

**Department of Computer Science and Engineering**

**Report on Mini Project**  
**Airport Management**

**Course Name:**

**Database Management System**

**Semester: V SEM**

**Section: C Section**

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## **ABSTRACTION**

The database is based on Airport Management. Airport management system primarily deals with management of airport, airlines and passengers. The system provides broad underlying operational factors that influence the Airport management. The object of this project is to design and implement Airport management with user interface and administrator interface using PHP. It includes details such as passenger with fields such as name, address, phone number and passport details which will be stored in the data base for verification. Reservations details help in reserving seats for the passenger with other details such as providing details to the administrator.

Flight details have to be maintained including Flight code, Airline ID, Source, Destination etc which is to be considered during reservation.

Airport management is developed using PHP and MY SQL SERVER.

## **OBJECTIVES**

The main objective of the project is to learn and implement a real time application on database for Airport management. This database will be great solution for many functionalities in Airport.

## REQUIREMENTS

- The Airport management system primarily deals with management of airport, airlines and flights. The system provides a broad overview of the factors that affect an airport management system.
- The database system has the data of the commercial airports.
- An airport is located in a city.
- We assume that every airport has an airline office in it.
- Airline companies serve flights.
- Every flight has a code associated with it and this code is unique to it.
- Flight serves passengers as it carries a passenger from source to destination.
- Flight can be of two types, arrivals and departures, each having their specific arrival date, arrival time, and departure date, departure time.
- The website also should have an admin through which the data on the website can be adjusted, including adding, removing flights from the time table.

## ENTITIES

- Airline (airlineID, al\_name, 3\_digit\_code, airportno).
  - AirlineID is the primary key and airportno is the foreign key referred from Airport table.
- Airport (Airportno, airportname, State, Country, City).
  - Airportno is the primary key.
- Flight (flightCode, Source, Destination, Arrival, Departure, Duration, airlineID, sid, did).
  - Flightcode is the primary key and airlineID is the foreign key referred from Airline table and sid, did are the foreign key referred from Airport table .
- Passenger (Pid, PassportNo, Fname, Lname, Address, Phone, Sex, Age).
  - Pid is the primary key.
- Books (pid, ticketno, dateofbooking).

- Pid is the primary key and ticketno is the foreign key referred from Ticket table.
- Ticket (ticketNo, tsource, tdestination, date of travel, seatNo, price, flightcode).
  - Ticketno is the primary key and flightcode is the foreign key is referred from Flight table.

## ALGORITHMS

### INSERT

- Use the 'Sql\_con' for connection in module to insert the values from front end to back end using SqlConnection.
- 'sql\_command' is declared as SqlCommand to execute a command.
- Insert the values to textbox.
- If the inserted value is null.
- Give the message as enter the data.
- Assign con to com to establish connection.
- Write the insert code to insert the values, order of attributes for insert command should be in the values from same order as in back end.
- We have to write execute query to execute this insert command.
- Then give the message as data inserted.

### DELETE

- Use the 'Sql\_con' for connection in module to insert the values from front end to back end

- 'sql\_command' is declared as SqlConnection.SqlCommand to execute a command.
- Insert the value to textbox.
- If the inserted value is null
- Give the message as enter the data
- If the entered value is integer instead of character
- Then give the message as enter the string
- Assign con to com to establish connection
- Write the delete code to delete the values specify the attribute name and textbox
- We have to write execute query to execute this delete command
- Then give the message as data deleted

## UPDATE

- Use the 'Sql\_con' for connection in module to insert the values from front end to back end .
- 'sql\_command' is declared as SqlConnection.SqlCommand to execute a command.
- Insert the value to textbox.
- If the textbox is null, give an error message.
- Assign con to com to establish connection.
- Write the update command to change old value to new value by specifying the new value and It's old value and name.
- Write execute query to execute this command.
- Then the message as updated.

