MAKE MY TRIP SYSTEM

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1. INTRODUCTION

To create MakeMyTrip system for the users where they can book transport and hotels for the selected holiday destination. The application is to be develop a Console Based Application. Information regarding Destinations, Hotels, Mode of Transport, Tickets, Users, HotelBooking, Trips should be maintained by MakeMyTrip . Today's extremely exhausting work environment dictates that individuals requires some joyful holiday. We provide stress-free joyful refreshing holidays with cost competitive and customized packages according to their requirements.We provide services in almost each and every city of India. We want to serve our customers with best possible service and provide them the kind of comfort they want. We also want to customize our tours as per our customer's requirement without reducing joy or quality of tour. People of all ages and backgrounds will come to enjoy the unique, upscale, joyful, and refreshing environment that MakeMyTrip provides. We provide the transportation through its Airways, Railways and busses. According to the tour packages we provide the facilities to customers such as hotels, guesthouses, rental cars. It may vary from customer to customer and packages according to need. We offer new products and concepts from time to time. Keeping the effect of change of seasons on the human mind and body, we revise our itineraries regularly. This is because the comfort and the satisfaction of our customers are paramount to us. MakeMyTrip offer a large range of travel opportunities. Whether you're looking for a weekend getaway to relax and indulge, a special holiday with friends and family, a trip to your favorite chill out spot or a new adventure, you've come to the right place. MakeMyTrip offers great deals and discounts on flights, railways, hotels, holiday packages, car rental and travel activities everything you need to plan, shop etc.

1.1 PURPOSE

The Project Trip planner system has the following goals:

1. Provide users with an interface through which they may log into the system.

2. Develop to provide best travelling services to the customers and travel agents.

3. We have developed trip planner project system to provide a search platform where a tourist can find their tour places according to their choices.

4. This system also helps to promote responsible and interesting tourism so that people can enjoy their holidays at their favorable places.

5. We develop this system to create and promote forms of tourism that provide healthy interaction opportunities for tourists and locals and increase better understanding of different cultures, customs, lifestyles, traditional knowledge and believes.

6. This system also provide a better way to connect with various events.

7. Once the user decides upon the trip to go for, the user will be presented an option to book flight tickets directly from the application.

8. The application can act as single solution to cater to all needs of the trip like booking the taxi for pick and drop, buying calling cards, booking the hotel, Visa information, weather details etc

1.2 NEED/MOTIVATION

In today's day and age people often need a break from their busy lives to spend some time with family and friends or simply travel for there own purpose but never get satisfactory hotels, transport facilities and destination brochure. This motivated us to create a tourism management system which helps the travellers experience a better and satisfactory journey from the start to end.

2. LITERATURE SURVEY

There are a number of other related surveys that have already been published. In this section, we present a closely related survey exploring approaches for touristic trip planning, as well as two other less related surveys that compare tourist information systems that are designed for a more general purpose. A more closely related survey is presented in [4], which makes a comparison for some of the existing tour scheduling approaches. This survey outlines the lack of support for scenic routes, hotel selection, public transportation and group profiles. Moreover, it is concluded that provision of automated POI selection and routing is an upcoming trend in tourist recommender applications. The need to propose customized touristic tour planning with acceptable response time is highlighted. The City Trip Planner presented in [5] is singled out as the most unique integrated system for web based tourist decision support. Our approach extends this survey by adding additional comparison function

3.REQUIREMENTS

3.1 FUNCTIONAL REQUIREMENTS

To create MakeMyTrip system for the users where they can book transport and hotels for the selected holiday destination. Information regarding Destinations, Hotels, ModeOfTransport, Tickets, Users, HotelBooking, Trips should be maintained by MakeMyTrip as binary files.

The registered customer of MakeMyTrip is allowed to choose a holiday destination. Now he/she will be allowed to select the particular mode from the different modes of transports. Transport should contain at least two modes to reach the destination (E.g.: Train-Cab, Flight- Bus, etc.). There should be simple reservation for transport booking and then the ticket is

generated. In hotel bookings, the listings are allowed to have some filters and sort logic. The customer can skip the hotel bookings. Now, the cost for the trip is displayed to proceed for the payment. The customer is allowed to check his/her planned trip and the facility to cancel. And he/she is allowed to check the transport details. The system should handle the data error properly and displaying the appropriate messages to user. The system should generate the reports in proper format (display and exportable to csv).The system should include the security feature such as storing encrypted password of the customer.

3.2 FUNCTIONAL COMPONENTS

MAIN MODULE

1. Admin login- Username , Password
2. Customer registration-Username , Password ,email id ,phone number, Address
3. Customer login - Username , Password
4. Exit

1. Administrator Module

- o Manage Destinations
- o Manage Hotels
- o Manage Transports modes - Train-Cab, Flight-Bus
- o View Hotel bookings

  for given hotel for given date range

o View tickets

for given customer for given date

o Destination Screen

o Add new destination :GOA, LADAKH, HYDERABAD

Hotel:Name ,Number of rooms, price

transport mode : Source, fair, number of persons travelling , date of travel

o Modify destination

o Delete destination

o Logout

o Exit

2. Customer Module :

o Plan trip

-pickup destination

-book hotel

display hotel and price for the destination

-book transport by mode

source

price

date of travel

number of persons travelling

name of person, age

o View Trip

o logout

o Exit

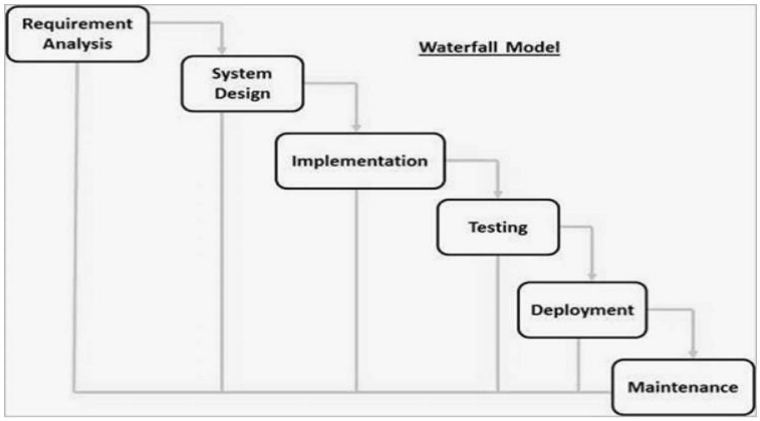
3.3 HARDWARE REQUIREMENTS

- Intel i3 or higher
- Microsoft Windows 7/8/8.1/10
- Access to Linux using Virtual box
- 4GB of RAM (1GB for linux in vbox)

3.4 SOFTWARE REQUIREMENTS

- Visual studio/ notepad++/ text editor
- vi editor (To write code using C).

