



Tribhuvan University
Faculty of Humanities and Social Sciences

Travel & Tours Management System

A PROJECT REPORT

Submitted to
Department of Computer Application National
College

In partial fulfilment of the requirements for the Bachelors in Computer Application

Submitted by
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Supervisor's Recommendation

I hereby recommend that this project prepared under my supervision by Suyashaa Vaidya entitled "Travel & Tours Management System" in partial fulfilment of the requirements for the degree of Bachelor of Computer Application is recommended for the final evaluation.

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Letter Of Approval

This is to certify that this project prepared Suyashaa Vaidya entitled “Travel & Tours Management System” in partial fulfilment of the requirements for the degree of Bachelor in Computer Application has been evaluated. In our opinion it is satisfactory in the scope and quality as a project for the required degree.

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Abstract

The objective of Travel & Tours Management System is developing a system for a Travel agency. Travel & Tours Management System is a Desktop-based application created to enhance the services and overall activities offered to visitors and travelers in relation to handling customer information. Choosing vacation packages, booking a hotel, and researching potential travel destinations are all important steps. As everyone knows, Nepal's tourism sector plays a significant role in attracting international revenue. Nepal is a very beautiful country that draws in a lot of tourists, both domestic and foreign, but the number of visitors has substantially reduced due to poor advertising, the difficulty in finding suitable packages, and the difficulty in making hotel reservations. So, with Travel & Tours Management System all such actions may be done and it is extremely easy to adopt as it is user friendly. The project contains User module and Admin module. This version of the software has multi-user approach.

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List of Abbreviations

Admin- Administrator

AES- Advanced Encryption Standard

DES- Data Encryption Standard

DFD- Data Flow Diagram

ERD- Entity Relationship Diagram

ICT- Information and Communication Technology

SQL- Structured Query Language

UI/UX- User Interface/User Experience

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Chapter 1: Introduction

1.1 Introduction

Travel & Tours Management System is a Desktop-based application created to enhance the services and overall activities offered to visitors and travelers in relation to handling customer information. Choosing vacation packages, booking a hotel, and researching potential travel destinations are all important steps. As everyone knows, Nepal's tourism sector plays a significant role in attracting international revenue. Nepal is a very beautiful country that draws in a lot of tourists, both domestic and foreign, but the number of visitors has substantially reduced due to poor advertising, the difficulty in finding suitable packages, and the difficulty in making hotel reservations. So, with Travel & Tours Management System all such actions may be done and it is extremely easy to adopt as it is user friendly.

The major goal of the Travels & Tours management system is to manage customer information, hotel reservations, package selections, and location decisions. It controls all users, hotel, package, and other information. The goal of this project is to create an application program that will lessen the amount of manual effort required to manage tourists, reservations, locations, etc. This application will make it very simple to access information on travelling to a specific location. Through this application, customers can easily track information pertaining to their excursions. Through this application, you can also get information on travel agencies.

Therefore, the travel and tours management system digitizes the travel agency's complete activities and streamlines and optimizes its operation.

1.2 Problem Statement

The majority of tourist operations in Nepal are still carried out manually because the nation's digital policies are still in the early stages of growth in the fields of information and communication technology (ICT). While both the government and the travel industry have made advances in Nepal's tourist sector. There is a gap between ICT implementations and digital transformation in the tourism ecosystem because the government's policies for a digital Nepal have emphasized federalization, infrastructure, and socio-economic issues rather than tourism. One of the main challenges for the Nepali tourism business is that consumers' choices of destinations, activities, and experiences are limited due to restrictions on international payments. Therefore, this approach aids in modernizing Nepal's tourism and travel sector.

1.3 Objectives

The main focus on developing these projects are:

1. To properly maintain the records, it is necessary to add, update, remove, and show the clients' chosen packages and hotel reservations.
2. To manage customer accounts with ease.
3. To provide consumers the packages they wish to select and to present them with various offers and prices.
4. To make the customer's travel reliable.
5. To assist in our nation's tourism industry's digitization.

1.4 Scope and Limitations

1.4.1 Scope

1. Managing customer accounts with ease.
2. Convincing users to abandon the long-established method they have been using in order to access the new app.

1.4.2 Limitations

1. Updating and maintaining the records has always been a challenge.
2. Offering a variety of options for locations could be difficult.
3. Customers may not have numerous options for payment methods.

1.5 Development Methodology

Agile is an iterative project management and software development approach that helps teams deliver value to their customers faster and with less trouble.

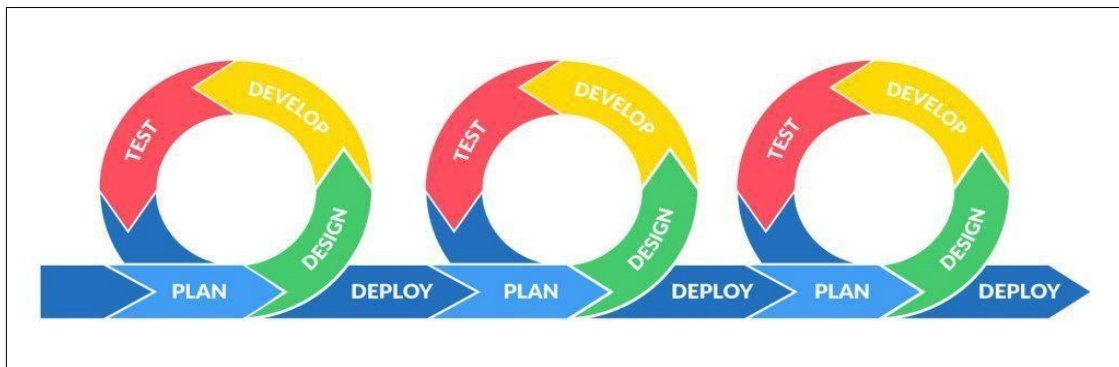


Figure 1 Agile Development Model

1. **Requirement Analysis:** All the requirements for making a Travel & Tours Management System in java including time and resource needs, are listed. These consist of an IDE for coding, a database for storing and retrieving data, and an OS for running the program.
2. **Design:** The design of this Travel & Tours Management System was done using Lucid Chart which is an online tool to design high and low-fidelity images/ diagrams.
3. **Development:** The development phase consists of coding a function or a module. In this, every class was made for the system, and their functions were added to the next iterations **Testing:** After development of each module it was tested and if any test failed it was revised and the problem was found out and tested again until it is solved.
4. **Deployment:** The system was tested and reviewed and verified by the subject teacher i.e., our supervisor through every iteration in the development process.

1.6 Report Organization

This report consists of five chapters which will cover the designing and the development of Travel & Tours Management System.

Chapter One: This chapter includes the system and the problems, given an overview about the study. It includes introduction, problem of statement, objectives, and solution of the website.

Chapter Two: This chapter covers the literature review which is the previous related work that has been done before. It also includes the description of the website where we have taken the reference.

Chapter Three: This chapter explains the selected methodology that we are going in this project. This chapter shows the design of the system. It includes architectural design, DFD, ER- Diagram, Database Schema etc.

Chapter Four: This chapter discusses the implementation and testing. It includes the overall description of the modules that we have implemented into our application. We have shown the test cases.

Chapter Five: This chapter discusses the conclusion, recommendation and future works to improve this study.

Chapter 2: Background Study and Literature Review

2.1 Background Study

This project is an implementation of the idea that a travel management company's daily operation can be carried out effectively while also managing customer information, hotel bookings, selection of packages and destinations. In our nation, there aren't many systems for managing travel and excursions. According to the research, the majority of travel management firms have begun to preserve records electronically, but the majority of work is still done manually and there are few features for the customers because they have limited options and must abide by the policies of the travel companies. In addition, we must have experienced at least once in our lives the need to travel but not knowing the places or the costs. In order to easily and effectively manage the traveler's travel, this can be a really beneficial idea.

Application Working Process

Admin module

1. Admin can login to the system.
2. Admin can see the most booked package and hotel as recommendations.
3. Admin can add hotels.
4. Admin can view user booked packages and hotels

User module

1. Users can Sign up and then login to the system.
2. Users can see the most booked package and hotel as recommendations.
3. Users can add their additional details and view/update and delete them as well.
4. Users can check and book the package and then view the booked package.
5. Users can check and book the hotel and then view the booked hotel.

2.2 Literature Review

We reviewed and took references from the current travel & tours management systems in Nepal like Online travel management software by Techno heaven Consultancy which is a travel agency management software that gives information about the travel agency and helps the client to contact the travel agency. [1]

Similarly, various other travel and tours agencies websites like e-Zone International were visited, among which the majority of travel management systems are not designed to be used to book hotels or offer a variety of package alternatives, but rather to keep records about clients for the travel industry. [2]

Although the travel agencies like Travel management software in Nepal by Mero Network do manage some of the activities, it is a demanding process, so why not just use an application to prevent all these pointless hassles? [3]

After all, the simpler the task, the better. Research indicates that travel agencies do not offer their clients these amenities. If it had, Nepali tourism would undoubtedly have taken off immediately. So, along with all these Nepalese software, websites and other international websites like Business travel by booking.com was also visited and ideas were taken from them. [4]

For the hotel booking system of the application, websites like Travel Perk was visited. [5]

Chapter 3: System Analysis and Design

3.1 System Analysis

The Travel & Tours Management System was analyzed and its objectives were identified.

3.1.1 Requirement Analysis

i. Functional requirements

Admin module

1. Login as Admin
2. See most booked package and hotels
3. Add Hotels
4. View booked hotels and packages

User module

1. Login as User
2. Sign Up as User
3. Forgot password
4. See most booked package and hotels as recommendation
5. Add, update, view and delete personal details
6. Check and Book hotels
7. Check various packages and book a suitable one
8. View the booked packages and hotels
9. Payment gateway (Khalti, e-sewa) login page link can be opened on button click.