## Schema diagram:

### AIRPORT

airportno	airportname	astate	city	country
-----------	-------------	--------	------	---------

### AIRLINE

airlineid	al_name	3digitcode	airportno
-----------	---------	------------	-----------

### FLIGHT

flightcode	arrival	departure	source	destination	duration	airlineid	sid	did
------------	---------	-----------	--------	-------------	----------	-----------	-----	-----

### PASSENGER

pid	paddress	fname	lname	sex	age	phone	passportno
-----	----------	-------	-------	-----	-----	-------	------------

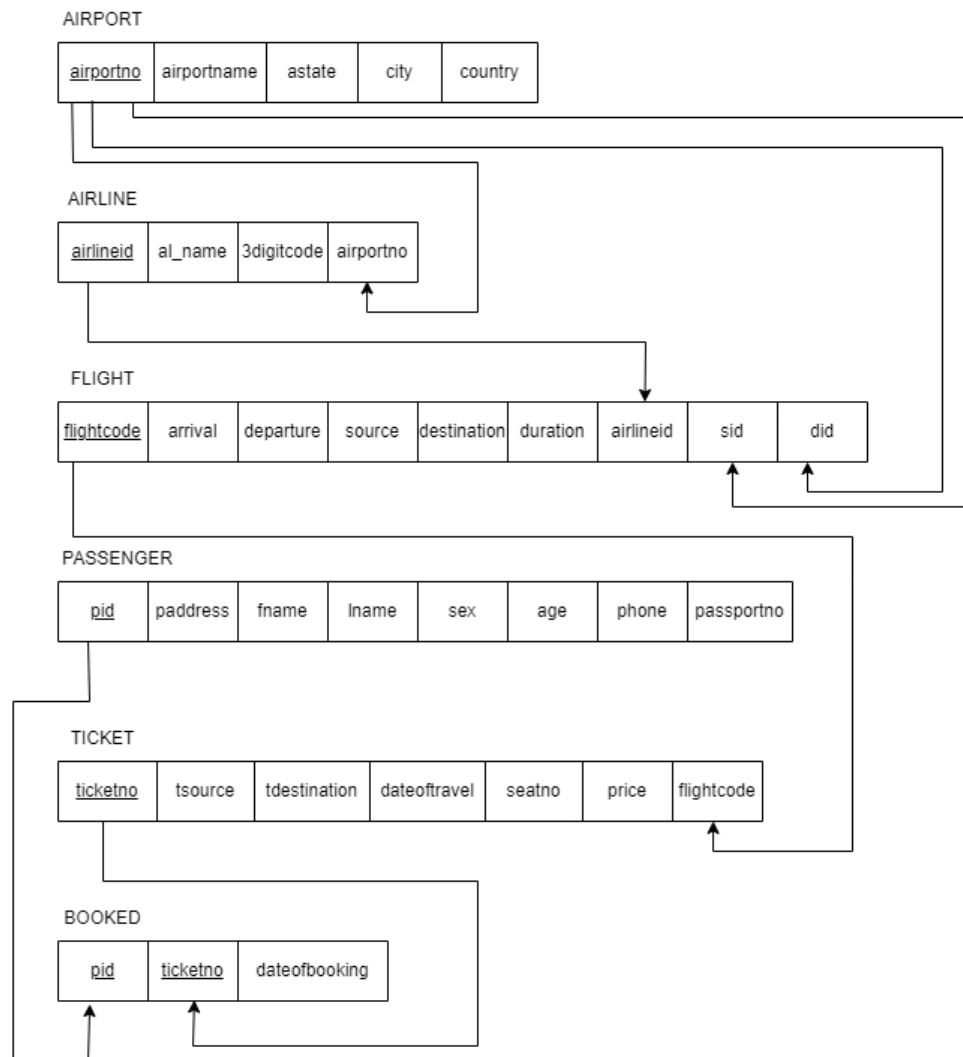
### TICKET

ticketno	tsource	tdestination	dateoftravel	seatno	price	flightcode
----------	---------	--------------	--------------	--------	-------	------------