3.5 WATERFALL MODEL



4. SYSTEM ARCHITECTURE

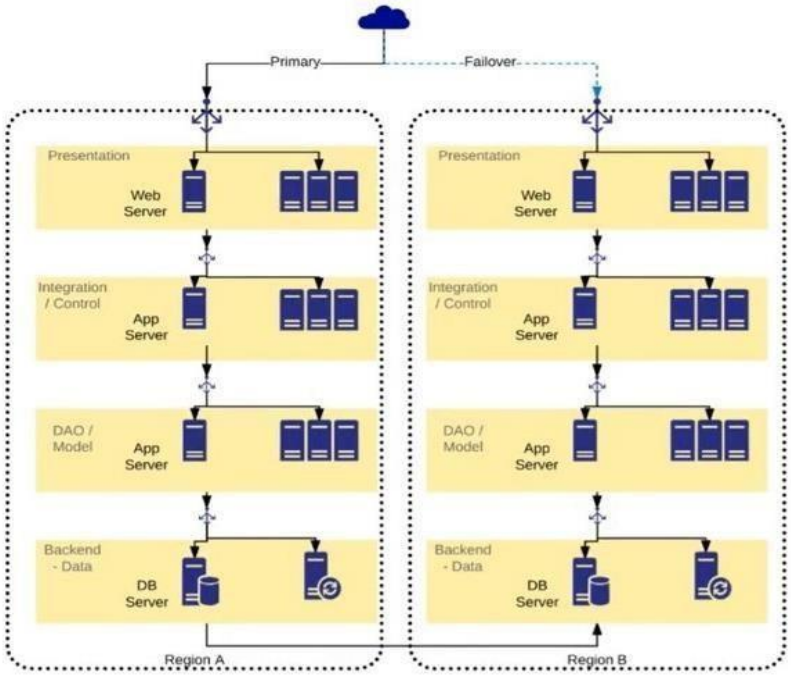
4.1 N-TIER ARCHITECTURE

An **N-Tier Application** program is one that is distributed among three or more separate computers in a distributed network.

The most common form of n-tier is the 3-tier Application, and it is classified into three categories.

- User interface programming in the user's computer
- Business logic in a more centralized computer, and
- Required data in a computer that manages a database.

This architecture model provides Software Developers to create Reusable application/systems with maximum flexibility. T**he n-tier architecture** is an industry-proven software architecture model. It is suitable to support enterprise level client-server applications by providing solutions to scalability, security, fault tolerance, reusability, and maintainability. It helps developers to create flexible and reusable applications.



Types of N-Tier Architectures

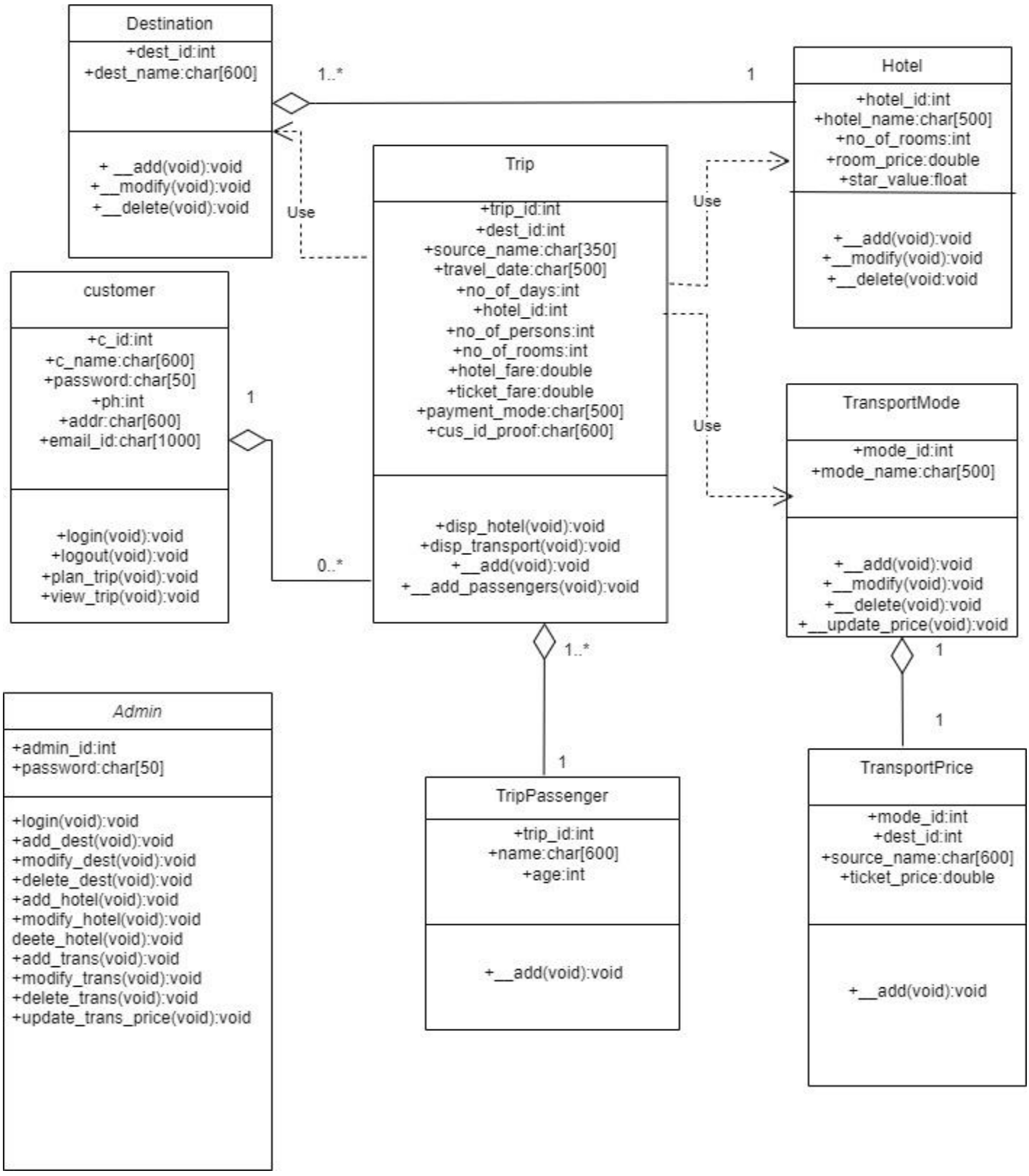
- 3-Tier Architecture
- 2-Tier Architecture
- Single Tier or 1-Tier Architecture