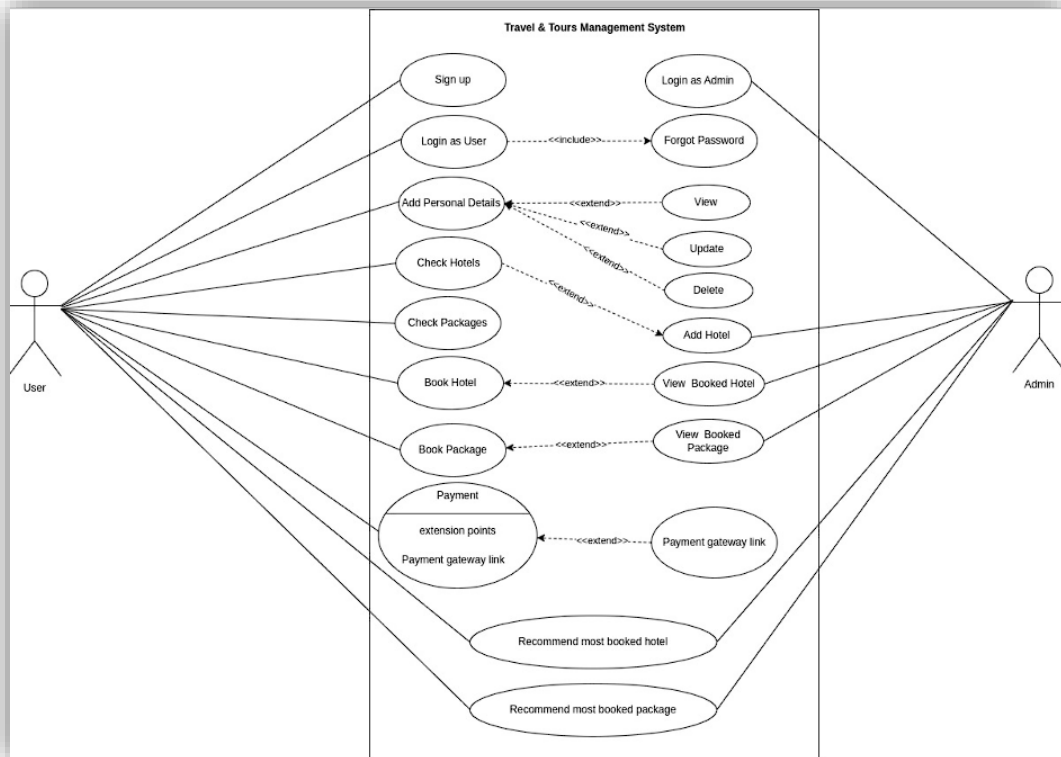


Figure 2 Use Case Diagram of Travel & Tours Management System

Here, as we can see from the above figure 2 there are two actors User and Admin as this system consists of two modules-Admin module and User module. The admin can login to the system and add hotels and check the booked hotels and packages. Unlike, admin, the user first has to sign up to create their account and then login to the system. The most booked packages and hotels will be recommended to the user. The login includes a forgotten password feature through which the password can be retrieved. The user can add/view/update/delete personal details. The user can also check/book hotels and packages. The user can open a payment gateway link on button click.

ii. **Non-Functional Requirements**

1. **Security:** Security is necessary to provide integrity, authentication and availability to the system. In the system, the data taken from the user is safely stored in the MySQL database and can be accessed at any time but only with proper authentication by the authorized person.
2. **Reliability:** Reliability is defined as the probability of failure-free software operation for a specified period of time in a specified environment. The system has been developed using the agile methodology so after each step the system's modules were tested individually as well as at the end so that there is very less possible failure hence the system is considered as reliable.
3. **Performance:** Performance is an indicator of how well a software system or component meets its requirements for timeliness. The system is pretty fast as the user can easily add their details and in an instance, they can view it as well. Along with it the admin can view the user booked packages and hotel as soon as the user books it.
4. **Maintainability:** The ease with which a software system or component can be modified to correct faults, improve performance or other attributes, or adapt to a changed environment is known as maintainability. The system is flexible and features can be easily added and removed so that it is easy to maintain.
5. **Usability:** Usability refers to the quality of a user's experience when interacting with products or systems, including websites, software, devices, or applications. The system is user friendly so anyone can use it even for the first-time user can get use the system easily.

3.1.2 Feasibility Analysis (Technical, operational, economic)

In feasibility study, the Travel & Tours Management System's technical, operational, financial, & legal factors are analyzed.

i. Technical

The main technologies used in Travels & Tours management systems as desktop applications are JAVA and MySQL. These technologies are freely available. The technical skills required for the system are sufficient with the development team. The application will not require a huge amount of resources and high-end servers. Servers will not require sophisticated technical manpower for operation, as we will initially set up all the run-time environments. Systematic knowledge transfer training accompanied by a user manual will be conducted by us.

ii. Operational

The operational implementation is simple and efficient. Once the system is made, the technical skills are not required to manage the web application on a daily basis. Simple knowledge about the system mentioned in the user manual and some simple guidance will be enough for the owner/admin to utilize the features and operate the system i.e, the user of the system can cope up with the system easily without being professional or trained in technical field.

iii. Economic

Travel & Tours management system is a desktop-based application, so it requires a server for hosting the application. The application will use free software i.e, xampp server, MySQL which cuts off the expenses for hosting platform. There will be no additional cost for marketing as there will already be a complete website.

Regarding the maintenance, the software development company will provide the free support for one year, in which system will be expected to be stable and error free.

3.1.3 Data Modelling (ER-Diagram)

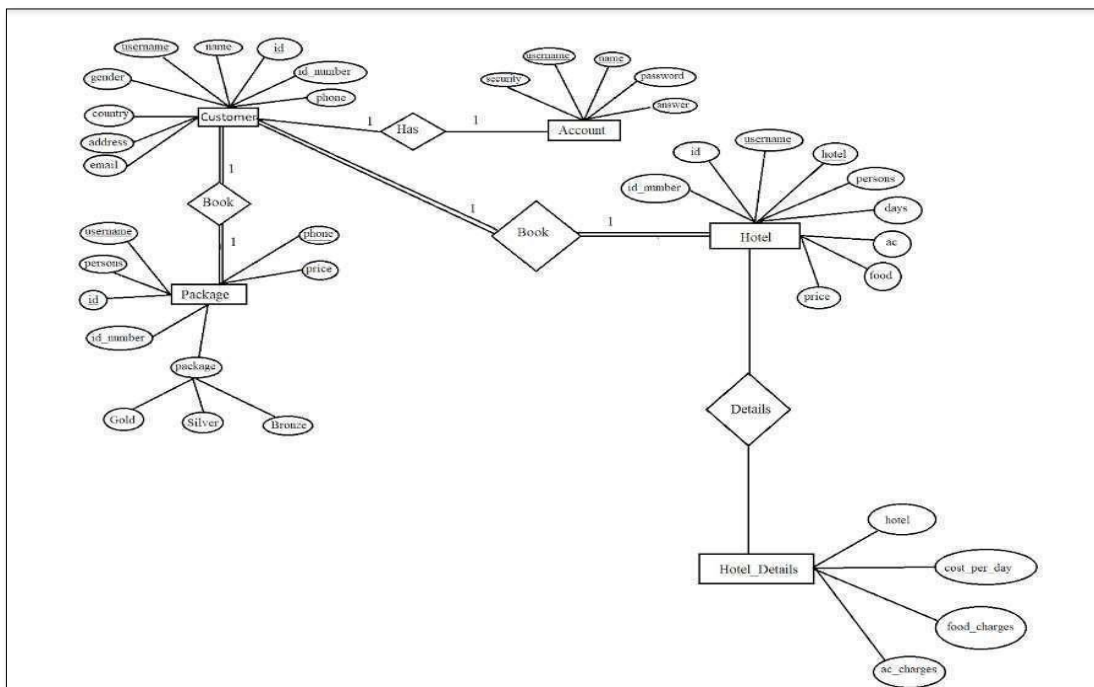


Figure 3 ER Diagram of Travel & Tours Management System

In the Travel & Tours Management System we have six tables (account, admin account, bookhotel, bookpackage, customer, hotel) in the database which are here represented in the squares which represents entity where as its columns are in ovals which represents attributes as shown in the figure 3 above. Their relationship is shown in the diamonds which represent relationships. Also, in the above figure 3 it is shown that whether they have one to one, one to many, many to one or many to many relationships with each other.

3.1.4 Process Modelling: DFD

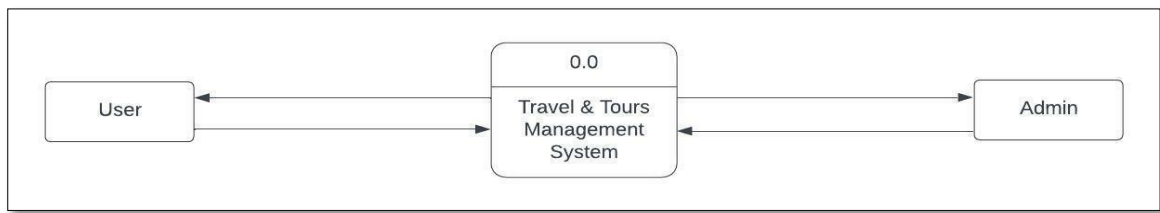


Figure 4 Level 0 DFD of Travel & Tours Management System

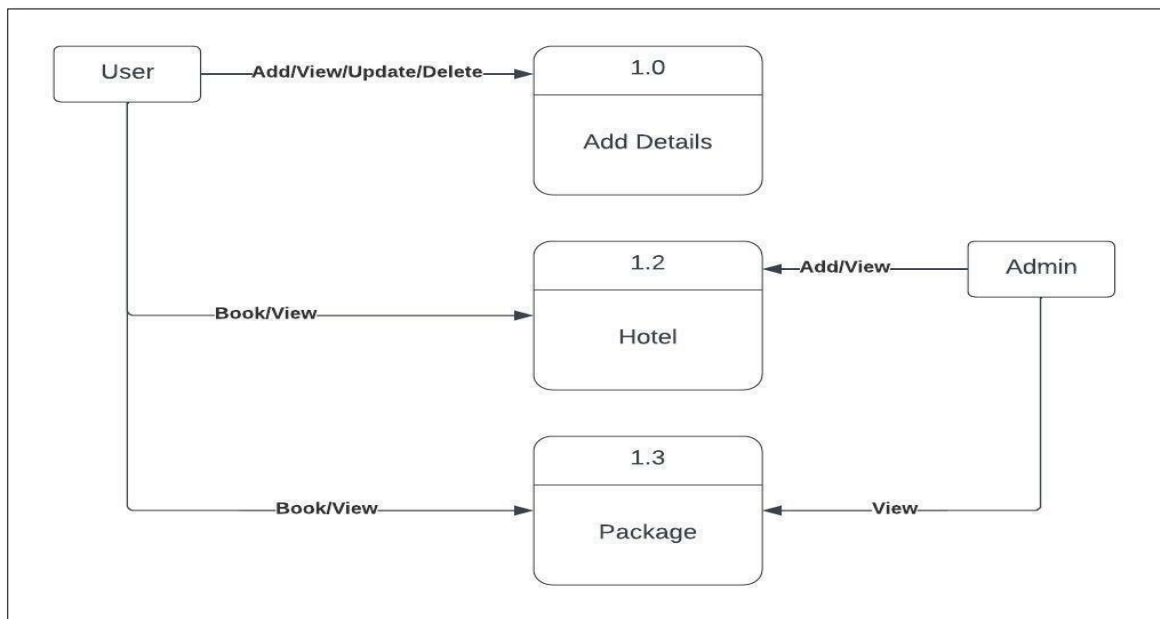


Figure 5 Level 1 DFD of Travel & Tours Management System

Here, in the above figure 4 and 5 the flow of data of the Travel & Tours Management System has been shown as in Two levels of DFD i.e. Level 0 and Level 1. There are two modules: user and admin. The admin can login to admin login and add hotels and view the user booked packages and hotels whereas the user can login to the system and add/view/update/delete their details and check and book packages and hotels as well as view the booked hotels and packages. The flow of the above-mentioned activities is shown in the figure 4 & 5.