### BOOKED

pid	ticketno	dateofbooking
-----	----------	---------------

## Relational Schema Diagram:



# Structure of AIRLINE table:

Browse

Structure

SQL

Search

Insert

Export

Import

Privileges

Operations

Tracking

Triggers

Table structure

Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 <b>airlineID</b>	varchar(10)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	2 <b>al_name</b>	varchar(20)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
<input type="checkbox"/>	3 <b>3digitcode</b>	varchar(3)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
<input type="checkbox"/>	4 <b>airportno</b>	int(11)			Yes	NULL			Change  Drop  More

☐ Check all

With selected:

Browse Change Drop Primary Unique Index Spatial Fulltext Add to central columns

Remove from central columns

Print Propose table structure Track table Move columns Normalize

Add

1

column(s)

after airportno

Go

Indexes

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit  Rename  Drop	PRIMARY	BTREE	Yes	No	airlineID	6	A	No	
Edit  Rename  Drop	airportno	BTREE	No	No	airportno	2	A	Yes	

Create an index on 

1

 columns 

Go

Partitions

No partitioning defined!

Console

able



# Structure of AIRPORT table

Browse

Structure

SQL

Search

Insert

Export

Import

Privileges

Operations

Tracking

Triggers

Table structure

Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 <b>Airportno</b>	int(2)			No	None			Change  Drop  More
<input type="checkbox"/>	2 <b>airportname</b>	varchar(50)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	3 <b>astate</b>	varchar(20)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
<input type="checkbox"/>	4 <b>city</b>	varchar(20)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
<input type="checkbox"/>	5 <b>country</b>	varchar(20)	utf8mb4_general_ci		Yes	India			Change  Drop  More

☐ Check all

With selected:

Browse Change Drop Primary Unique Index Spatial Fulltext Add to central columns

Remove from central columns

Print Propose table structure Track table Move columns Normalize

Add 1 column(s) after country Go

Indexes

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit  Rename  Drop	PRIMARY	BTREE	Yes	No	Airportno	9	A	No	

Create an index on 1 columns Go

Partitions

No partitioning defined!

Console

# Structure of BOOKED table:

Browse

Structure

SQL

Search

Insert

Export

Import

Privileges

Operations

Tracking

Triggers

Table structure

Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 pid	int(11)			No	None			Change  Drop  More
<input type="checkbox"/>	2 ticketno	int(11)			No	None			Change  Drop  More
<input type="checkbox"/>	3 dateofbooking	date			Yes	NULL			Change  Drop  More

☐ Check all

With selected:

Browse Change Drop Primary Unique Index Spatial Fulltext Add to central columns

Remove from central columns

Print Propose table structure Track table Move columns Normalize

Add  column(s) 

after dateofbooking

 Go

Indexes

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit  Rename  Drop	PRIMARY	BTREE	Yes	No	pid	37	A	No	
Edit  Rename  Drop	ticketno	BTREE	No	No	ticketno	37	A	No	

Create an index on  columns Go

Partitions

No partitioning defined

Partition table

Console

# Structure of FLIGHT table:

Browse

Structure

SQL

Search

Insert

Export

Import

Privileges

Operations

Tracking

Triggers

Table structure

Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	<b>flightcode</b>	varchar(10)	utf8mb4_general_ci	No	None			Change  Drop  More
<input type="checkbox"/>	2	<b>arrival</b>	datetime		Yes	NULL			Change  Drop  More
<input type="checkbox"/>	3	<b>departure</b>	datetime		Yes	NULL			Change  Drop  More
<input type="checkbox"/>	4	<b>source</b>	varchar(50)	utf8mb4_general_ci	Yes	NULL			Change  Drop  More
<input type="checkbox"/>	5	<b>destination</b>	varchar(50)	utf8mb4_general_ci	Yes	NULL			Change  Drop  More
<input type="checkbox"/>	6	<b>duration</b>	time		Yes	NULL			Change  Drop  More
<input type="checkbox"/>	7	<b>airlineID</b>	varchar(10)	utf8mb4_general_ci	Yes	NULL			Change  Drop  More
<input type="checkbox"/>	8	<b>sid</b>	int(11)		Yes	NULL			Change  Drop  More
<input type="checkbox"/>	9	<b>did</b>	int(11)		Yes	NULL			Change  Drop  More