5. DESIGN AND IMPLEMENTAION

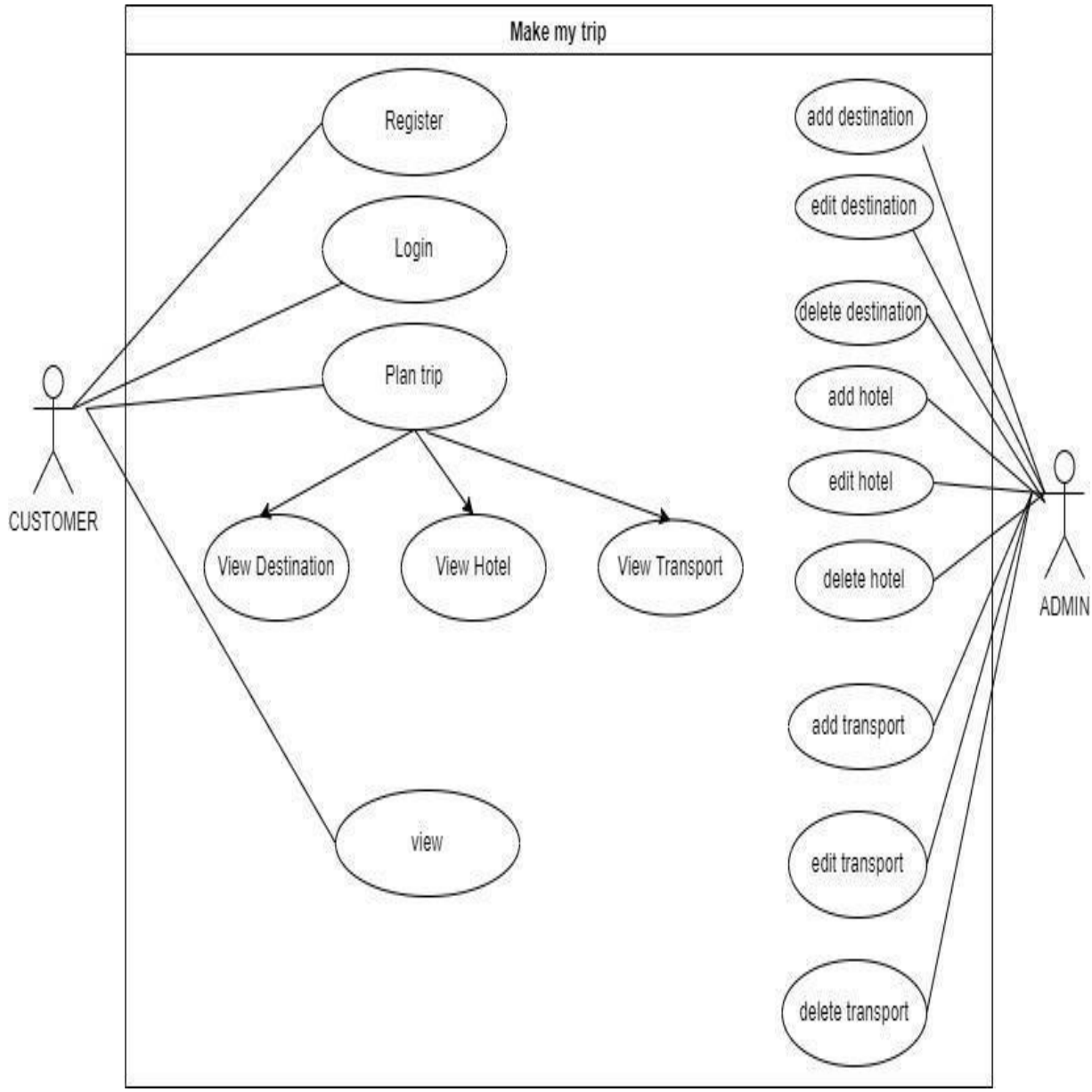
5.1 PRODUCT FEATURES

- Do not have to visit the travel agency or travel desk to plan the trip.
- Provide information about the packages, schedules that can be used as a planner for the visiting tourists
- plan Trip: Customer can plan trip from anywhere.
- View Available transport mode and transport fare: The customer must able to see all details about the available transport mode and transport fare.
- View Available hotel and hotel fare: The customer must able to see all details about the available hotel and hotel fare.
- Provide a facility to pay online using credit cards/cash/UPI.
- Know their pick up, drop as well as their accommodation throughout journey.

