scalable as it is equipped with datasets which is recently framed

d.PROBLEM SOLUTION FIT



4.REQUIREMENT ANALYSIS:

a.FunctionalRequirements:

Following are the functional requirements of the proposed solution.

FR No.	FunctionalRequirement(Epic)	SubRequirement(Story/Sub-Task)
FR-1	UserRegistration	Registration through Form Registration through Gmail Registration through travelling apps
FR-2	UserConfirmation	Confirmation via Email Confirmation via OTP
FR-3	Userauthentication	via gmail via syncing of travel applications

b. Non-functional Requirements:

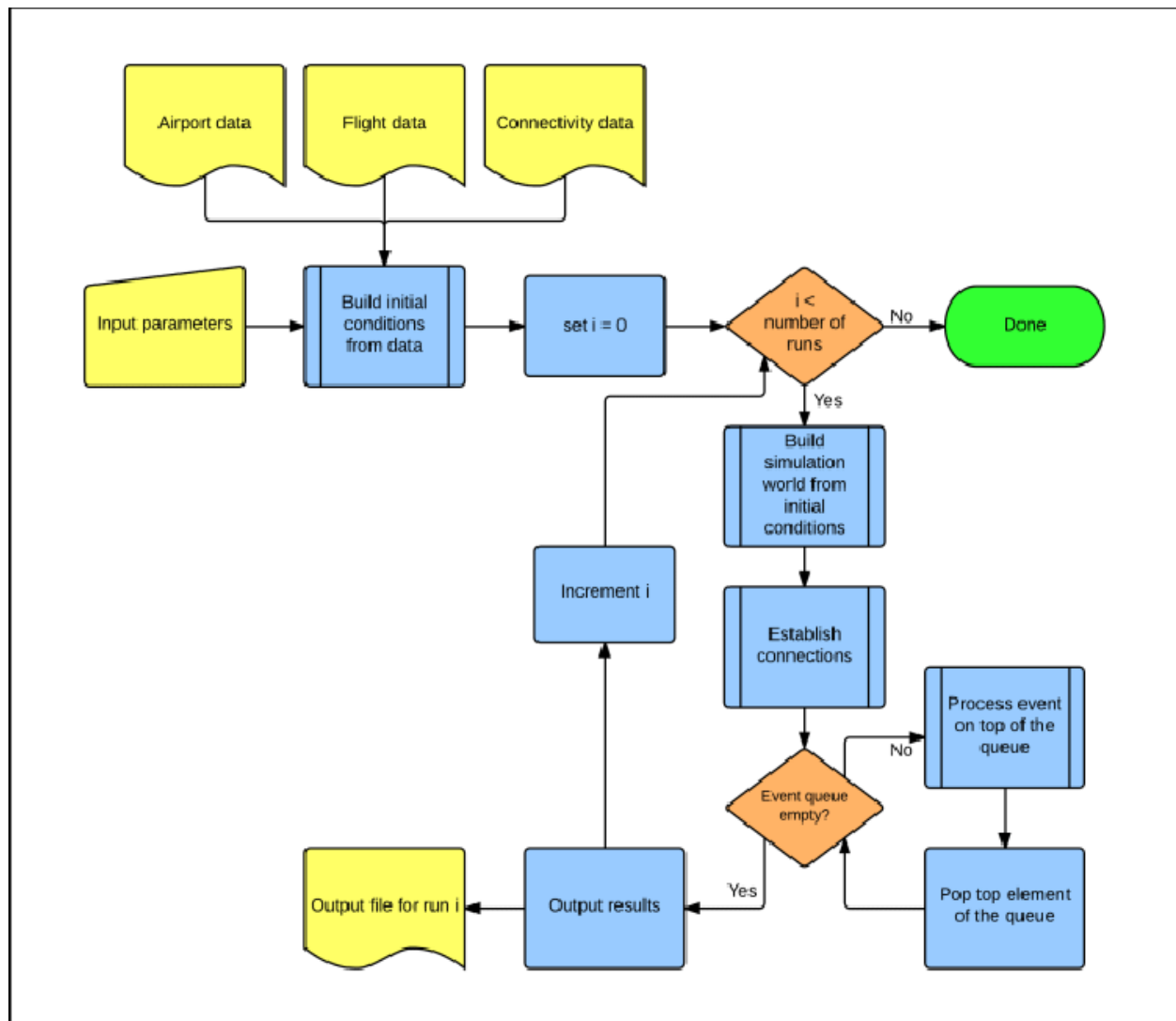
Following are the non-functional requirements of the proposed solution.