☐ Check all

With selected:

Browse Change Drop Primary Unique Index Spatial Fulltext Add to central columns

Remove from central columns

Print Propose table structure Track table Move columns Normalize

Add

column(s)

Indexes

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit  Rename  Drop	PRIMARY	BTREE	Yes	No	flightcode	43	A	No	
Edit  Rename  Drop	airlineID	BTREE	No	No	airlineID	14	A	Yes	

Console

# Structure of TICKET table:

Browse

Structure

SQL

Search

Insert

Export

Import

Privileges

Operations

Tracking

Triggers

Table structure

Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 ticketno	int(11)			No	None			Change  Drop  More
<input type="checkbox"/>	2 tsource	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
<input type="checkbox"/>	3 tdestination	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
<input type="checkbox"/>	4 dateoftravel	date			Yes	NULL			Change  Drop  More
<input type="checkbox"/>	5 seatno	int(11)			Yes	NULL			Change  Drop  More
<input type="checkbox"/>	6 price	int(11)			Yes	NULL			Change  Drop  More
<input type="checkbox"/>	7 flightcode	varchar(10)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More

☐ Check all

With selected:

Browse Change Drop Primary Unique Index Spatial Fulltext Add to central columns

Remove from central columns

Print Propose table structure Track table Move columns Normalize

Add  column(s) 

after flightcode

 Go

Indexes

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit  Rename  Drop	PRIMARY	BTREE	Yes	No	ticketno	430	A	No	
Edit  Rename  Drop	flightcode	BTREE	No	No	flightcode	86	A	Yes	

Create an index on  columns Go

Console

# Structure of PASSENGER table:

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers										
Table structure Relation view										
#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action	
<input type="checkbox"/>	1 <b>pid</b>	int(11)			No	None			Change  Drop  More	
<input type="checkbox"/>	2 <b>address</b>	varchar(100)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More	
<input type="checkbox"/>	3 <b>fname</b>	varchar(20)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More	
<input type="checkbox"/>	4 <b>lname</b>	varchar(20)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More	
<input type="checkbox"/>	5 <b>age</b>	int(11)			Yes	NULL			Change  Drop  More	
<input type="checkbox"/>	6 <b>sex</b>	varchar(6)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More	
<input type="checkbox"/>	7 <b>phone</b>	varchar(15)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More	
<input type="checkbox"/>	8 <b>passportno</b>	int(11)			Yes	NULL			Change  Drop  More	
<div> <input type="checkbox"/> Check all <span>With selected:</span>  Browse  Change  Drop  Primary  Unique  Index  Spatial  Fulltext  Add to central columns</div> <div> Remove from central columns</div>										
<div> Print  Propose table structure  Track table  Move columns  Normalize</div> <div> Add <input type="text" value="1"/> column(s) <span>after passportno</span>  Go</div>										
Indexes										
Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment	
Edit  Rename  Drop	PRIMARY	BTREE	Yes	No	pid	31	A	No		
Edit  Rename  Drop	passportno	BTREE	Yes	No	passportno	31	A	Yes		
Console										

## Output Window:

The screenshot displays the 'Airport Management' web application. At the top, the title 'Airport Management' is centered. Below the title, there are three navigation buttons: 'PASSENGER DETAILS' (highlighted in blue), 'ADD TICKETS', and 'TABLE'. A horizontal line separates the navigation bar from the main content area. In the main content area, there is a form with the label 'Enter Passenger ID' above a text input field. To the right of the input field is a blue 'SUBMIT' button. Below the input field is a blue button labeled 'ADD NEW PASSENGER'.

Start page: This page load when the software is run. This page contains navigation buttons to –

1. Passenger details section
2. Add ticket section
3. Table section

## Airport Management

PASSENGER DETAILSADD TICKETSTABLE

---

Enter Passenger ID

SUBMIT

ADD NEW PASSENGER

First Name

Last Name

Gender

MALEFEMALEOTHER

Address

Phone

Age

Passport Number

SUBMIT

Add Passenger section: When add passenger button is clicked a form is displayed so that the administration is able to enter the passenger details. When submit button is clicked the page will return new passenger id.