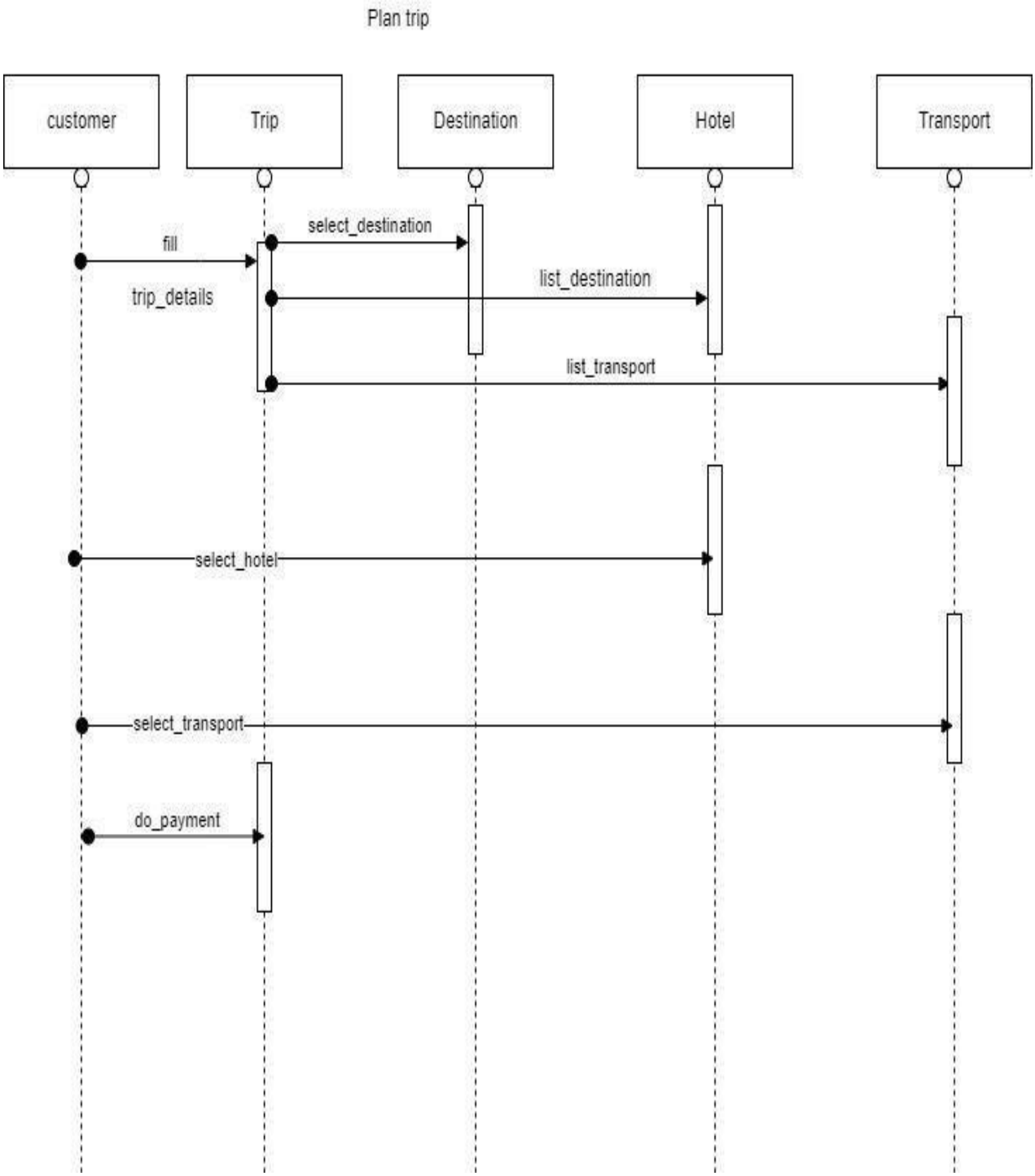
5.2 CLASS DIAGRAM DESIGN



5.3 USE CASE DIAGRAM

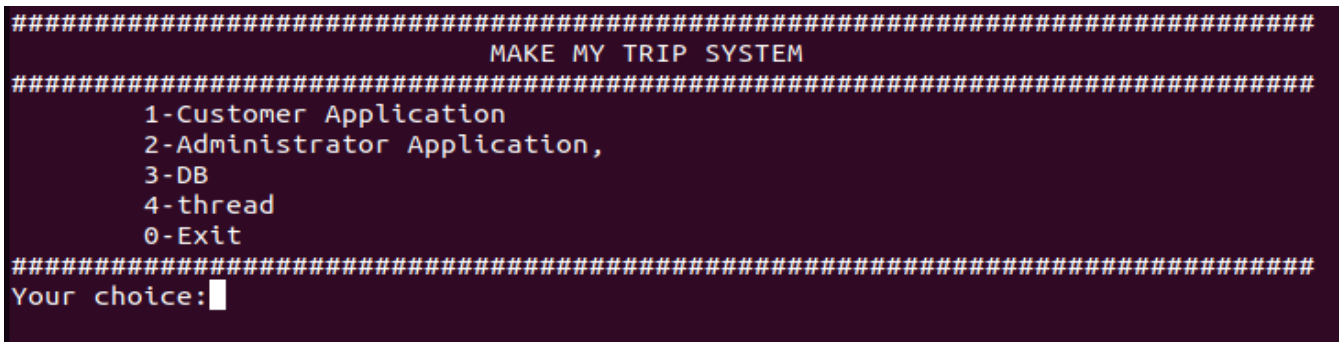


5.4 SEQUENCE DIAGRAM

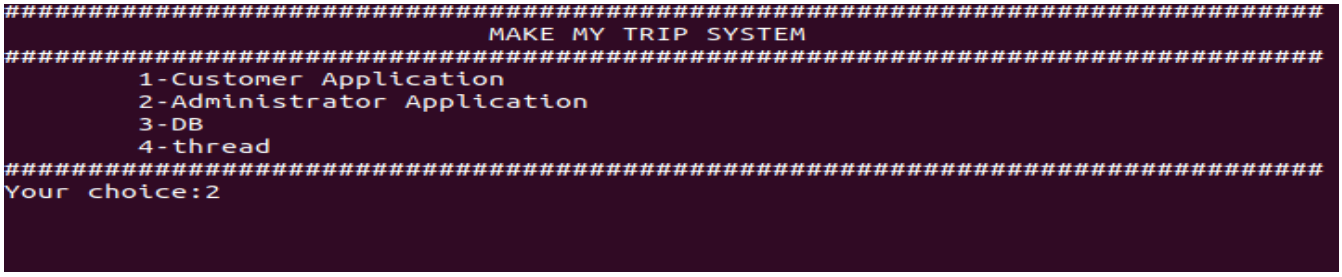


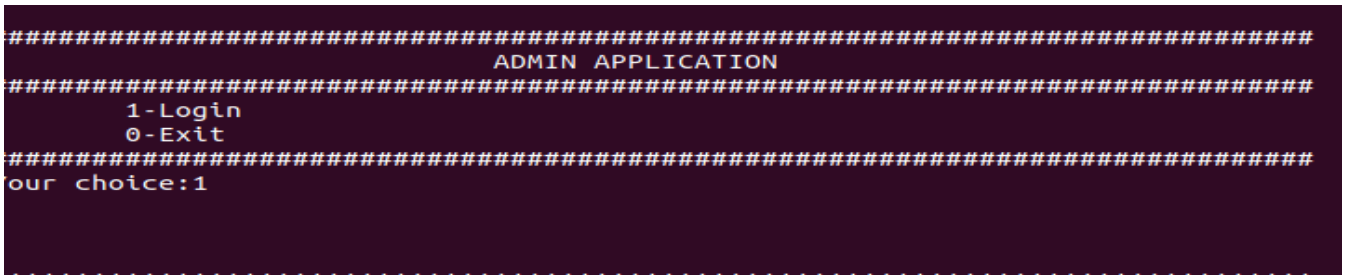
6.SNAPSHOTS

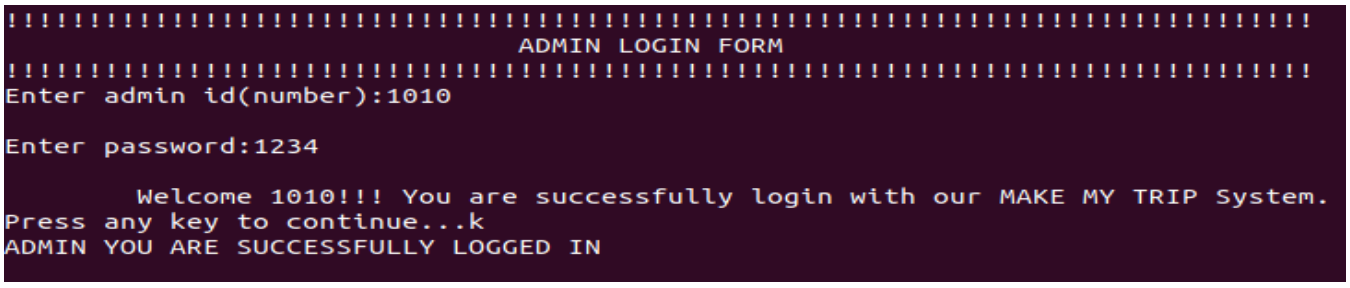
FIRST SCREEN



ADMIN LOGIN SCREEN







MANAGE DESTINATION

```
################################################################################
                              ADMIN APPLICATION
################################################################################
        1-Manage Destination
        2-Manage Hotel
        3-Manage Transport Modes
        4-View Hotel Bookings
        5-View Tickets
        0-Exit
################################################################################
Your choice:1
```

ADD DESTINATION

```
################################################################################
                            ADMIN ADD DESTINATION
################################################################################
        1-Add destination
        2-Modify destination
        3-Delete destination
        0-Exit
################################################################################
Your choice:1
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                            DESTINATION LOGIN FORM
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Enter destination name:kannur
New destination added successfully
0  1 punjab 2 hariyana 3 kannur


################################################################################
```

MODIFY DESTINATION

```
################################################################################
                            ADMIN ADD DESTINATION
################################################################################
        1-Add destination
        2-Modify destination
        3-Delete destination
        0-Exit
################################################################################
Your choice:2
```

```
List of destinations for edit
  1.dest[0, ]
  2.dest[1, punjab]
  3.dest[2, hariyana]
  4.dest[3, kannur]
Enter sno where the 'dest being modified' is associated:1
```

DELETE DESTINATION

```
################################################################################
                            ADMIN ADD DESTINATION
################################################################################
        1-Add destination
        2-Modify destination
        3-Delete destination
        0-Exit
################################################################################
Your choice:3
```

```
List of destinations  for delete:
  1.dest[0, calicut]
  2.dest[1, punjab]
  3.dest[2, hariyana]
  4.dest[3, kannur]
Enter sno where the 'destination being deleted' is associated:4

destination Deleted successfully.
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                            destination LOGIN FORM
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Edit Options (1-Name):1

Enter dest name:calicut

destination Edited successfully.
```

MANAGE HOTELS

```
################################################################################
                            ADMIN APPLICATION
################################################################################
        1-Manage Destination
        2-Manage Hotel
        3-Manage Transport Modes
        4-View Hotel Bookings
        5-View Tickets
        0-Exit
################################################################################
Your choice:2
```

ADD HOTEL

```
################################################################################
                                ADMIN ADD HOTEL
################################################################################
        1-Add hotel
        2-Modify hotel
        3-Delete hotel
        0-Exit
################################################################################
Your choice:1
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                               HOTEL LOGIN FORM
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Enter hotel name:Taj

Enter no.of rooms:20

Enter room price:2000

Enter star value:3
New hotel added successfully
2 taj 100 5000.00  3.500000 2
3 1 1 1.00  1.000000 0