3.2 System Design

The architectural design, database schema design, interface UI design (UI/UX) and physical DFD of the Travel & Tours Management System are included here.

3.2.1 Architectural design

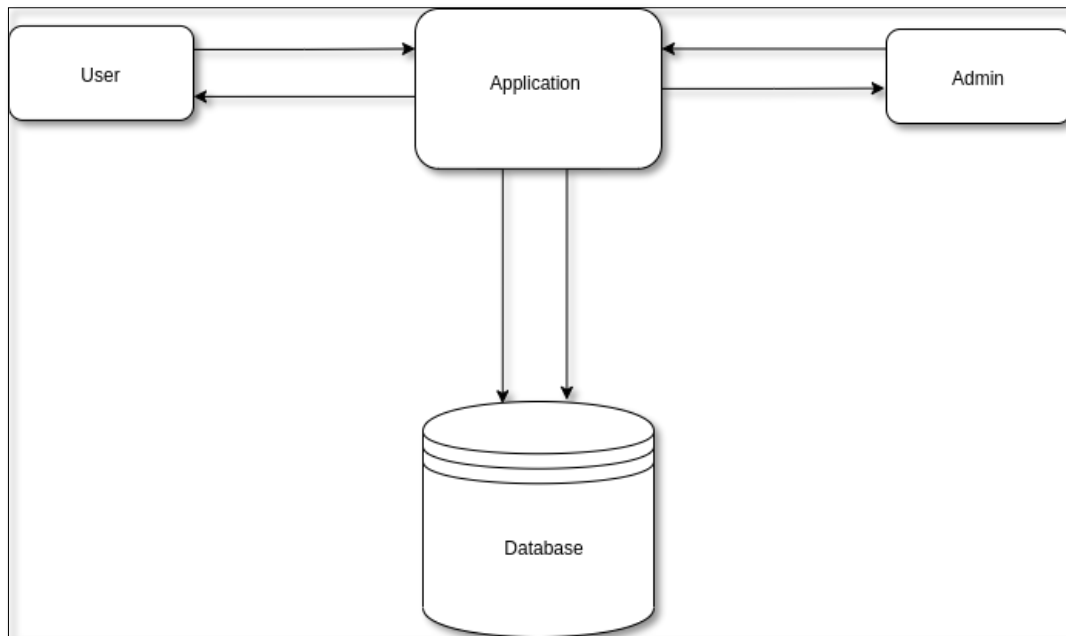


Figure 6 Architectural Diagram of Travel & Tours Management System

In this project, there are two modules: user and admin who both interact with the application and the data added by these modules are saved in the database which can be clearly seen in the figure 6 above.

3.2.2 Database Schema design

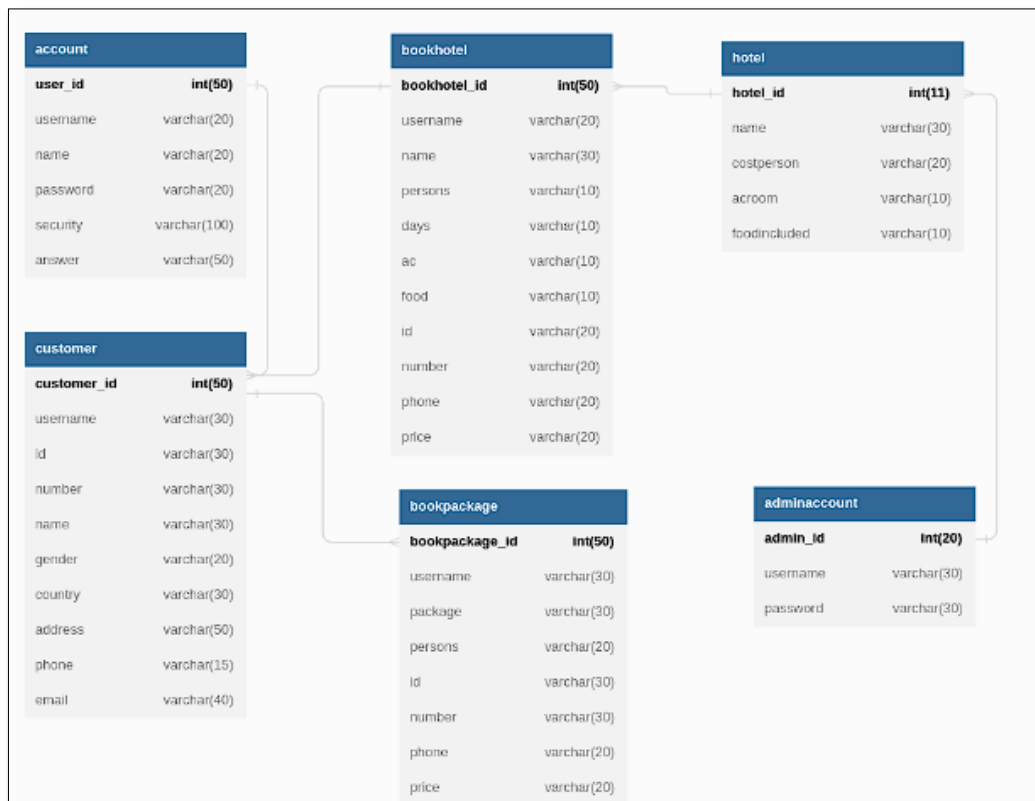


Figure 7 Database Schema Diagram of Travel & Tours Management System

In the above figure 7 the database schema design of the Travel & Tours Management System is shown. It shows the tables as entities and the relationship between those tables whether it has one to one, one to many, many to one or many to many relationships. In the figure 7 above the one to one relationship is denoted by 1 and 1 on each side of the line while one to many is denoted by 1 on one side and * on the other.

3.2.3 Interface design (UI/UX)

The login page features a title 'Login' at the top center. Below it, there are two input fields: 'Username' and 'Password'. A 'Login' button is positioned below the password field. At the bottom center, there is a link labeled 'Forgot Password'.

Figure 8 Login Page of Travel & Tours Management System

The sign up page features a title 'Sign Up' at the top center. Below it, there are five input fields: 'Username', 'Name', 'Password', 'Security Question', and 'Answer'. A 'Sign Up' button is positioned below the 'Answer' field.

Figure 9 Sign up of Travel & Tours Management System

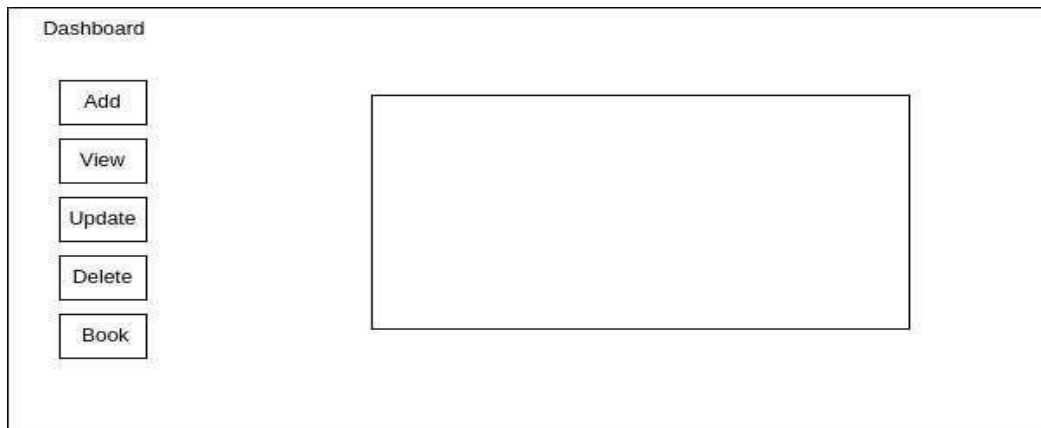


Figure 10 Dashboard of Travel & Tours Management System

This is the Travel & Tours Management System's interface UI/UX design. This design served as a wireframe for the system in an effort to predict its eventual appearance. The system's overall design was made keeping this wireframe as a base. Using this wireframe as a starting point, the full system design was created.

3.2.4 Physical DFD

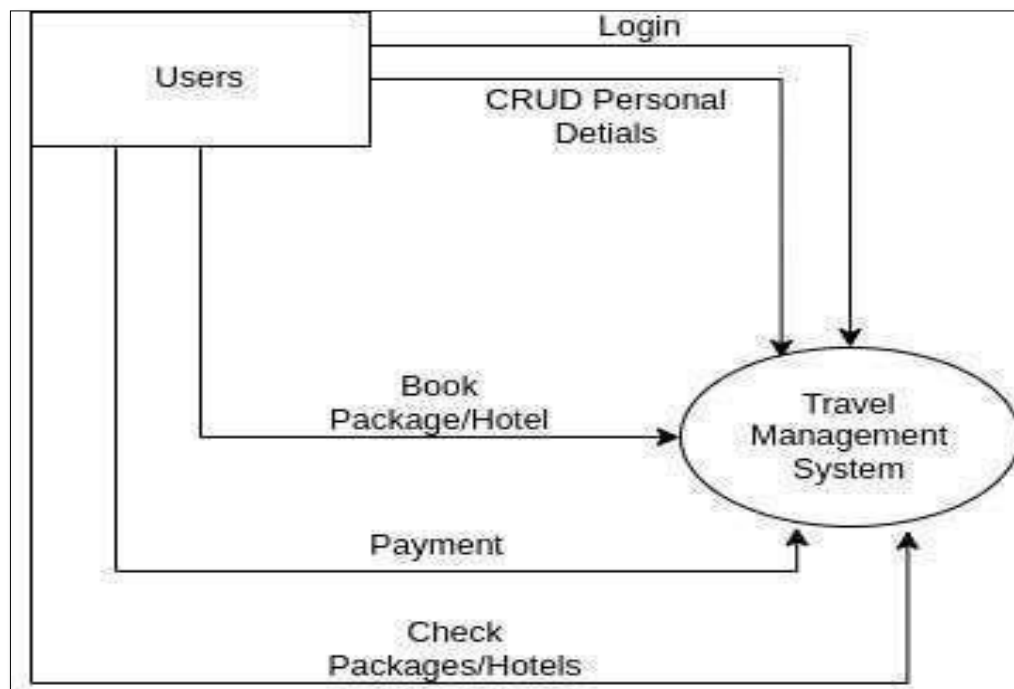


Figure 11 Physical DFD of Travel & Tours Management System

The above figure 10 shows the physical DFD of the system where the users can login, add/view/update and delete their personal details, check and book packages/hotels from the Travel & Tours Management System.