## Airport Management

PASSENGER DETAILSADD TICKETSTABLE

---

Enter Passenger ID

SUBMIT

ADD NEW PASSENGER

---

### Passenger details:

Name : Aneesha Salian  
Address : Plot No 29,Sector23,cidco, Mumbai Maharashtra-400705  
Sex : F  
Age : 32  
Phone : 9592104999  
Passport Number : 4071151

---

### Ticket Details:

Ticket Number : 87704  
Source : Vadodar Airport  
Destination : Kempegowda International Airport  
Seat Number : 5  
Price : 3440  
Flight code : IAD04  
Arrival : 2022-12-10 12:50:00  
Departure : 2022-12-10 14:30:00  
Duration : 02:40:00

---

Passenger details section: When appropriate passenger id is entered the page will return details of the particular passenger. Details include personal details and ticket details.

### Airport Management

PASSENGER DETAILS

ADD TICKETS

TABLE

Source

Delhi

▼

Destination

Maharastra

▼

SEARCH FLIGHTS



Add Ticket section: The administrator is allowed to select any combinations of source and destination. After clicking the Search button following page will be loaded.

The screenshot displays a web interface for adding a ticket. At the top, there is a form with a label "Enter Passenger ID:" followed by a text input field and a blue "SET" button. Below this, there are two flight options presented in separate boxes. Each box contains the source airport, the departure date and time, the destination airport, the arrival date and time, the price, and a "BOOK TICKET" button. The first flight is from Chhatrapati Shivaji Maharaj International Airport to Mangaluru Airport, departing on 2022-12-11 at 10:35:00 and arriving on 2022-12-11 at 12:45:35, with a price of \$6400.00. The second flight is from Chhatrapati Shivaji Maharaj International Airport to Kempegowda International Airport, departing on 2022-12-10 at 22:15:00 and arriving on 2022-12-11 at 23:30:00, with a price of \$8060.00.

Source Airport	Departure Date & Time	Destination Airport	Arrival Date & Time	Price	Action
Chhatrapati Shivaji Maharaj International Airport	2022-12-11 10:35:00	Mangaluru Airport	2022-12-11 12:45:35	\$6400.00	BOOK TICKET
Chhatrapati Shivaji Maharaj International Airport	2022-12-10 22:15:00	Kempegowda International Airport	2022-12-11 23:30:00	\$8060.00	BOOK TICKET

Search Result Page: This page displays all the available flight. Details such as source, destination, arrival, departure and price of the ticket is mentioned.

The administrator must enter the passenger id and then click set and choose any ticket by clicking Book Ticket button.

By clicking this the passenger is booked with ticket.