4 Taj 20 2000.00  3.000000 0
```

MODIFY HOTEL

```
################################################################################
                                ADMIN ADD HOTEL
################################################################################
        1-Add hotel
        2-Modify hotel
        3-Delete hotel
        0-Exit
################################################################################
Your choice:2
```

```
List of hotels for edit
  1.hotel[1, taj, 2 4000.00, 4.000000]
Enter sno where the 'hotel being modified' is associated:1



!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                               HOTEL LOGIN FORM
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Edit Options (1-Name,2-No.of rooms,4-room price, 8-star value):1

Enter hotel name:park

hotel Edited successfully.
```

DELETE HOTEL

```
################################################################################
                                ADMIN ADD HOTEL
################################################################################
        1-Add hotel
        2-Modify hotel
        3-Delete hotel
        0-Exit
################################################################################
Your choice:3
```

```
List of hotels for delete:
  1.hotel[1, park, 4 300.00, 2.000000]
  2.hotel[2, taj, 100 5000.00, 3.500000]
Enter sno where the 'hotel being deleted' is associated:1

hotel Deleted successfully.
```

MANAGE TRANSPORT MODE

```
################################################################################
                              ADMIN APPLICATION
################################################################################
        1-Manage Destination
        2-Manage Hotel
        3-Manage Transport Modes
        4-View Hotel Bookings
        5-View Tickets
        0-Exit
################################################################################
Your choice:3
```

```
  1.dest[2, punjab]
Enter sno where the 'destination ' is associated:1



################################################################################
```

ADD MODE

```
################################################################################
                          ADMIN  TRANSPORT MODE
################################################################################
        1-Add mode
        2-Modify mode
        3-Delete mode
        0-Exit
################################################################################
Your choice:1
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                          TRANSPORT LOGIN FORM
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Enter transportation name:train
New transportation added successfully
1 train
Enter price file:price.csv


################################################################################
```

MODIFY MODE

```
################################################################################
                          ADMIN  TRANSPORT MODE
################################################################################
        1-Add mode
        2-Modify mode
        3-Delete mode
        0-Exit
################################################################################
Your choice:2
```

```
List of transs for edit
  1.trans[1, car]
Enter sno where the 'trans being modified' is associated:1


!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                        transportation LOGIN FORM
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Edit Options (1-Name):1

Enter trans name:train

transportation Edited successfully.
```

DELETE MODE

```
################################################################################
                            ADMIN  TRANSPORT MODE
################################################################################
        1-Add mode
        2-Modify mode
        3-Delete mode
        0-Exit
################################################################################
Your choice:3
```

```
List of transport  for delete:
  1.trans[1, car]
  2.trans[2, train]
Enter sno where the 'transport being deleted' is associated:1

Transportation Deleted successfully.


################################################################################
```