3.3 Algorithm

In this system, different searching and sorting algorithms were used. The Algorithms used in the system are mentioned below.

1. Linear Search Algorithm

Linear search is a very simple search algorithm. In this type of search, a sequential search is made over all items one by one. Every item is checked and if a match is found then that particular item is returned, otherwise the search continues till the end of the data collection. Here, in this system we have used a linear search algorithm for searching the name of the account holder/ customer from the database table through a SQL query. Each data in the database table is matched and the correct user is found out.

Here in this system, the various places this algorithm is used are:

Login: The username and password written while logging in should be matched with the one which was set during the sign-up process. So, when we click the login button the current given username and password is searched in the database table and if it exists it is authenticated and allowed to enter in the dashboard otherwise the user or the admin cannot login to the system. Here a select query is run to search the needed data from the database. Similarly, the linear search algorithm is also used in other modules like Add Personal Details, Book packages and hotels where the user information has been set according to the users' data in the database so that the user does not have to fill the same data again and again. This also increases the systems usability.

2. File Sort Algorithm: In MySQL, filesort is the catch-all algorithm for producing sorted results for ORDER-BY or GROUP-BY queries. MySQL has two algorithms for filesort, both the original and the modified algorithms. The most commonly used algorithm is the so-called modified algorithm, it is used for all cases except when BLOB and TEXT columns are involved. Here in this system the most booked package and hotel is recommended to the user and the admin can also view it. This helps the user to choose the best package and hotel available. For this recommendation feature in the system we have used GROUP BY and the ORDER BY clause to sort the data from the database. The algorithm is used as:

1. Read the rows that match the WHERE clause.
2. For each row, record a tuple of values consisting of the sort key value and the additional fields referenced by the query.
3. When the sort buffer becomes full, sort the tuples by sort key value in memory and write it to a temporary file.
4. After merge-sorting the temporary file, retrieve the rows in sorted order, read the required columns directly from the sorted tuples

This type of sorting is called comparison-based sorting. So, we can say that our system has used file sort algorithms and merge sorting.

3. Encoding Algorithm: The user password was encrypted in my system using the AES base 64 technique which is an encoding Algorithm before being saved to the database. AES is still commonly used because it is substantially stronger than DES and triple DES. Using base64, I can convert binary data into text. The text data is then converted to a byte array. To encrypt data at each level, this class provides three distinct encoders and decoders. These techniques were applied at the following levels.

For encoding and decoding operations, it makes use of the Base64 alphabet that Java specifies in RFC 4648 and RFC 2045. There is no line separator character added by the encoder. Data that contains characters not found in the base64 alphabet is rejected by the decoder.

Chapter 4: Implementation and Testing

4.1 Implementation

4.1.1 Tools used (CASE tools, programming languages, database platforms)

Table 1 Tools and Technology

Tools & Technology	Purposes
Java	For Frontend and Backend Development
MySQL	Database
Xampp	Database Management
Apache NetBeans	For coding and development
Git and GitHub	For version controlling

4.1.2 Implementation details of modules

This section elaborates on how the modules in the system are implemented and what functions do they contribute to the system. User Module:

1. **Sign up module:** The user fills a form which has five text fields and create & back button. When the user clicks on the create button, their account is created. Similarly, when they click on back button, the page redirects to login page. The user has to fill their username, name, password, and answer the security question which is to retrieve the password if needed in future.
2. **Login module:** In this module, the user has to authenticate to the system. There are two fields: username & password, which should match the information used while signing up to login.
3. **Forgot password:** This module is used in a condition when the user forgets his/her password so to retrieve the password the user has to solve some security questions and if he/she answers it correctly then the user can change their password and set a new password.
4. **Recommend the most booked package and hotels:** As soon as the user logs in and enters the dashboard, the most booked package and hotel is recommended to the user. So that two rectangular boxes can be seen in the dashboard which contains the information about the most booked package or hotel.

5. **Add Personal Details:** In this module, the user can add additional personal details like citizenship no., phone no., address and so on. This module is implemented to get all the customers' details and store it in a database. There are 10 fields where the user has to fill their information. There is an add & a back button where when a user clicks on add button, their personal information is added. Similarly, when they click on back button, it redirects to a previous page they were in.
6. **View Personal Details:** After the personal details are added it can be viewed through this module.
7. **Update Personal Details:** In this module, the added personal details can be updated if needed and the changes will also be updated in the database. The Update Personal Detail form is similar to the Add Personal Details.
8. **Delete Details:** This module is used when a user wants to delete his/her account.
9. **Check Packages:** This module is implemented so that the user can view the packages available in the system. According to which he/ she can decide which package to choose.
10. **Book Package:** In this module, the most preferred package can be chosen and its price can be checked by clicking on the check price button according to the no. of people included in the tour.
11. **View Booked Package:** The user can view the booked package here in this module.
12. **Check Hotels:** In this module, the images of the hotels along with their names can be viewed in a slideshow so that the customer can find their most preferred hotel.
13. **Book Hotel:** In this module, the user can book their most preferred hotel. Along with it the price of the days to stay in the hotel is calculated by the choice picked by the customer like whether they want AC room or not, Food included or not, the no. of people and the no. of days they want to spend in the hotel. There are three buttons: check price, book hotel & back button.
14. **View Booked Hotel:** The user can view the booked hotel in this module which is similar to the view booked package page.
15. **Destinations:** This module contains a slideshow of pictures of different destinations for the users to view.
16. **Payment:** This module just contains two buttons which on click redirects to the payment gateway link. There are two payment gateways included i.e Khalti, eSewa.
17. **Logout:** The logout button is located in the dashboard which can be clicked when the user wants to logout of the system.

Admin Login

1. **Add Hotels:** In this module, the admin can add the hotels and its details which will be shown to the user for booking. The add hotel form contains name, cost per person, AC room, foods included fields. There is an add & a back button where when a user clicks on add button, their personal information is added. Similarly, when they click on back button, it redirects to a previous page they were in.
2. **View Booked Package:** The admin can view the package booked by the user here in this module.
3. **View Booked Hotel:** The admin can view the hotel booked by the user here in this module.
4. **View the most booked package and hotels:** The admin can view the most booked package and hotels of the season. The two rectangular boxes can be seen in the dashboard which contains the information about the most booked package or hotel.

4.2 Testing

Testing is evaluation of the software against requirements gathered from users and system specifications. Testing identifies important defects, flaws, or an error in the application code that must be fixed. It also assesses the features of a system. Testing assesses the quality of the product. The Travel & Tours Management System was tested both individually and all together as agile methodology was used to develop the system.

4.2.1 Test cases for Unit Testing

Unit testing focuses on the modules independently locate the errors. This enables the tester to detect errors in coding. It is the process of taking a module and running it in isolation from rest of the software product by using prepared test cases and comparing the actual result with the result redirected with the specifications and design of the module.

Since agile methodology was used to develop the system after each and every module was completed and was tested as a single unit.

Table 2 Sign up

Serial No.	Description	Expected Result	Actual Result	Result
1.	Sign up	User information should be saved.	User information is saved in the database.	Passed
2.	Empty fields	Dialogue box should be shown saying, "Please fill the form"	Dialogue box is shown saying, "Please fill the form"	Passed

Table 3 Login

Serial No.	Description	Expected Result	Actual Result	Result
1.	Login	User should be redirected to dashboard after authentication.	User is redirected to dashboard after authentication.	Passed
2.	Empty fields	Dialogue box should be shown saying, "Please fill the form"	Dialogue box is shown saying, "Please fill the form"	Passed
3.	Incorrect username password	Dialogue box should be shown saying, "Incorrect credentials"	Dialogue box is shown saying, "Incorrect credentials"	Passed

Table 4 Personal details

Serial No.	Description	Expected Result	Actual Result	Result
1.	Add	User should be added.	User is added to the database.	Passed
2.	View	Added information should be displayed.	Added information is displayed.	Passed
3.	Update	Added information can be updated.	Added information is updated.	Passed
4.	Delete	User can be deleted.	User is deleted.	Passed

Table 5 Package

Serial No.	Description	Expected Result	Actual Result	Result
1.	Check	User should be able to view the available packages.	User views the available packages.	Passed
2.	Book	User can book preferable package.	User books preferable package.	Passed
3.	View booked package	User can view the package they booked.	User views the package they booked.	Passed

Table 6 Hotel

Serial No.	Description	Expected Result	Actual Result	Result
1.	Check	User should be able to view the available hotels.	User views the available hotels.	Passed
2.	Book	User can book preferable hotel.	User books preferable hotel.	Passed
3.	View booked hotel	User can view the hotel they booked.	User views the hotel they booked.	Passed
4.	Add hotel	Admin can add hotels.	Admin adds hotels.	Passed

Table 7 Logout

Serial No.	Description	Expected Result	Actual Result	Result
1.	Logout	Dashboard should close and login page should open.	Dashboard will close and login page will open.	Passed

4.2.2 Test cases for System Testing

System Testing is a level of testing that validates the complete and fully integrated software product. The purpose of a system test is to evaluate the end-to-end system specification. The system is integrated, then tested, once each module has been designed, tested, and passed all of the tests.

Table 8 System testing

Serial No.	Description	Expected Result	Actual Result	Result
1.	Overall system testing	All the functionalities of the system should work properly after integration.	All the functionalities of the system are working properly after integration.	Passed

Chapter 5: Conclusion and Future Recommendation

5.1 Conclusion

Travel & Tours Management System is a desktop-based system that is used to streamline all of a travel agency's operations. The minimal CRUD activities, such as adding, editing, viewing and deleting customers, adding and booking hotels, and selecting packages, have been performed in this project. Additionally, it offers advice by displaying the hotels and travel packages that are in the most demand. However, some additional work must be done in order for this website to be useful in the actual world. These projects are covered in the section of this page titled "Future Work."

5.2 Lesson learnt/Outcome

Working on this project allowed me to gain a lot of knowledge. Using Java and MySQL, I acquired experience in developing desktop applications. As we had to give presentations, this project taught me how to properly document things, and it also helped me boost my confidence. Overall, this project greatly aided in the development of my skills.