FR No.	Non-FunctionalRequirement	Description
NFR-1	Usability	Use with the gmail or ios account
NFR-2	Security	Requires otp login
NFR-3	Reliability	Notifies every single detail
NFR-4	Performance	Shows with a long your clock on display
NFR-5	Availability	24/7availability and updates
NFR-6	Scalability	You are provided with the proper details and instructions

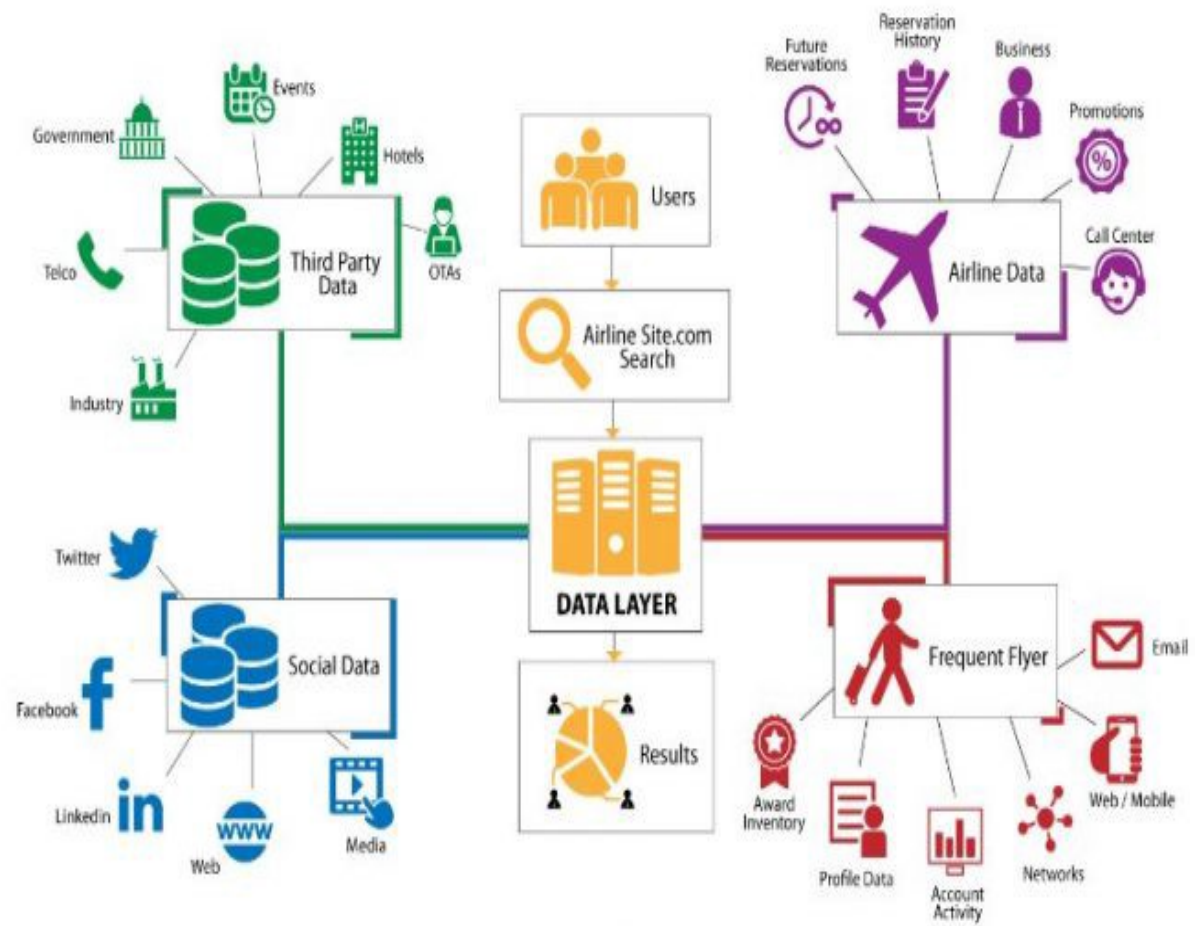
5.PROJECT DESIGN

a. Data Flow Diagrams:

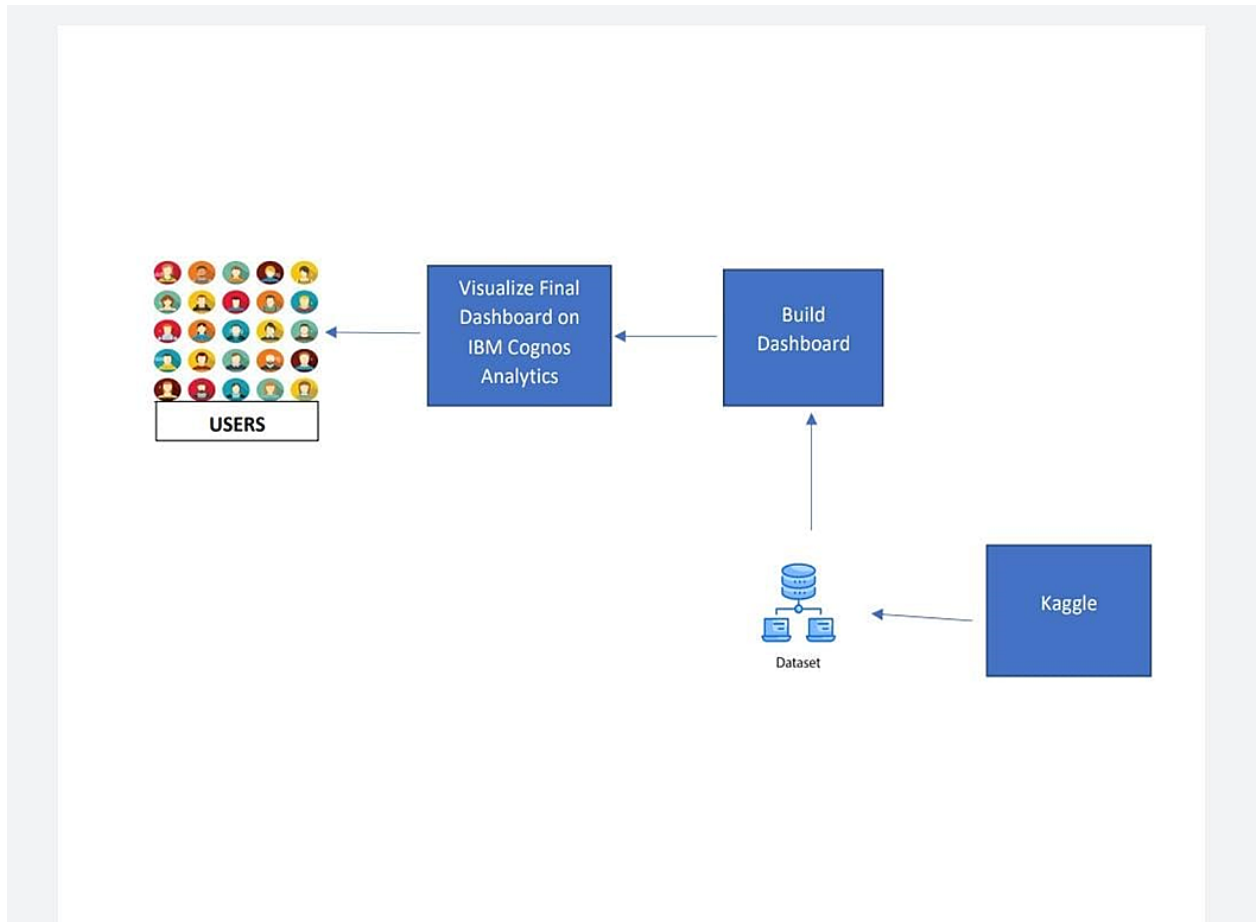
A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.



b. Solution Architecture:



TechnicalArchitecture



c.UserStories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application by my travel credentials	I can register & access the dashboard with Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail		Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password		High	Sprint-1
	Dashboard					
Customer (Web user)						
Customer Care Executive						
Administrator						

6.PROJECTPLANNING&SCHEDULING

a.Sprint Planning & Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	I can sign up for the application as a user by providing my email address, password, and confirming that.	2	High	thiliban
Sprint-1	Registration	USN-2	When I register for the application as a user, I will get a confirmation email.	3	High	soumamalya
Sprint-1	Login	USN-3	I've grown accustomed to using credentials to access the system as a user.	2	Low	shobia
Sprint-1	Collection of dataset	USN-4	I can collect the dataset and choose the area of interest to be tracked and analysed as a user.	5	Medium	souma malya
Sprint-2	Dataset Exploration	USN-5	I can explore the given dataset through IBM cognos	6	High	venkateshwaran
Sprint-2	Dataset Visualization	USN-6	I will use cognos as a developer to visualise the provided dataset into a dashboard.	6	High	shobia
Sprint-3	Dashboard Customization	USN-7	I can personalise the dashboard that is visualised as a user.	6	Medium	thiliban
Sprint-3	Ease of Access	USN-8	I can simply access and use the dashboard as a user.	6	Medium	venkateshwaran
Sprint-4	Report Generation	USN-9	I can view the detailed report of my visualization	6	High	soumamalya
Sprint-4	Dashboard Establishment	USN-10	Established the dashboard into a website and submit the website.	6	High	thiliban