VIEW HOTEL BOOKINGS

```
################################################################################
        1-Manage Destination
        2-Manage Hotel
        3-Manage Transport Modes
        4-View Hotel Bookings
        5-View Tickets
        0-Exit
################################################################################
Your choice:4
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                            LIST OF DESTINATION
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Sno#
  1.0
  2.1      punjab
  3.2      hariyana
Enter Serial Number associated with Destination from the above listed:2


!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                                LIST OF HOTEL
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Sno.#      Hotel Name
Enter Serial Number associated with Hotel from the above listed:1

#      Customer              Rooms# Fare(tot) Pay Mode ID Proof
1      alzahara              2       10000.00  UPI       AADHAR123
```

VIEW TICKETS

```
##########################################################################################
                                ADMIN APPLICATION
##########################################################################################
         1-Manage Destination
         2-Manage Hotel
         3-Manage Transport Modes
         4-View Hotel Bookings
         5-View Tickets
         0-Exit
##########################################################################################
Your choice:5
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                            LiST OF DESTiNATiON
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
sno#
  1.0
  2.1     punjab
  3.2     hariyana
Enter Serial Number associated with Destination from the above listed:3

#     customer            Source              Date         Days     Mode ID Fare      Pay Mode
1     alzahara            calicut             23-01-2022 3        1     100.00    UPI


##########################################################################################
```

CUSTOMER REGISTERATION SCREEN

```
##########################################################################################
                                MAKE MY TRIP SYSTEM
##########################################################################################
         1-Customer Application
         2-Administrator Application
         3-DB
         4-thread
##########################################################################################
Your choice:1
```

```
##########################################################################################
                                CUSTOMER APPLICATION
##########################################################################################
         1-Register
         2-Login
         0-Exit
##########################################################################################
Your choice:1
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                              Register Customer
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Enter username:alzahara

Enter password:al123

Enter phone number:7025610516

Enter email id:al@gmail.com

Enter address:thattarath(H),kumbalangi

        Welcome alzahara!!!      You are reigstered with our MAKE MY TRIP System.
Press any key to continue...
```

CUSTOMER LOGIN

```
##########################################################################################
                                CUSTOMER APPLICATION
##########################################################################################
         1-Register
         2-Login
         0-Exit
##########################################################################################
Your choice:2
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                            Add CUSTOMER LOGIN FORM
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Enter username:alzahara

Enter password:al123

        Welcome alzahara!!!     You are successfully login with our MAKE MY TRIP System.
Press any key to continue...j
YOU ARE SUCCESSFULLY  LOGIN!!!!
```

PLAN TRIP

```
##########################################################################################
                                CUSTOMER APPLICATION
##########################################################################################
         1-Plan Trip
         2-View Trip
         3-logout
         0-Exit
##########################################################################################
Your choice:1
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                                    PLAN TRIP
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Enter source name(pickup point):calicut


!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                                LIST OF DESTINATION
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
1.dest[2, punjab]
Enter Serial Number for your destination:1


!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                                LIST OF Transports
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
1. Trans[1, car]
Enter Serial Number for your transport preference:1


!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
                                LIST OF Hotels
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
1. hotel[2, taj,100,5000.000000,3.500000]
Enter Serial Number for your hotel:1

Are you sure to go for this hotel(y-yes,n-no)?y

Enter no of rooms required:2

Enter no of persons:1

Enter Details of Passenger#1
Enter Passenger Name :neha

Enter Age:23
Enter the travel date (dd-mm-yyyy)format 23-01-2022

Enter no of days:3

you have  to pay 11918.00

select the customer id proof(1-PAN 2-AADHAR 3-PASSPORT):2

Enter AADHAR number(You should start AADHAR):AADHAR123

select the payement mode(1-card 2-UPI 3-cash):2

        YOU HAVE PLANNED TRIPS!!!
Press any key to continue...
```

VIEW TRIP

```
#####################################################################
                        CUSTOMER APPLICATION
#####################################################################
       1-Plan Trip
       2-View Trip
       3-logout
       0-Exit
#####################################################################
Your choice:2

#    Destination Name    Source Name         Date              Days      Hotel Name          Transportation Name  Persons Rooms# hotel Fare Ticket Fare Pay Mode ID Proof
1    punjab              calicut             23-01-2022 3        taj               car                 1     2    10000.00  100.00    UPI      AADHAR123
```

7.TESTING AND RESULTS

7.1 UNIT TESTING

The unit testing, also known as component testing, is a level of software testing where individual units / components of a software are tested. The purpose is to validate that each unit of the software performs as designed.Testing done on a single, standalone module or unit of code to ensure correctness of the particular module. It Focuses on implementation logic, so the idea is to write test cases for every method in the module.

The goal of unit testing is to segregate each part of the program and test that the individual parts are working correctly. It isolates the smallest piece of testable software from the remainder of the code and determines whether it behaves exactly as you expect. Unit testing has proven its value in that a large percentage of defects are identified during its use. It allows automation of the testing process, reduces difficulties of discovering errors contained in more complex pieces of the application, and enhances test coverage because attention is given to each unit.

Some of the **benefits of unit testing** are,

- Makes the Process Agile. One of the main benefits of unit testing is that it makes the coding process more Agile.
- Quality of Code. Unit testing improves the quality of the code. It identifies every defect that may have come up before code is sent further for integration testing.
- Finds Software Bugs Early. Issues are found at an early stage.
- Facilitates Changes and Simplifies Integration. Unit testing allows the programmer to refactor code or upgrade system libraries at a later date and make sure the module still works correctly.
- Provides Documentation. Unit testing provides documentation of the system. Developers looking to learn what functionality is provided by a unit and how to use it can look at the unit tests to gain a basic understanding of the unit's interface.

7.2 BLACK BOX TESTING

Black box testing is a method of software testing that examines the functionality of an application without peering into its internal structures or workings. This method of test can be applied virtually to every level of software testing: unit, integration, system and acceptance. It is sometimes referred to as specification based testing.

- Black box testing is conducted more from a user's perspective.
- It focuses on the features and not the implementation.
- It Provides a big picture approach.
- Black box testing techniques can be applied once unit and integration testing are completed.