I have made a Travel & Tours Management System that has two modules: User & admin module. Users can complete the bare minimum CRUD tasks, such as adding, updating, and deleting their personal information, reserving hotels, and selecting packages in accordance with their needs. The administrator, however, can add hotels as well as check hotels and packages booked by users. Additionally, it offers recommendations by displaying the hotels and travel packages that are most popular.

5.3 Future Recommendations

1. Location wise, season wise filters.
2. Send notification to user about the booked package and hotel information.
3. Full online payment integration.
4. Send notification to user after successful payment.

References

- [1] “Online travel management software,” *Technoheaven Consultancy*. [Online]. Available: <https://www.technoheaven.net/travel-management-system.aspx>. [Accessed: 11-Feb-2022].
- [2] e-Zone International, “Travel agencies, trekking companies & tour operators software in Nepal,” *Com.np*. [Online]. Available: <https://www.ezone.com.np/?/product/e-travel-online-travel-management-software-nepal>. [Accessed: 22-Feb-2022].
- [3] “Travel management software in Nepal,” *Mero Network*, 08-Sep-2019. [Online]. Available: <https://www.meronetwork.com/travel-software-in-nepal/>. [Accessed: 01-Mar-2022].
- [4] “Travel management,” *Booking.com for Business*, 10-May-2021. [Online]. Available: <https://business.booking.com/travel-management/>. [Accessed: 05-Apr-2022].
- [5] D. van Zeeburg, “The 8 best hotel reservation software in 2022,” *TravelPerk*, 28-Mar-2022. [Online]. Available: <https://www.travelperk.com/blog/best-hotel-reservation-software/>. [Accessed: 26-Apr-2022].
- [6] À. Castillo, “17 must-have features in a travel management system,” *TravelPerk*, 22-Aug-2021. [Online]. Available: <https://www.travelperk.com/blog/travel-management-system/>. [Accessed: 28-Apr-2022].
- [7] “W3Schools free online web tutorials,” *W3schools.com*. [Online]. Available: <https://www.w3schools.com>. [Accessed: 15-Jun-2022].
- [8] *Javatpoint.com*. [Online]. Available: <https://www.javatpoint.com>. [Accessed: 20-Jun-2022].
- [9] “Stack Overflow - where developers learn, share, & build careers,” *Stack Overflow*. [Online]. Available: <https://www.stackoverflow.com/>. [Accessed: 04-Jul-2022].
- [10] M. A. Davies, M. A. Ganesan, and V. Kavitha, *Travel and Tourism Management System*. .
- [11] “IEEE - The world’s largest technical professional organization dedicated to advancing technology for the benefit of humanity,” *Ieee.org*. [Online]. Available: <https://www.ieee.org/>. [Accessed: 23-Sep-2022].