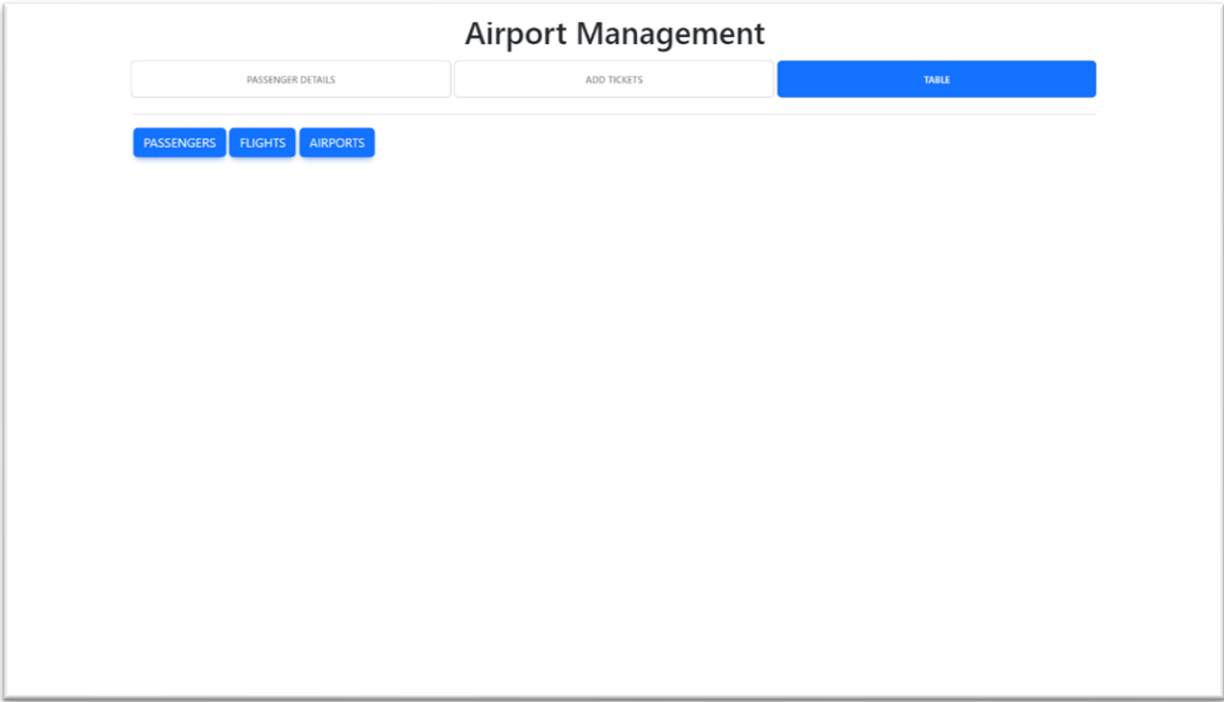


Table Section: This page allows administrator to choose any table to display.

PASSENGER DETAILS

ADD TICKETS

TABLE

PASSENGERS

FLIGHTS

AIRPORTS

#	Passenger Id	Address	First Name	Last Name	Age	Sex	Phone	Passport Number
1	65501	53d Phase V,Udyog vihar, Delhi Haryana-122001	Prajwal	Kumar	25	M	9512450119	3119585
2	65502	210 Fabricon Estate,Shastri Nagar Maharashtra-400054	Ananda	Bhandari	45	M	9535482563	9137925
3	65503	19/4,Tsp Road Fort,Kalasipalyam Bangalore,Karnataka-560002	Naman	Suvarna	22	M	9071990964	5498838
4	65504	8-b,Paras Bldg Nagar Thakur, Mumbai,Maharashtra-560002	Ayush	Hegde	29	M	6562995782	1242853
5	65505	Plot No 29,Sector23,cidco, Mumbai Maharashtra-400705	Aneesha	Salian	32	F	9592104999	4071151
6	65506	C 33,Acharaya Niketan,Mayur Vihar Delhi,Haryana-110091	Yusuf	Abdul	47	M	9851163524	7365536
7	65507	Paldi Char Rasta,nr Udiipi Hote Ahmedabad,Gujarat-380007	Keertana	kamath	29	M	6532525269	4017151
8	65508	335,Inder Lok,Opp Bari Mysore,Karnataka-110035	Pavan	Kamath	20	M	4526358585	2065510
9	65509	Nehru Place,Lal Kothi Scheme, Jaipur,Rajasthan-302015	Vijay	Jat	35	M	7856563325	6413091
10	65510	D Floor,Near Nagpur Parishad, Mumbai,Maharashtra-401204	Shalini	Kapoor	39	F	8562454575	3123928
11	65511	3-301,1,Panna Bhavan No,Opp Ajmer,Rajasthan-401303	Anita	Sarabhai	31	F	4578808622	7355671
12	65512	29/45,gurukrupa society, Pune,Maharashtra-411027	Shwetha	Salian	28	F	6235455141	3591154
13	65513	Shop No 32,Laram Centre,Andheri, Mumbai,Maharashtra	Roshan	Hegde	20	M	6652458511	5253384
14	65514	13-882,Fci Road,Surya Nagar Colony, Hyderabad,AndraPradesh-500076	Lionel	Prakash	45	M	4521652555	4333529
15	65515	294,Walltaxrd,Park Town Chennai,TamilNadu-600004	Mohit	Mohan	25	M	4525625489	1525448
16	65516	81,R V Road,Next to Silicon Honda, Showroom,Basavanagudi-560004	Arun	Kumar	24	M	9584625215	8569841