b.Sprint Delivery Schedule

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	4 nov 2022	7 Oct 2022	20	19 nov 2022
Sprint-2	20	6 Days	5 nov 2022	9 Nov 2022	20	19 nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	19 nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 nov 2022

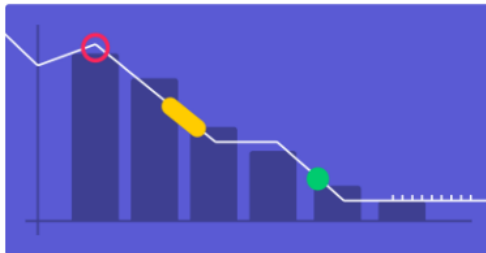
Velocity:

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)

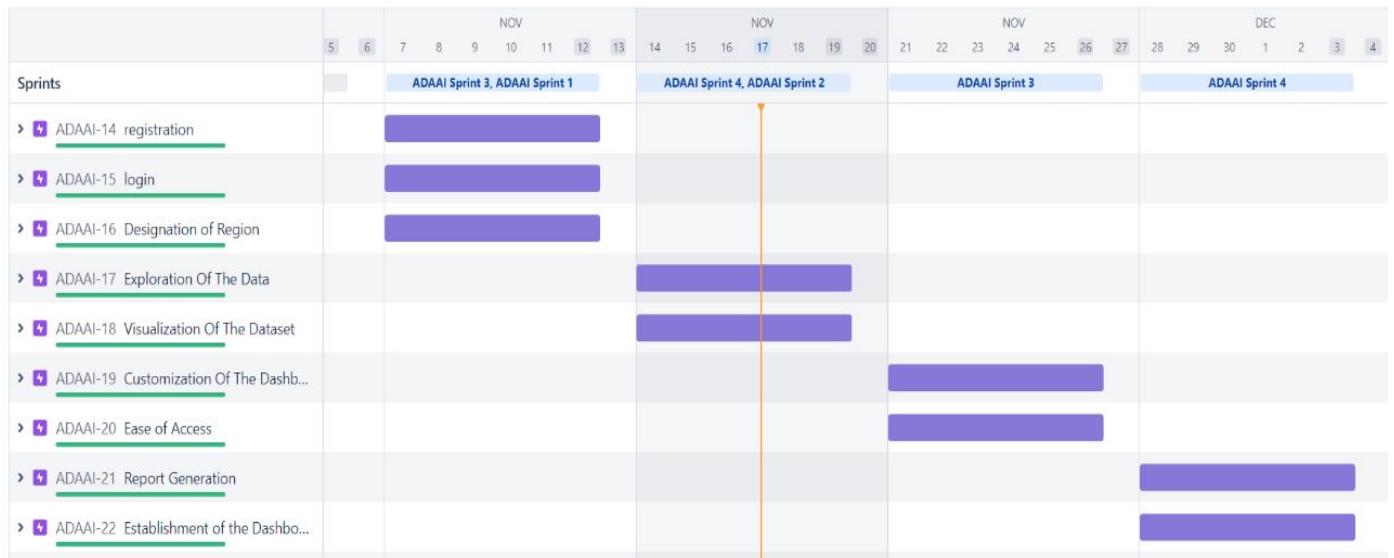
$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{10} = 2$$

Bumdown Chart:

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.



c.Reports from JIRA



7.CODING&SOLUTIONING

- **airports.csv**

#	Field Name	Data Type
1	id	Int
2	ident	Text
3	type	Text
4	name	Text
5	latitude_deg	Geo
6	longitude_deg	Geo
7	elevation_ft	int
8	continent	Text
9	iso_country	Text
10	iso_region	Text
11	municipality	Text
12	scheduled_service	Boolean
13	gps_code	Text
14	iata_code	Text
15	local_code	Text
16	home_link	Text
17	wikipedia_link	Text
18	keywords	Text