Appendices

System UI

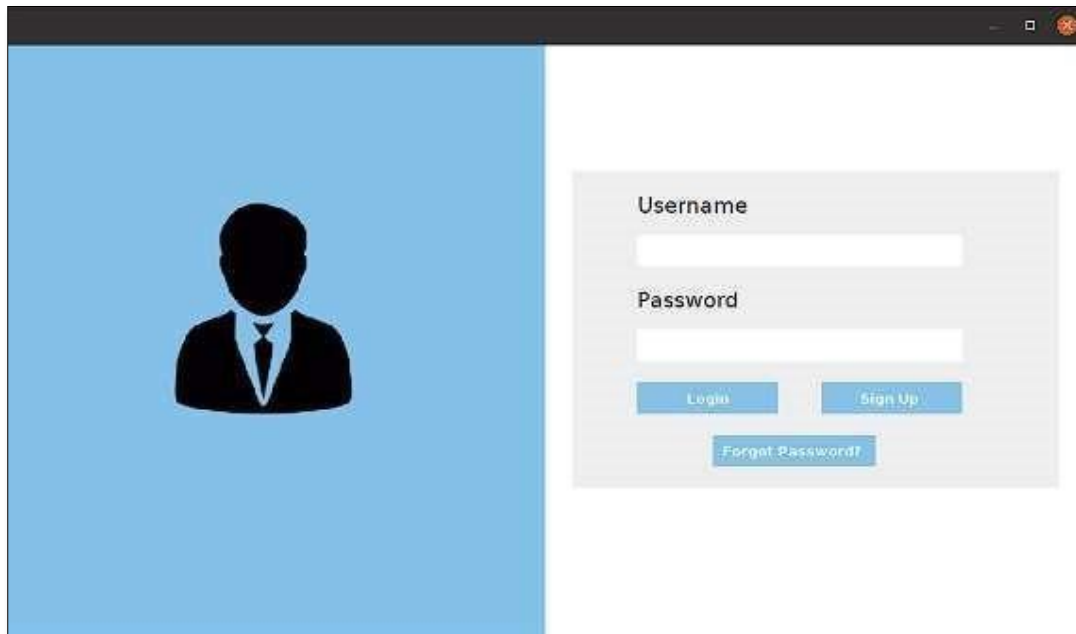


Figure 8 Login page



Figure 9 Sign Up page

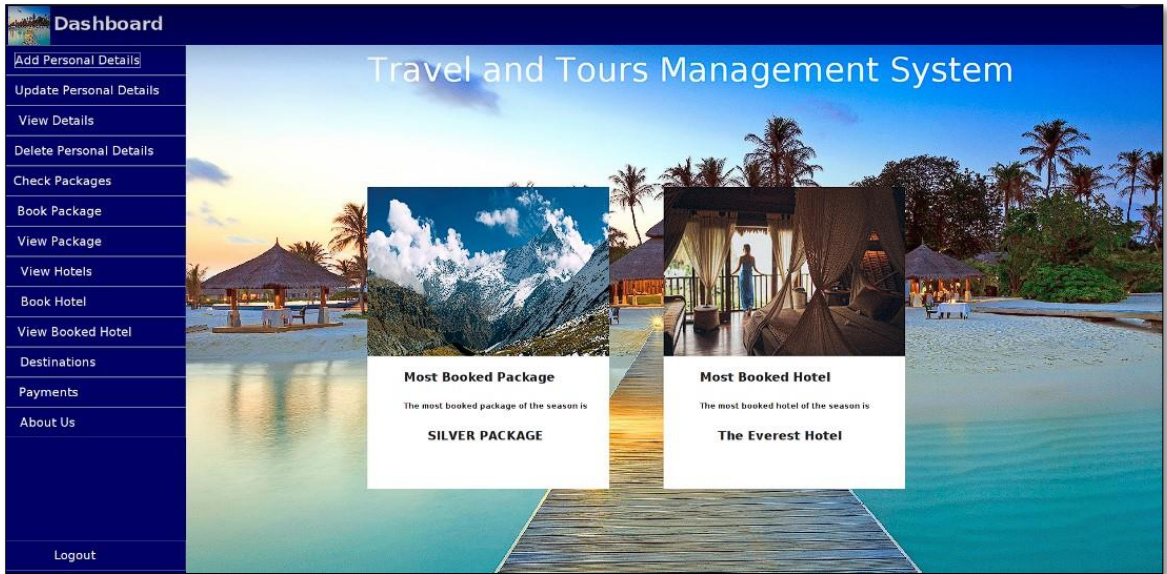


Figure 10 Dashboard

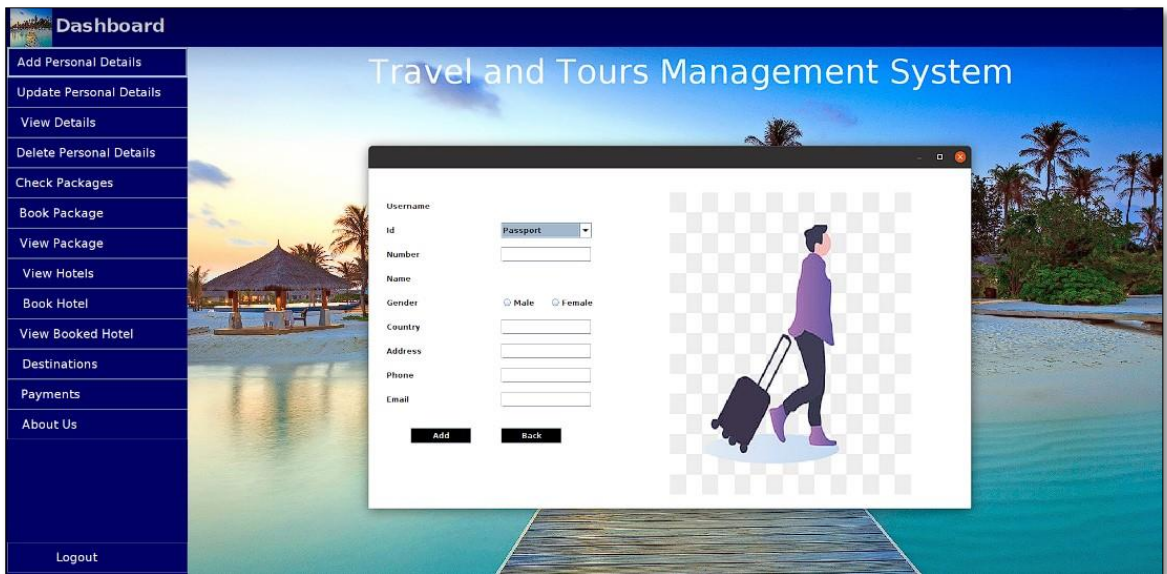


Figure 11 Add Personal Details

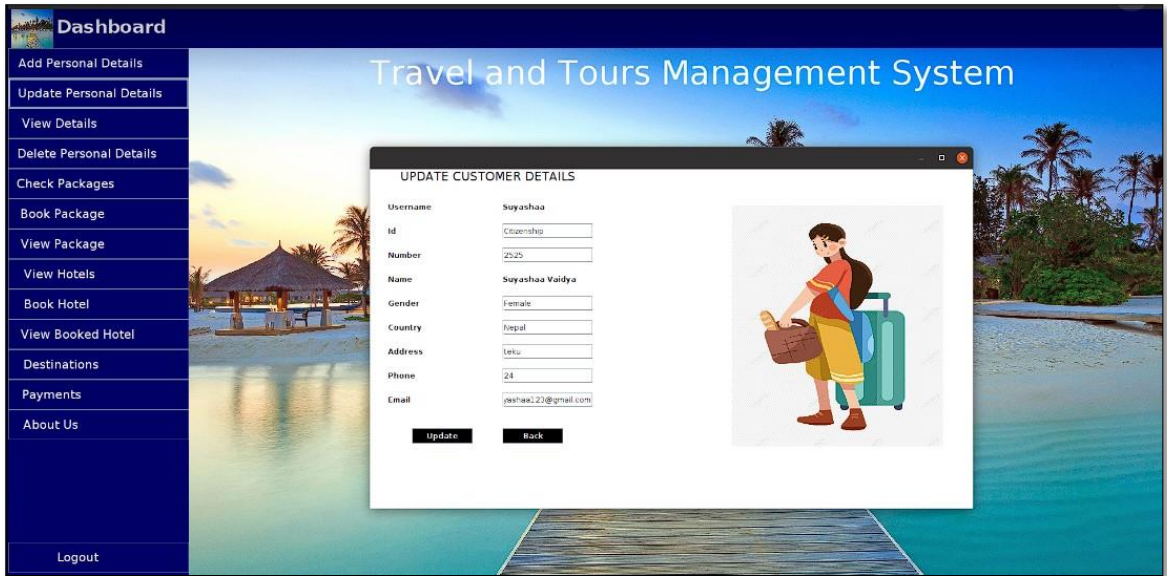


Figure 12 Update Personal Detail



Figure 13 View Hotel

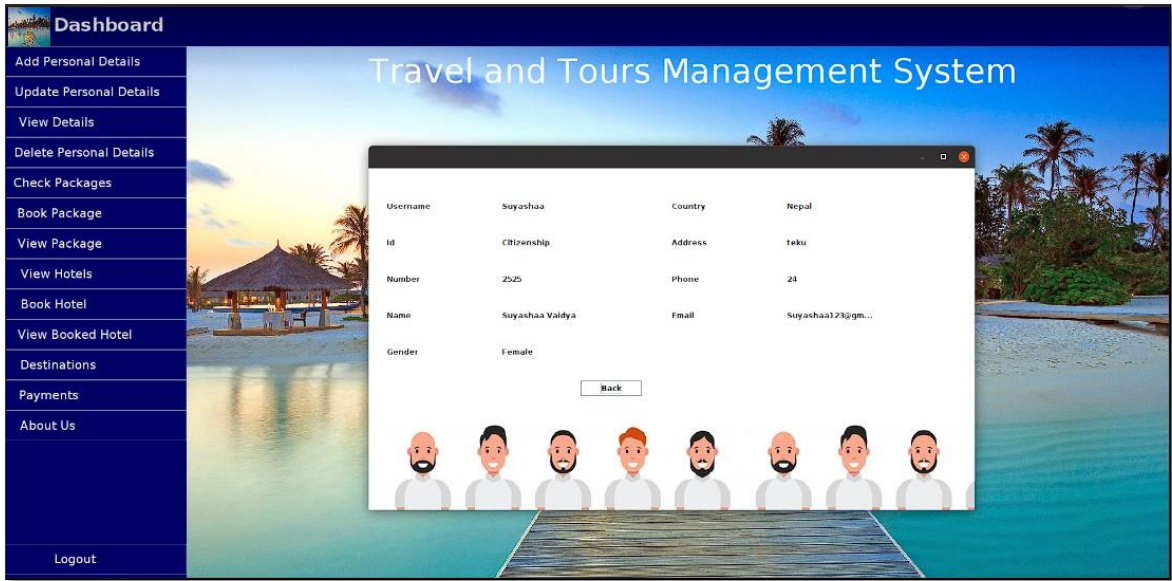


Figure 14 View Details

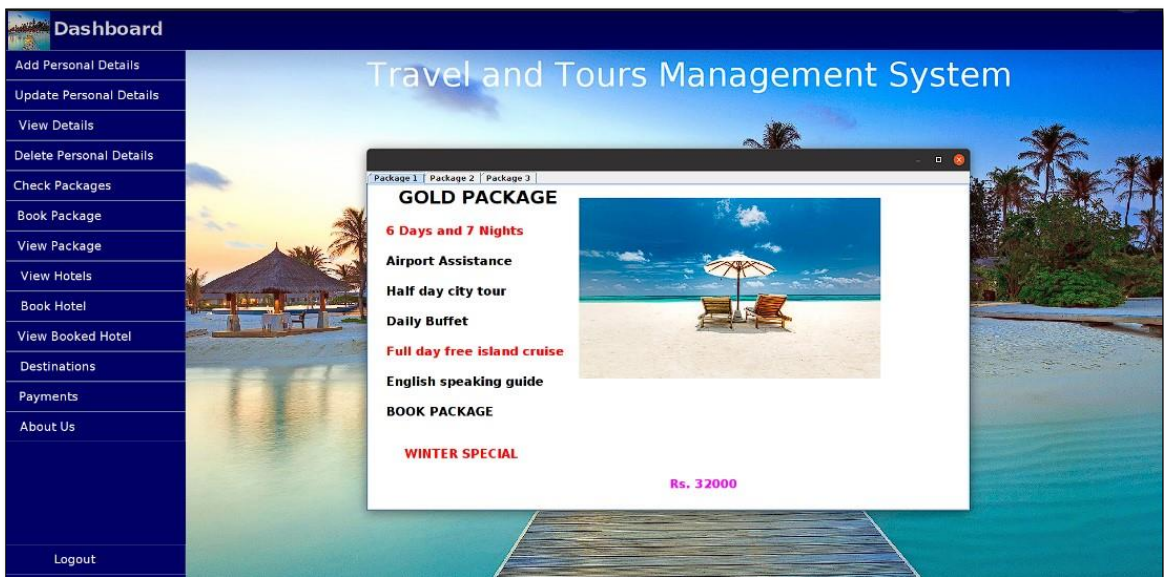


Figure 15 Check package

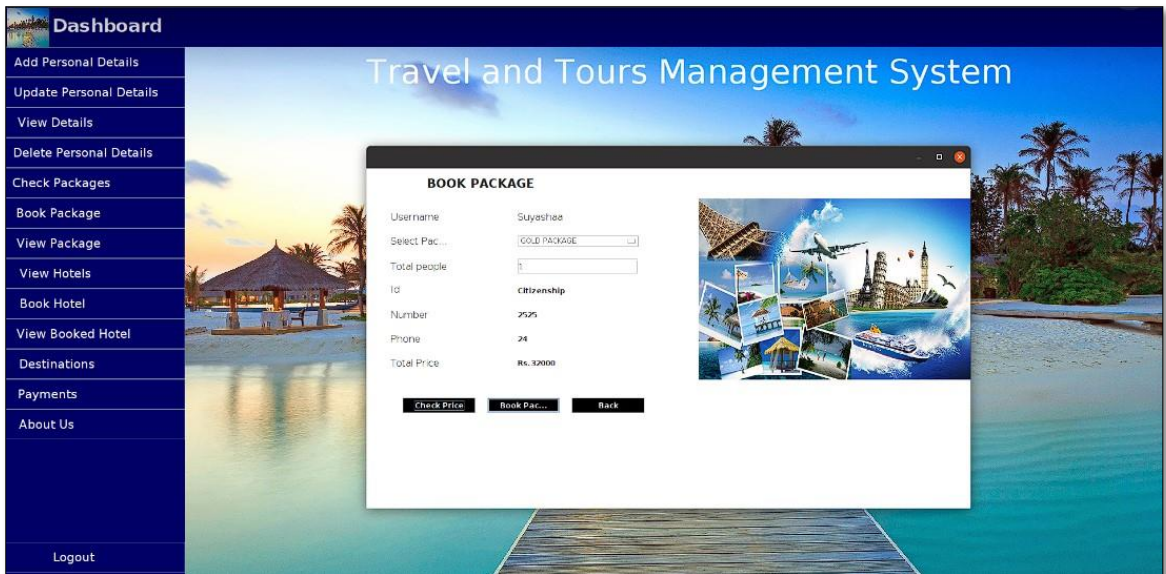


Figure 16 Book Package

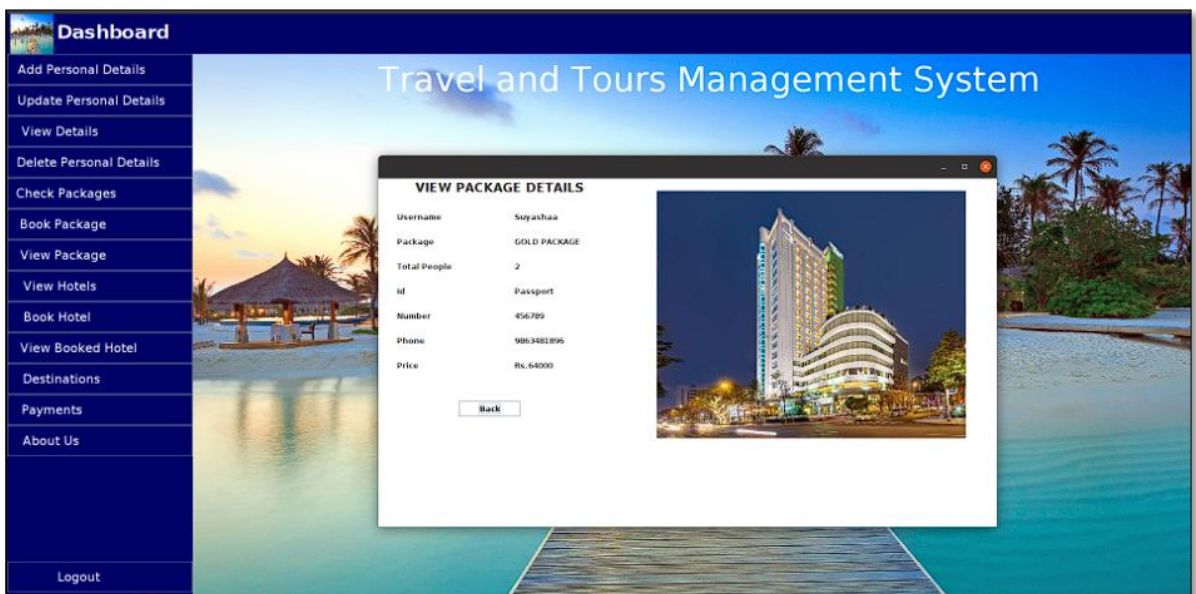


Figure 17 View booked package



Figure 18 View Hotels

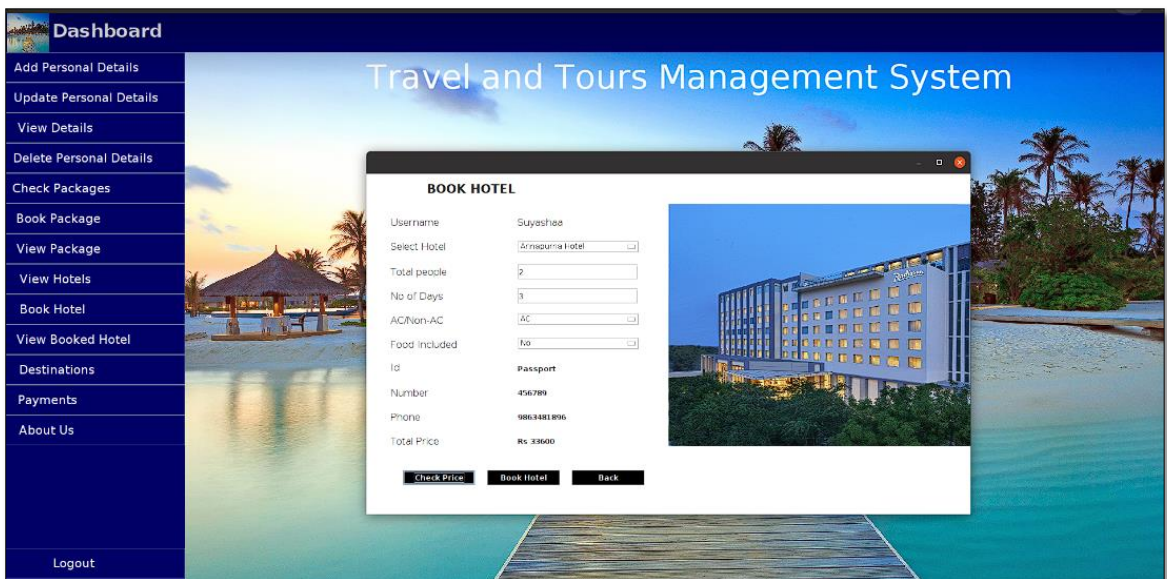


Figure 19 Book Hotel

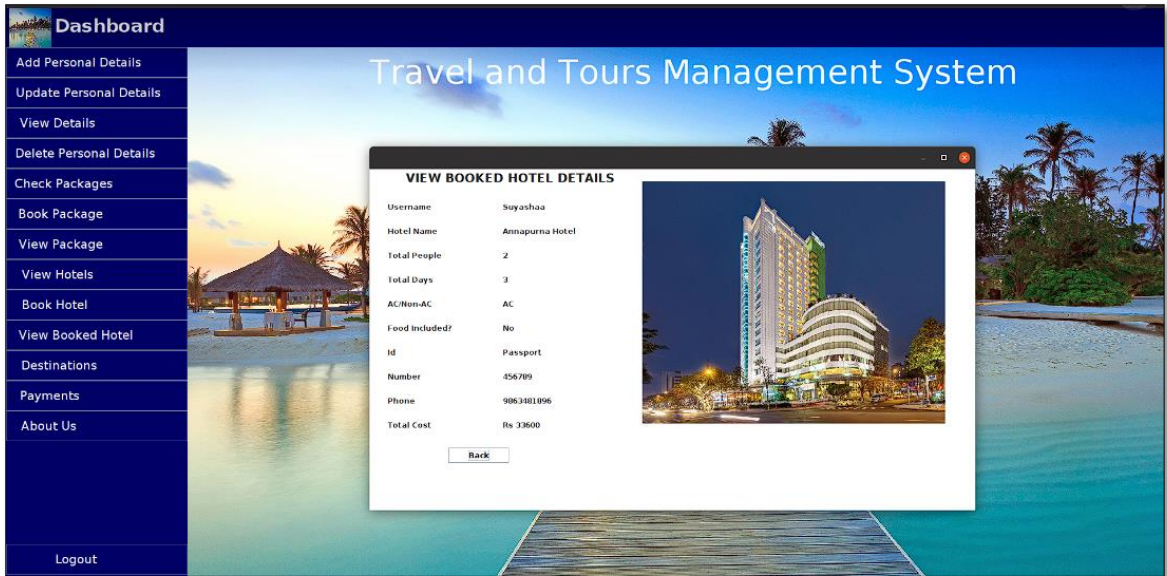


Figure 20 View Booked Hotel

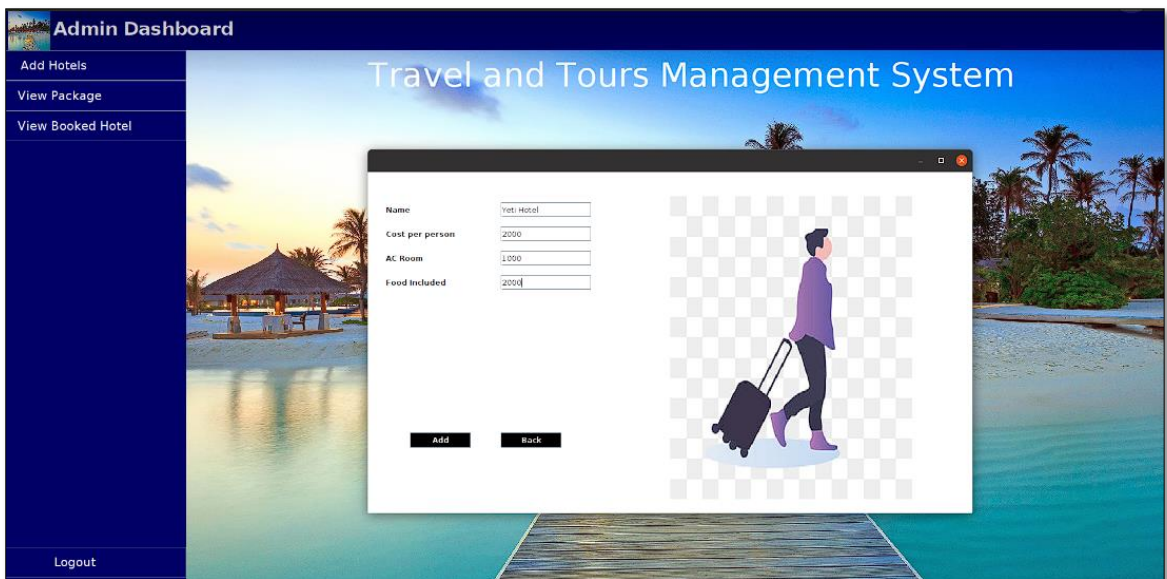
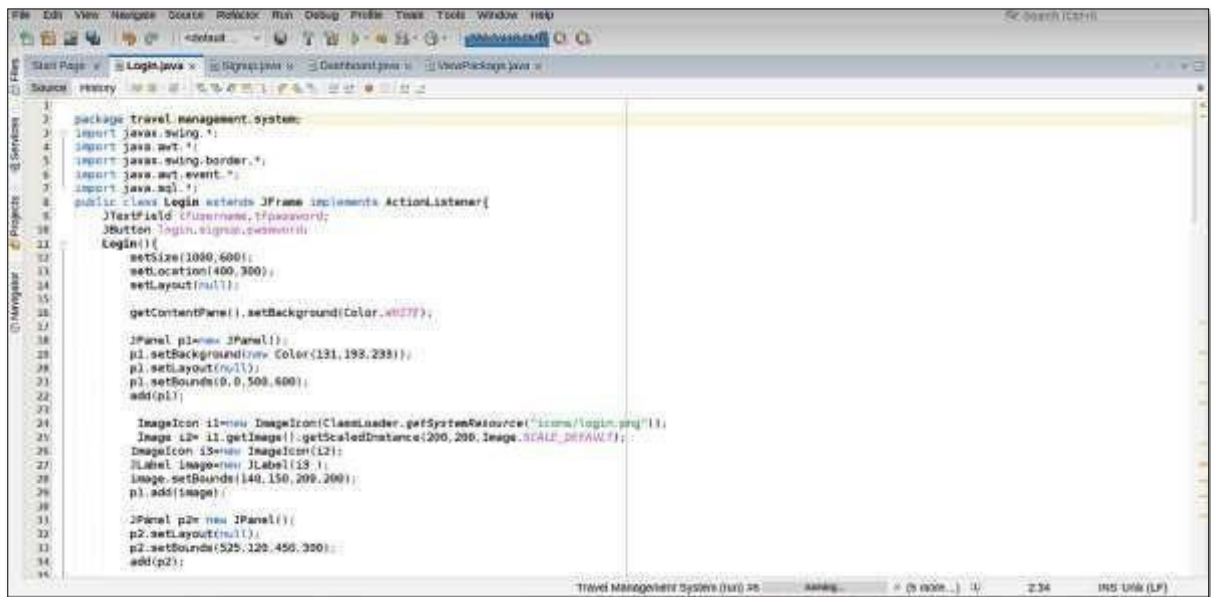


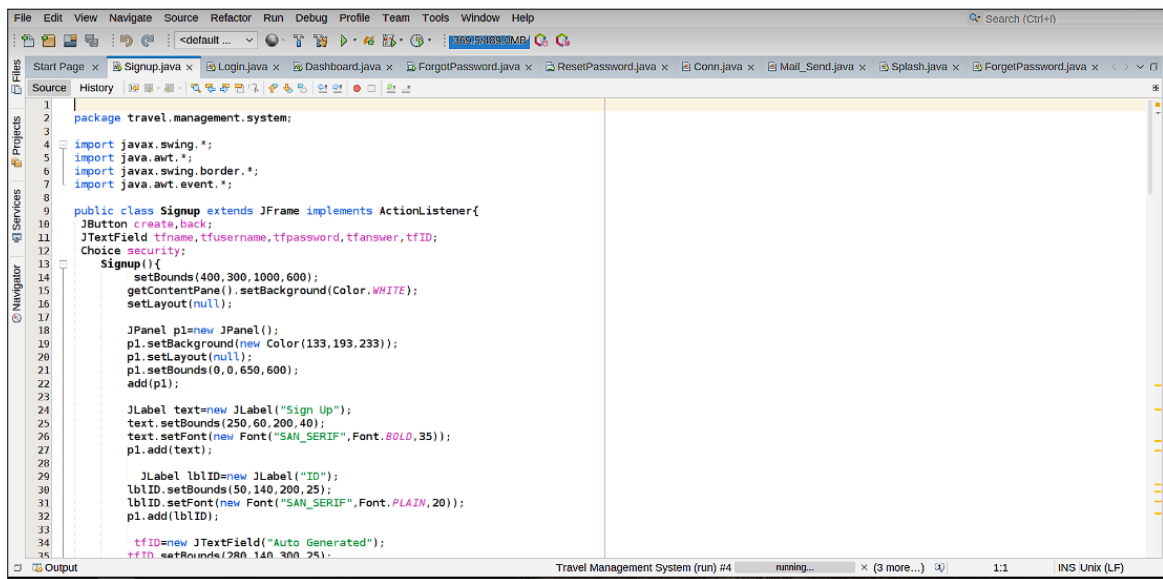
Figure 21 Add hotel

Screenshots of Codes



```
1 package travel.management.system;
2 import javax.swing.*;
3 import java.awt.*;
4 import javax.swing.border.*;
5 import java.awt.event.*;
6 import java.sql.*;
7
8 public class Login extends JFrame implements ActionListener{
9     JTextField tfusername,tfpassword;
10    JButton login,signup,reset;
11
12    Login(){
13        setSize(1000,600);
14        setLocation(400,300);
15        setLayout(null);
16
17        getContentPane().setBackground(Color.WHITE);
18
19        JPanel p1=new JPanel();
20        p1.setBackground(new Color(131,193,233));
21        p1.setLayout(null);
22        p1.setBounds(0,0,500,600);
23        add(p1);
24
25        ImageIcon i1=new ImageIcon(ClassLoader.getSystemResource("image/login.png"));
26        Image i2= i1.getImage().getScaledInstance(200,200,Image.SCALE_DEFAULT);
27        ImageIcon i3=new ImageIcon(i2);
28        JLabel image=new JLabel(i3);
29        image.setBounds(140,150,200,200);
30        p1.add(image);
31
32        JPanel p2= new JPanel();
33        p2.setLayout(null);
34        p2.setBounds(525,125,450,300);
35        add(p2);
```