## Airport Management

PASSENGER DETAILS

ADD TICKETS

TABLE

PASSENGERS

FLIGHTS

AIRPORTS

#	Airport Name	State	City	Country
1	Indira Gandhi International Airport	Delhi	New Delhi	India
2	Chhatrapati Shivaji Maharaj International Airport	Maharashtra	Mumbai	India
3	Shirdi Airport	Maharashtra	Shirdi	India
4	Mangaluru Airport	Karnataka	Mangaluru	India
5	Kempegowda International Airport	Karnataka	Bangaluru	India
6	Vadodar Airport	Gujarat	Vadodar	India
7	Jabalpur Airport	Madhya Pradesh	Jabalpur	India
8	Kanpur Airport	Uttar Pradesh	Kanpur	India
9	Nal Airport	Rajasthan	Bikaner	India

## Airport Management

PASSENGER DETAILS

ADD TICKETS

TABLE

PASSENGERS

FLIGHTS

AIRPORTS

#	Flight Code	Departure	Arrival	Source	Destination	Duration
1	AIC01	2022-12-10 14:30:00	2022-12-10 12:30:30	Indira Gandhi International Airport	Kempegowda International Airport	02:00:30
2	AIC02	2022-12-11 12:45:35	2022-12-11 10:35:00	Chhatrapati Shivaji Maharaj International Airport	Mangaluru Airport	02:10:35
3	AIC03	2022-12-10 12:35:41	2022-12-10 11:30:41	Kempegowda International Airport	Chhatrapati Shivaji Maharaj International Airport	01:05:00
4	AIC04	2022-12-12 12:35:41	2022-12-12 11:30:41	Vadodar Airport	Chhatrapati Shivaji Maharaj International Airport	01:05:00
5	AIC05	2022-12-11 12:35:41	2022-12-11 11:30:41	Jabalpur Airport	Shirdi Airport	01:05:00
6	AIC06	2022-12-10 12:35:41	2022-12-10 11:30:41	Kanpur Airport	Chhatrapati Shivaji Maharaj International Airport	01:05:00
7	AIC07	2022-12-13 12:35:41	2022-12-13 11:30:41	Nal Airport	Chhatrapati Shivaji Maharaj International Airport	01:05:00
8	AXB01	2022-12-12 18:30:00	2022-12-12 15:15:00	Indira Gandhi International Airport	Jabalpur Airport	03:15:00
9	AXB02	2022-12-14 15:15:50	2022-12-14 14:00:10	Shirdi Airport	Jabalpur Airport	01:45:40
10	AXB03	2022-12-11 15:20:00	2022-12-11 13:50:00	Kempegowda International Airport	Jabalpur Airport	02:30:00
11	AXB04	2022-12-11 15:20:00	2022-12-11 13:50:00	Vadodar Airport	Jabalpur Airport	02:30:00
12	AXB05	2022-12-12 17:20:00	2022-12-12 15:50:00	Jabalpur Airport	Vadodar Airport	02:30:00
13	AXB06	2022-12-11 16:20:00	2022-12-11 14:50:00	Kanpur Airport	Vadodar Airport	02:30:00
14	AXB07	2022-12-10 15:20:00	2022-12-10 13:50:00	Nal Airport	Vadodar Airport	02:30:00
15	AXB08	2022-12-11 23:30:00	2022-12-10 22:15:00	Chhatrapati Shivaji Maharaj International Airport	Kempegowda International Airport	01:15:00
16	IAD01	2022-12-11 19:30:30	2022-12-11 18:15:00	Indira Gandhi International Airport	Vadodar Airport	01:15:30

## Conclusion:

With this report we conclude that our software can be used in Airport across the country. Using this software we can keep track of all the Airline and help in efficient ticket booking. This project can be deployed as a fully functional web page with a few additional features.