Black box testing techniques

Equivalence partitioning: It is a software testing technique that divides the input data of a software unit into partitions of equivalent data from which test cases can be derived. In principle, test cases are designed to cover each partition at least once. This technique tries to define test cases that uncover classes of errors, thereby reducing the total number of test cases that must be developed. An advantage of this approach is reduction in the time required for testing software due to lesser number of test cases.

Advantages of black box testing

- Well suited and efficient for large code segments
- Code access is not required
- Simulates actual system usage
- Makes no assumption about the system structure

Disadvantages of black box testing

- Limited coverage, since only a selected number of test scenarios is actually performed.
- The test cases are difficult to design.
- May miss out logical errors
- Chances of redundant testing is there

7.3 WHITE BOX TESTING

White-box testing is a method of software testing that tests internal structures or workings of an application, as opposed to its functionality. In white-box testing an internal perspective of the system, as well as programming skills, are used to design test cases. The tester chooses inputs to exercise paths through the code and determine the expected outputs.
White box testing helps to:

- Achieve high code coverage
- Test program logic
- Eliminate redundant code
- Traverse complicated loop structures and sub-routines
- Evaluate different execution paths

White box testing techniques

- Statement coverage
- Decision Coverage
- Data flow testing
- Branch testing
- Path testing

Advantages of white box testing

- Extra lines of code can be removed which can bring in hidden defects.
- It helps in optimizing the code.
- Logic of the system tested.
- Those parts which could have been omitted in black box testing are also getting covered
- Cost effective when appropriate techniques are used.

Diadvantages of white box testing

- Expensive
- Rapidly Changing Code Base
- Does not ensure that all requirements are met
- May not simulate real-time situation
- Programming knowledge is needed

7.4 INTEGRATION TESTING

Integration testing is the phase in software testing in which individual software modules are combined and tested as a group. Integration testing is conducted to evaluate the compliance of a system or component with specified functional requirements. It occurs after unit testing and before system testing. Integration testing takes as its input modules that have been unit tested, groups them in larger aggregates, applies tests defined in an integration test plan to those aggregates, and delivers as its output the integrated system ready for system testing.

There are mainly two types of integration testing:

- **Unit / Component Integration Testing**
  This type of integration testing focuses on the interactions and interfaces between integrated units / components. Unit integration testing is performed after unit testing, and is generally automated. In iterative and incremental development, unit integration tests are usually part of the continuous integration process.

- **System Integration Testing**
  This type of integration testing focuses on the interactions and interfaces between systems. The other system that needs to be integrated with can either be internal or external. Such systems are normally exposed via an Application Programming Interface or a Microservice.

There are basically four approaches to Integration Testing:

Big Bang
This is an approach to Integration Testing where all or most of the units are combined together and tested at one go. This approach is taken when the testing team receives the entire software in a bundle. So what is the difference between Big Bang Integration Testing and System Testing? Well, the former tests only the *interactions* between the units while the latter tests the functionalities in the entire system.

Top Down
This is an approach to Integration Testing where top-level units are tested first and lower level units are tested step by step after that. This approach is taken when top-down development approach is followed. Test Stubs are needed to simulate lower level units which may not be available during the initial phases.

Bottom Up
This is an approach to Integration Testing where bottom level units are tested first and upper-level units step by step after that. This approach is taken when bottom-up development approach is followed.

Sandwich/ Hybrid
This is an approach to Integration Testing which is a combination of Top Down and Bottom Up approaches.

7.5 VALIDATION TESTING

The process of evaluating software during the development process or at the end of the development process to determine whether it satisfies specified business requirements.

Validation Testing ensures that the product actually meets the client's needs. It can also be defined as to demonstrate that the product fulfills its intended use when deployed on appropriate environment.

Stages of Validation testing Process:

- **Validation Planning** – To plan all the activities that need to be included while testing.
- **Define Requirements** – To set goals and define the requirements for testing.
- **Selecting a Team** – To select a skilled and knowledgeable development team (the third party included).
- **Developing Documents** – To develop a user specification document describing the operating conditions.
- **Estimation/Evaluation** – To evaluate the software as per the specifications and submit a validation report.
- **Fixing bugs or Incorporating Changes** – To change the software so as to remove any errors found during evaluation.

7.6 ACCEPTANCE TESTING

Acceptance testing, a testing technique performed to determine whether or not the software system has met the requirement specifications. The main purpose of this test is to evaluate the system's compliance with the business requirements and verify if it is has met the required criteria for delivery to end users.

There are various forms of acceptance testing:

- User acceptance Testing
- Business acceptance Testing
- Alpha Testing
- Beta Testing

Types

- User Acceptance Testing (UAT)
- Business Acceptance Testing (BAT)
- Contract Acceptance Testing (CAT)
- Regulations/Compliance Acceptance Testing (RAT)
- Operational Acceptance Testing (OAT)
- Alpha Testing
- Beta Testing/Field Testing

TESTING

Test case ID: 101	**Test Case Description:** Customer Registration		
Prerequisites:		**Test case (Pass/Fail):** Pass	
Test Data:		Username: aqna	
		Password: aqna12	
		Mobile No: 123456789	
		Email id: aqna@gmail.com	
		Address:abc(h),(p.o),beypore,kozhiikode	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to registration page	Registration screen is opened	As expected
2	Enter username, password, mobile no, email id, address	Credentials can be entered	As expected
3	Press any key to continue	Registration is successful	As expected

Test case ID: 102	**Test Case Description:** Customer Registration		
Prerequisites:		**Test case (Pass/Fail): Fail**	
Test Data:		Username: aqnn	
		Password: aqna12	
		Mobile No: 123456789	
		Email id: aqna@gmail.com	
		Address:abc(h),(p.o),beypore,kozhiikode	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to registration page	Registration screen is opened	As expected
2	Enter username, password, mobile no, email id, address	Credentials can be entered	As not expected and can enter with different username

Test case ID: 103	**Test Case Description:** Customer Login		
Prerequisites:		**Test case (Pass/Fail): Pass**	
Test Data:		Username: aqna	
		Password: aqna12	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to customer login page	Customer login screen is opened	As expected
2	Enter username, password	Credentials can be entered	As expected
3	Press any key to continue	Customer login is successful	As expected

Test case ID: 104	**Test Case Description:** Customer Login		
Prerequisites:		**Test case (Pass/Fail): Fail**	
Test Data:		Username: aqna	
		Password: aqna12	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to customer login page	Customer login screen is opened	As expected
2	Enter username, password	Credentials can be entered	As not expected and can enter with different username or password