- **Countries.csv**

#	Field Name	Type
1	id	Int
2	code	Text
3	name	Text
4	continent	Text
5	wikipedia_link	Text
6	keywords	Text

- **Regions.csv**

#	Field Name	Type
1	id	Int
2	code	Text
3	local_code	Text
4	name	Text
5	continent	Text
6	iso_country	Text
7	wikipedia_link	Text
8	keywords	Text

DATA SETS

Data on airports around the world, their codes, official websites, and much more

<https://www.kaggle.com/patrasaurabh/airstats-data-on-airports-around-the-world>

Dashboard link

[https://us1.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders %2FAirstats%2B-%2BDashboard&action=view&mode=dashboard&subView=model000001844aff832 3_00000003](https://us1.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2FAirstats%2B-%2BDashboard&action=view&mode=dashboard&subView=model000001844aff8323_00000003)

8.TESTING

a.TestCases

Test case ID	Feature Type	Component	Test Scenario	Steps To Execute	Expected Result	Actual Result	Status
LoginPage_TC_001	Functional	Home Page	Verify user is able to see the Login/Sign up popup when user clicked on My account button	1.Enter URL and click go 2.Click on My Account dropdown button 3.Verify login/Sing up popup displayed or not	Login/Sig nup popup should display	Working as expected	Pass
LoginPage_TC_002	UI	dashboa rd page	verify user is able to see airport report in dashboa rd page	1.Airstat dashboard will be displayed. 2.Check if each tab can able to access. 3.Click on the required dataset 4.OBTain the report	required visualisat ion will be display ed on the dashboa rd	working as expected	pass

b.UserAcceptanceTesting

Defect Analysis:

This report shows the number of resolved or closed bugs at each severity level, and how they were resolved.

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	4	2	3	20
Duplicate	1	0	3	0	4
External	2	3	0	1	6
Fixed	11	2	4	20	37
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	5	2	1	8
Totals	24	14	13	26	77

Test Case Analysis :

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

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	51	0	0	51
Security	2	0	0	2
Outsource Shipping	3	0	0	3
Exception Reporting	9	0	0	9
Final Report Output	4	0	0	4
Version Control	2	0	0	2

9.RESULTS

a.PerformanceMetrics

Model Performance Testing ;

Project team shall fill the following information in model performance testing

S.No.	Parameter	Screenshot / Values
1.	Dashboard design	No of Visulizations / Graphs - 18
2.	Data Responsiveness	It shows the output when any of the dataset is selected.
3.	Utilization of Data Filters	Various filter methods were used to filter the dataset values like sort,top or bottom,format data etc.,
4.	Effective User Story	No of tabs Added - 5
5.	Descriptive Reports	No of Visulizations / Graphs -18

10.ADVANTAGES&DISADVANTAGES

- Big data analytics is making it easier to provide better customer service in the aviation industry.
- Some of the benefits include reduced operational costs, better passenger satisfaction, and crisis management.
- Airport authorities and flight operators around the world are investing in data specialties to get this competitive edge over other players.
- Predictive analytics is the key to preparing for future crises and put a

mitigation plan in place

- It helps businesses make data-backed and more informed policy decisions
- Not just sales and customer service, data analytics play a vital role in flight operations and maintenance too

DISADVANTAGES

- Handling the Flood of Data Volume
- Managing Diverse Data Types, Formats, and Structures
- Analyzing and Using Data at the Speed of Now

11.CONCLUSION

This dashboard will help to analyze the delay and makes customers to reach their destination with satisfactory travel. It gives you instant response for your delays. The flights themselves are also much safer because intelligent algorithms can help pilots and air traffic control teams navigate through (or avoid altogether) turbulences and storms.

12.FUTURESCOPE

In future the development at every airways makes a better gateway for booking tickets and our dashboard will work along with the airways directly without any third party concern. After booking the tickets it will redirect to dashboard.

This wave of innovations in aviation will surely impact the wider transport sector as well as the 2030 Agenda for Sustainable Development. These concepts show some examples of what the future has in store – from moving people to delivering packages – the innovations are truly amazing.

If we want this future to become a reality - we need to ensure that everyone communicates and collaborates to make effective use of these innovations.