Test case ID: 105	**Test Case Description:** Admin Login		
Prerequisites:		**Test case (Pass/Fail): Pass**	
Test Data:		Username: 1010	
		Password: 1234	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to admin login page	login screen is opened	As expected
2	Enter username, password	Credentials can be entered	As expected
3	Press any key to continue	Admin login is successful	As expected

Test case ID: 106	**Test Case Description:** Add destination		
Prerequisites:		**Test case (Pass/Fail): Pass**	
Test Data:		Destination name:chennai	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to add destination page	Add destination screen is opened	As expected
2	Enter new destination name	Credentials can be entered	As expected
3	Press any key to continue	Add destination is successful	As expected

Test case ID: 107	**Test Case Description:** modify destination		
Prerequisites:		**Test case (Pass/Fail): Pass**	
		Destination sno.:1	
Test Data:		Destination name:GOA	
Step No.	**Step details**	**Expected Result**	**Actual Result**
2	Modify destination name	Credentials can be entered	As expected
3	Press any key to continue	Modify destination is successful	As expected

Test case ID: 108	**Test Case Description:** delete destination		
Prerequisites:		**Test case (Pass/Fail): Pass**	
Test Data:		Destination sno.:1	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Delete destination	Destination deleted	As expected

2	Press any key to continue	delete destination is successful	As expected

Test case ID: 109	**Test Case Description**: Add hotel		
Prerequisites:		**Test case (Pass/Fail): Pass**	
Test Data:		Hotel name: Taj	
		No.of Rooms:20	
		Room price: 123456789	
		Star value:3.5	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to add hotel page	Add hotel screen is opened	As expected
2	Enter hotel name,number of rooms,room price,star value	Credentials can be entered	As expected
3	Press any key to continue	Add hotel is successful	As expected

Test case ID: 110	**Test Case Description**: Modify hotel		
Prerequisites:		**Test case (Pass/Fail): Pass**	
Test Data:		Hotel sno.: 1	
		Edit option number:2	
		Enter no.of rooms:5	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to modify hotel page	Modify hotel screen is opened	As expected
2	Enter number of rooms	Credentials can be entered	As expected
3	Press any key to continue	modify hotel is successful	As expected

Test case ID: 111	**Test Case Description**: delete hotel		
Prerequisites:		**Test case (Pass/Fail): Pass**	
Test Data:		Hotel sno.: 1	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to delete hotel page	Delete hotel screen is opened	As expected
2	Delete Hotel	Hotel deleted	As expected
3	Press any key to continue	delete Hotel is successful	As expected

Test case ID: 112	**Test Case Description:** Add transport		
Prerequisites:		**Test case (Pass/Fail):** Pass	
Test Data:		Transport name:car	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to add transportation page	Add transport screen is opened	As expected
2	Enter transportation name	Credentials can be entered	As expected
3	Press any key to continue	Add transport is successful	As expected

Test case ID: 113	**Test Case Description**: Modify transport		
Prerequisites:		**Test case (Pass/Fail): Pass**	
Test Data:		Transport sno.: 1	
		Edit option number:1	
		Enter transport name:bus	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to modify transport page	Modify transport screen is opened	As expected
2	Enter transport name	Credentials can be entered	As expected
3	Press any key to continue	Modify transport is successful	As expected

Test case ID: 114	**Test Case Description**: delete transport		
Prerequisites:		**Test case (Pass/Fail): Pass**	
Test Data:		Transport sno.: 1	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to delete transport page	Delete transport screen is opened	As expected
2	Delete transport	Transport deleted	As expected
3	Press any key to continue	delete transport is successful	As expected

Test case ID: 115	**Test Case Description:** plan trip
Prerequisites:	**Test case (Pass/Fail):** Pass
Test Data:	Source name(pickup point):kozhikode
	Transport sno.:1
	Hotel sno.:1
	No.of rooms required:2
	No.of persons:1
	Person name:ammu
	Age:20

		Travel date:12-12-2022	
		No.of days:2	
		Payment mode:cash	
		Customer id proof: aadhar card	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to plan trip page	Plan trip screen is opened	As expected
2	Enter Source name, Transport sno., Hotel sno., No.of rooms required, No.of persons, Person name , Age, Travel date, No.of days, Payment mode ,Customer id proof	Credentials can be entered	As expected
3	Press any key to continue	Plan trip is successful	As expected

Test case ID: 116	**Test Case Description:** plan trip		
Prerequisites:		**Test case (Pass/Fail):** Fail	
Test Data:		Source name(pickup point):kozhikode	
		Transport sno.:1	
		Hotel sno.:2	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to plan trip page	Plan trip screen is opened	As expected
2	Enter Source name, Transport sno., Hotel sno., No.of rooms required, No.of persons, Person name , Age, Travel date, No.of days, Payment mode ,Customer id proof	Credentials can be entered	As not expected and can enter with different hotel id.

Test case ID: 117	**Test Case Description:** view trip		
Prerequisites:		**Test case (Pass/Fail):** Pass	
Test Data:		Username :aqna	
		Password:aqna12	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to customer login page	Customer Login screen is opened	As expected
2	Enter username, password and press enter key	Should navigate to view trip screen	As expected
3	Select view trip and press enter	Trip details should be displayed	As expected

Test case ID: 118	**Test Case Description:** view hotel bookings		
Prerequisites:		**Test case (Pass/Fail):** Pass	
Test Data:		Destination id:1	
		Hotel id:1	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to view hotel booking page	View hotel bookings screen is opened	As expected
2	Enter Destination id, Hotel id	Credentials can be entered	As expected
3	Press any key to continue	View hotel booking is successful	As expected

Test case ID: 119	**Test Case Description:** view tickets		
Prerequisites:		**Test case (Pass/Fail):** Pass	
Test Data:		Destination id:1	
Step No.	**Step details**	**Expected Result**	**Actual Result**
1	Navigate to view ticket page	View hotel bookings screen is opened	As expected
2	Enter Destination id	Credentials can be entered	As expected
3	Press any key to continue	View tickets is successful	As expected

8. CONCLUSION

Information Technology plays a vital role not only in a particular field, it provides various kinds of solutions and services to the various problems prevailing in many fields. Makemytrip is a online travel management system which helps to plan a trip between two or more attractions using special travel algorithms. Online travel planners use algorithms which suggest attractions, modes of transport, hotels, best accommodation that suit your budget. It aimed to offer a range of best-value services to ensure that tour runs smoothly and efficiently. Here we make use of Advanced C along with C programming to build this environment in an efficient and useful way.

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