13.APPENDIX

```

<!doctype html>
<html>

    <head>
        <title>Manage Flights</title>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
        <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.2.1/jquery.min.js"></script>
        <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>
        <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/
font-awesome.min.css">
        <link rel="stylesheet" type="text/css" href="http://fonts.googleapis.com/css?
family=Poppins">

        <link rel="stylesheet" href="mycss.css">
        <script type="text/javascript" src="myjs.js"></script>
    </head>

    <style type="text/css">
        .affix{
            top: 5rem;
        }

        body{
position: relative;
        };

    </style>
    <body data-spy="scroll" data-target="#myscroll">
        <nav class="navbar navbar-inverse" data-spy="affix" style="border-
radius:0px !important; margin:0;border: 0 ; width: 100%;top:0;z-index: 9999 !important">
            <div class="navbar-header">
                <a class="navbar-brand" href="index.html">Airline-
X</a>
            </div>
            <div class="nav navbar-nav navbar-right">
                <li class="dropdown">
                    <a class="drop down-toggle" data-
toggle="drop down" href="#"><span class="glyphicon glyphicon-user"></span>
                    <span class="caret"></span></a>
                    <ul class="dropdown-menu"
style="padding: 1rem 2rem 1rem 2rem; text-align: center;" >
                        <li><a href="#"><b>Admin
Name</b></a></li>
                        <hr>
                        <li><a href="#">View
Profile</a></li>
                        <li><a
href="#">Settings</a></li>
                        <hr>

```



```

                                <li><a
href="#">Logout</a></li>
                                </ul>
                                </li>
                                <ul class="nav navbar-nav navbar-right"
style="padding: 0 3rem 0 0">
                                <li><a href="index.html"><span
class="glyphicon glyphicon-log-out"></span> Logout</a></li>
                                </ul>
                                </div>
                                </div>
                                </nav>
<!--container strat-->

    <div class="container" data-spy="affix" style="margin: 0;bottom: 0;float:
left;top:5rem;width: 20%;height:100%; background-color: #222222">

        <ul class="nav nav-pills nav-stacked" style="border-radius: 0">
            <li>
                <a href="https://us1.ca.analytics.ibm.com/bi/?
perspective=dashboard&pathRef=my_folders%2FAirstats%2B-
%2BDashboard&id=i631F2103A4744C2286DF505A953ABD7F&objRef=i631F2103A4744C2286
DF505A953ABD7F&options%5BdisableGlassPrefetch%5D=true&options%5Bcollections%5D
%5BcanvasExtension%5D%5Bid%5D=com.ibm.bi.dashboard.canvasExtension&options
%5Bcollections%5D%5BfeatureExtension%5D%5Bid%5D=com.ibm.bi.dashboard.core-
features&options%5Bcollections%5D%5Bbuttons%5D%5Bid
%5D=com.ibm.bi.dashboard.buttons&options%5Bcollections%5D%5Bwidget%5D%5Bid
%5D=com.ibm.bi.dashboard.widgets&options%5Bcollections%5D%5BcontentFeatureExtension
%5D%5Bid%5D=com.ibm.bi.dashboard.content-features&options%5Bcollections%5D
%5BsaveServices%5D%5Bid%5D=com.ibm.bi.dashboard.saveServices&options%5Bcollections
%5D%5Btemplates%5D%5Bid%5D=com.ibm.bi.dashboard.templates&options%5Bcollections
%5D%5BvisualizationExtension%5D%5Bid
%5D=com.ibm.bi.dashboard.visualizationExtensionCA&options%5Bcollections%5D
%5BboardModel%5D%5Bid%5D=com.ibm.bi.dashboard.boardModelExtension&options
%5Bcollections%5D%5BcontentType%5D%5Bid
%5D=com.ibm.bi.dashboard.contentType&options%5Bcollections%5D%5BserviceExtension%5D
%5Bid%5D=com.ibm.bi.dashboard.serviceExtension&options%5Bcollections%5D
%5BlayoutExtension%5D%5Bid%5D=com.ibm.bi.dashboard.layoutExtension&options
%5Bcollections%5D%5BcolorSetExtensions%5D%5Bid
%5D=com.ibm.bi.dashboard.colorSetExtensions&options%5Bconfig%5D%5Bproduct
%5D=CA&options%5Bconfig%5D%5BeditPropertiesLabel%5D=true&options%5Bconfig%5D
%5BenableCustomVisualizations%5D=true&options%5Bconfig%5D%5BassetTags%5D%5B
%5D=dashboard&options%5Bconfig%5D%5BfilterDock%5D=true&options%5Bconfig%5D
%5BshowMembers%5D=true&options%5Bconfig%5D%5Bupgrades%5D=dashboard-core%2Fjs
%2Fdashboard%2Fupgrades&options%5Bconfig%5D%5BassetType%5D=exploration&options
%5Bconfig%5D%5BgeoService%5D=CA&options%5Bconfig%5D%5BsmartTitle
%5D=true&options%5Bconfig%5D%5BnavigationGroupAction%5D=true&options%5Bconfig
%5D%5BenableDataQuality%5D=false&options%5Bconfig%5D%5BmemberCalculation
%5D=false&subView=model000001844b156139_00000000%2F&isAuthoringMode=false&boardI
d=i631F2103A4744C2286DF505A953ABD7F">Dashboard </a>
                <ul id="sub1" style="padding: 0 0 0 0">
                    <div class="list-group">

```

```
<li><a href="file:///C:/Users/Swarna/Desktop/main
%20page.html" class="list-group-item">Home</a></li>
<li><a href="https://us1.ca.analytics.ibm.com/bi/?
perspective=story&id=i732D5F1307154C6BB2751A3D4B6D9CC4&objRef=i732D5F1307154C6
BB2751A3D4B6D9CC4&options%5BdisableGlassPrefetch%5D=true&options%5Bcollections
%5D%5BcanvasExtension%5D%5Bid%5D=com.ibm.bi.dashboard.canvasExtension&options
%5Bcollections%5D%5BfeatureExtension%5D%5Bid%5D=com.ibm.bi.dashboard.core-
features&options%5Bcollections%5D%5Bbuttons%5D%5Bid
%5D=com.ibm.bi.dashboard.buttons&options%5Bcollections%5D%5Bwidget%5D%5Bid
%5D=com.ibm.bi.dashboard.widgets&options%5Bcollections%5D%5BcontentFeatureExtension
%5D%5Bid%5D=com.ibm.bi.dashboard.content-features&options%5Bcollections%5D
%5BsaveServices%5D%5Bid%5D=com.ibm.bi.dashboard.saveServices&options%5Bcollections
%5D%5Btemplates%5D%5Bid%5D=com.ibm.bi.dashboard.templates&options%5Bcollections
%5D%5BvisualizationExtension%5D%5Bid
%5D=com.ibm.bi.dashboard.visualizationExtensionCA&options%5Bcollections%5D
%5BboardModel%5D%5Bid%5D=com.ibm.bi.dashboard.boardModelExtension&options
%5Bcollections%5D%5BcontentTypes%5D%5Bid
%5D=com.ibm.bi.dashboard.contentTypes&options%5Bcollections%5D%5BserviceExtension%5D
%5Bid%5D=com.ibm.bi.dashboard.serviceExtension&options%5Bcollections%5D
%5BlayoutExtension%5D%5Bid%5D=com.ibm.bi.dashboard.layoutExtension&options
%5Bcollections%5D%5BcolorSetExtensions%5D%5Bid
%5D=com.ibm.bi.dashboard.colorSetExtensions&options%5Bconfig%5D%5BliveWidgetExtras
%5D%5B%5D=reveal&options%5Bconfig%5D%5Bproduct%5D=CA&options%5Bconfig%5D
%5BeditPropertiesLabel%5D=true&options%5Bconfig%5D%5BenableCustomVisualizations
%5D=true&options%5Bconfig%5D%5BassetTags%5D%5B%5D=story&options%5Bconfig%5D
%5BfilterDock%5D=true&options%5Bconfig%5D%5BshowMembers%5D=true&options
%5Bconfig%5D%5Bupgrades%5D=dashboard-core%2Fjs%2Fdashboard%2Fupgrades&options
%5Bconfig%5D%5BassetType%5D=exploration&options%5Bconfig%5D%5BgeoService
%5D=CA&options%5Bconfig%5D%5BsmartTitle%5D=true&options%5Bconfig%5D
%5BnavigationGroupAction%5D=true&options%5Bconfig%5D%5BenableDataQuality
%5D=false&options%5Bconfig%5D%5BmemberCalculation
%5D=false&isAuthoringMode=false&boardId=i732D5F1307154C6BB2751A3D4B6D9CC4&scen
eId=" class="list-group-item">story</a></li>
```

```
</div>
```

```
</ul>
```

```
</li>
```

```
<li>
```

```
<a href="#" id="m2">Flight Schedule</a>
```

```
<ul id="sub2" style="padding: 0 0 0 0; display: none;">
```

```
<div class="list-group">
```

```
<a href="newflight.html" class="list-group-item">Add new
```

```
Flight</a>
```

```
<a href="manageflights.html" class="list-group-
```

```
item">Manage flights</a>
```

```
</div>
```

```
</ul>
```

```
</li>
```

```
<li>
```

```
<a href="#" id="m3">available flights</a>
```

```
<ul id="sub3" style="padding: 0 0 0 0; display: none;">
```

```
<div class="list-group">
```



```

item">Add new airbus</a>
item">Manage Airbus</a>
</div>
</ul>
</li>
<li>
<a href="#" id="m4">Accounts</a>
<ul id="sub4" style="padding: 0 0 0 0; display: none;">
<div class="list-group">
item">Create new account</a>
item">Password Reset</a>
</div>
</ul>
</li>
</ul>
</div>

<!--scrooll container start-->
<div id="#myscroll" class="container" style="margin-left: 0;margin-top:
5rem; float: right; width:80%; padding: 0 5rem 0 5rem">
<h2>Manage Flights</h2>
<hr>
<div>
<button class="btn btn-primary"><a href="newflight.html"
style="color: white"><i class="fa fa-plus"></i> New Flight</a></button>
</div>
<br>
<table class="table table-striped table-hover">
<thead>
<tr>
<th>#</th>
<th>FlightNo</th>
<th>From</th>
<th>To</th>
<th>Departure Date</th>
<th>Time</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4091</td>
<td>Lahore</td>
<td>Karachi</td>
<td>20/10/2017</td>

```



```

        <td>04:30 pm</td>
        <td>200</td>
        <td>
            <a href=""><i class="fa fa-pencil"></i></a>
            <a href="#myModal" role="button" data-
toggle="modal"><i class="fa fa-trash-o"></i></a>
        </td>
    </tr>
    <tr>
        <td>2</td>
        <td>1023</td>
        <td>Lahore</td>
        <td>London</td>
        <td>20/10/2017</td>
        <td>04:50 pm</td>
        <td>300</td>
        <td>
            <a href=""><i class="fa fa-pencil"></i></a>
            <a href="#myModal" role="button" data-
toggle="modal"><i class="fa fa-trash-o"></i></a>
        </td>
    </tr>
    <tr>
        <td>3</td>
        <td>1955</td>
        <td>Lahore</td>
        <td>Canada</td>
        <td>20/10/2017</td>
        <td>10:30 pm</td>
        <td>150</td>
        <td>
            <a href=""><i class="fa fa-pencil"></i></a>
            <a href="#myModal" role="button" data-
toggle="modal"><i class="fa fa-trash-o"></i></a>
        </td>
    </tr>
</tbody>
</table>

<ul class="pagination">
    <li><a href="#">&laquo;</a></li>
    <li class="active"><a href="#">1</a></li>
    <li><a href="#">2</a></li>
    <li><a href="#">3</a></li>
    <li><a href="#">4</a></li>
    <li><a href="#">5</a></li>
    <li><a href="#">&raquo;</a></li>
</ul>

</div>

<div class="modal small fade" id="myModal" tabindex="-1"

```

```

role="dialog" aria-labelledby="myModalLabel" aria-hidden="true">
    <div class="modal-dialog">
        <div class="modal-content">
            <div class="modal-header">
                <button type="button" class="close" data-
dismiss="modal" aria-hidden="true">×</button>
                <h3 id="myModalLabel">Delete
Confirmation</h3>
            </div>
            <div class="modal-body">
                <p class="error-text"><i class="fa fa-warning
modal-icon"></i> Are you sure you want to delete the Flight?<br>This cannot be undone.</p>
            </div>
            <div class="modal-footer">
                <button class="btn btn-default" data-
dismiss="modal" aria-hidden="true">Cancel</button>
                <button class="btn btn-danger" data-
dismiss="modal">Delete</button>
            </div>
        </div>
    </div>
</div>
</div>
</body>
</html>

```

```

<script type="text/javascript">
    $
    ("#m1").click({param1:"#sub1",param2:"#sub2",param3:"#sub3",param4:"#sub4"},navbar_movme
nt);
    $
    ("#m2").click({param1:"#sub2",param2:"#sub1",param3:"#sub3",param4:"#sub4"},navbar_movme
nt);
    $
    ("#m3").click({param1:"#sub3",param2:"#sub1",param3:"#sub2",param4:"#sub4"},navbar_movme
nt);
    $
    ("#m4").click({param1:"#sub4",param2:"#sub1",param3:"#sub2",param4:"#sub3"},navbar_movme
nt);

</script>

```

Github link :

<https://github.com/IBM-EPBL/IBM-Project-34068-1660231235>

Video demonstration link :

<https://youtu.be/Nwf72o4MfnA>