Figure 22 Screenshot of login page



```
1 package travel.management.system;
2
3 import javax.swing.*;
4 import java.awt.*;
5 import javax.swing.border.*;
6 import java.awt.event.*;
7
8 public class Signup extends JFrame implements ActionListener{
9     JButton create,back;
10    JTextField tfname,tfusername,tfpassword,tfanswer,tfID;
11    Choice security;
12
13    Signup(){
14        setBounds(400,300,1000,600);
15        getContentPane().setBackground(Color.WHITE);
16        setLayout(null);
17
18        JPanel p1=new JPanel();
19        p1.setBackground(new Color(133,193,233));
20        p1.setLayout(null);
21        p1.setBounds(0,0,650,600);
22        add(p1);
23
24        JLabel text=new JLabel("Sign Up");
25        text.setBounds(250,60,200,40);
26        text.setFont(new Font("SAN_SERIF",Font.BOLD,35));
27        p1.add(text);
28
29        JLabel lblID=new JLabel("ID");
30        lblID.setBounds(50,140,200,25);
31        lblID.setFont(new Font("SAN_SERIF",Font.PLAIN,20));
32        p1.add(lblID);
33
34        tfID=new JTextField("Auto Generated");
35        tfID.setBounds(280,140,300,25);
```

Figure 23 Screenshot of signup page

```

File Edit View Navigat Source Refactor Run Debug Profile Team Tools Window Help
- codan -
Dashboard.java
Source History
6 import java.sql.*;
7 public class Dashboard extends JFrame implements ActionListener {
8     JButton addPersonalDetails, payments, deletePersonalDetails, viewBookedHotel, about, bookHotel, destinations, viewPersonalDetails, viewHotels, updatePersonalDetails,
9     String username;
10     Dashboard(String username) {
11         this.setUsername(username);
12         setDefaultCloseOperation(JFrame.MAXIMIZED_BOTH);
13         setLayout(null);
14
15         JPanel p1=new JPanel();
16         p1.setLayout(null);
17         p1.setBackground(new Color(0,0,102));
18         p1.setBounds(0,0,1920,65);
19         add(p1);
20
21         ImageIcon i1=new ImageIcon(ClassLoader.getSystemResource("icons/home.jpg"));
22         Image i1s=i1.getImage().getScaledInstance(70,70,Image.SCALE_SMOOTH);
23         ImageIcon i2=new ImageIcon(i1s);
24         JLabel icon=new JLabel(i2);
25         icon.setBounds(5,0,70,70);
26         p1.add(icon);
27
28         JLabel heading=new JLabel("Dashboard");
29         heading.setBounds(10,10,300,40);
30         heading.setForeground(Color.WHITE);
31         heading.setFont(new Font("Tahoma",Font.BOLD,30));
32         p1.add(heading);
33
34         JPanel p2=new JPanel();
35         p2.setLayout(null);
36         p2.setBackground(new Color(0,0,102));
37         p2.setBounds(0,65,300,900);
38         add(p2);
39

```

Figure 24 Screenshot of Add Personal Details

```

File Edit View Navigat Source Refactor Run Debug Profile Team Tools Window Help
- codan -
Dashboard.java
Source History
137 p2.add(deletePersonalDetails);
138
139 payments=new JButton("Payments");
140 payments.setBounds(0,550,300,50);
141 payments.setBackground(new Color(0,0,102));
142 payments.setForeground(Color.WHITE);
143 payments.setFont(new Font("Tahoma",Font.PLAIN,20));
144 payments.addActionListener(this);
145 payments.setMargin(new Insets(0,0,0,15));
146 p2.add(payments);
147
148 about=new JButton("About Us");
149 about.setBounds(0,600,300,50);
150 about.setBackground(new Color(0,0,102));
151 about.setForeground(Color.WHITE);
152 about.setFont(new Font("Tahoma",Font.PLAIN,20));
153 about.setMargin(new Insets(0,0,0,10));
154 p2.add(about);
155
156 ImageIcon i4=new ImageIcon(ClassLoader.getSystemResource("icons/home.jpg"));
157 Image i4s=i4.getImage().getScaledInstance(1650,1000,Image.SCALE_SMOOTH);
158 ImageIcon i5=new ImageIcon(i4s);
159 JLabel image=new JLabel(i5);
160 image.setBounds(0,0,2200,1800);
161 add(image);
162
163 JLabel text=new JLabel("Travel and Tours Management System");
164 text.setBounds(600,70,1400,70);
165 text.setForeground(Color.WHITE);
166 text.setFont(new Font("Tahoma",Font.PLAIN,55));
167 image.add(text);
168
169 JPanel p3=new JPanel();
170

```

Figure 25 Screenshot of Dashboard


```
1 package travel.management.system;
2 import javax.swing.*;
3 import java.awt.*;
4 import java.awt.event.*;
5 import java.sql.*;
6
7 public class ViewPackage extends JFrame implements ActionListener{
8     JButton btnExit;
9     ViewPackage(String username){
10         setBounds(600,300,1000,600);
11         getContentPane().setBackground(Color.WHITE);
12         setLayout(null);
13
14         JLabel text=new JLabel("VIEW PACKAGE DETAILS");
15         text.setBounds(60,0,300,30);
16         text.setFont(new Font("Tahoma",Font.BOLD,28));
17         add(text);
18
19         JLabel lblusername =new JLabel("username");
20         lblusername.setBounds(30,50,150,25);
21         add(lblusername);
22
23         JLabel lblusername =new JLabel("");
24         lblusername.setBounds(200,50,150,25);
25         add(lblusername);
26
27         JLabel lblid =new JLabel("package");
28         lblid.setBounds(30,90,150,25);
29         add(lblid);
30
31         JLabel lblpackage =new JLabel("");
32         lblpackage.setBounds(200,90,150,25);
33         add(lblpackage);
34     }
35 }
```

Figure 26 Screenshot of View Package

```
16 * @author suyashaa
17
18 public class AdminViewBookedHotels extends javax.swing.JFrame {
19     public AdminViewBookedHotels() {
20         initComponents();
21         setBounds(600,300,1000,600);
22         getContentPane().setBackground(Color.WHITE);
23         setLayout(null);
24
25         DefaultTableModel dtm;
26
27         try {
28             Conn c=new Conn();
29             String sql = "SELECT * FROM bookhotel ";
30             ResultSet rs = c.s.executeQuery(sql);
31             java.sql.ResultSetMetaData rsm=rs.getMetaData();
32             int n=rsm.getColumnCount();
33             dtm = (DefaultTableModel) Adminviewhotel.getModel();
34             dtm.setRowCount(0);
35             while(rs.next()){
36                 Vector v=new Vector();
37                 for(int i=1;i<n;i++){
38                     v.add(rs.getString("username"));
39                     v.add(rs.getString("name"));
40                     v.add(rs.getString("persons"));
41                     v.add(rs.getString("days"));
42                     v.add(rs.getString("ac"));
43                     v.add(rs.getString("food"));
44                     v.add(rs.getString("id"));
45                     v.add(rs.getString("number"));
46                     v.add(rs.getString("phone"));
47                     v.add(rs.getString("price"));
48                 }
49                 //System.out.println("v"+v);
50                 dtm.addRow(v);
51             }
52         } catch (Exception e) {
53             e.printStackTrace();
54         }
55     }
56 }
```

Figure 27 Screenshot of View Booked Hotel

```
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
AdminViewBookedHotels.java AdminViewBookedPackage.java Splash.java AddCustomer.java UpdateCustomer.java Destinations.java CheckPackage.java
Source Design History
19 public AdminViewBookedPackage() {
20     initComponents();
21     setBounds(600,300,1000,600);
22     getContentPane().setBackground(Color.WHITE);
23     setLayout(null);
24
25     DefaultTableModel dtm;
26
27     try {
28         Conn c=new Conn();
29         String sql = "SELECT * FROM bookpackage";
30         ResultSet rs = c.s.executeQuery(sql);
31         java.sql.ResultSetMetaData rsm=rs.getMetaData();
32         int n=rsm.getColumnCount();
33         dtm = (DefaultTableModel) Adminviewpackage.getModel();
34         dtm.setRowCount(0);
35         while(rs.next()){
36             Vector v=new Vector();
37             for(int i=1;i<=n;i++){
38                 v.add(rs.getString("username"));
39                 v.add(rs.getString("package"));
40                 v.add(rs.getString("persons"));
41                 v.add(rs.getString("id"));
42                 v.add(rs.getString("number"));
43                 v.add(rs.getString("phone"));
44                 v.add(rs.getString("price"));
45             }
46             dtm.addRow(v);
47         }
48         System.out.println("Data displayed");
49     } catch (Exception e) {
50         System.out.println("Data not displayed"+e);
51     }
52 }
53
Output
Travel Management System (run) #2 running... x (1 more...) 47:2 INS Unix (LF)
```

Figure 28 Screenshot of View booked package

```
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
AdminViewBookedPackage.java Splash.java AddCustomer.java UpdateCustomer.java Destinations.java CheckPackage.java Conn.java AddHotel.java
Source Design History
62 back.addActionListener(this);
63 back.setBounds(220, 430, 100, 25);
64 add(back);
65
66 ImageIcon i1=new ImageIcon(ClassLoader.getResource("icons/newcustomer.jpg"));
67 Image i2= i1.getImage().getScaledInstance(400,500,Image.SCALE_DEFAULT);
68 ImageIcon i3=new ImageIcon(i2);
69 JLabel image=new JLabel(i3 );
70 image.setBounds(400,40,400,500);
71 add(image);
72
73 setVisible(true);
74
75
76 public void actionPerformed(ActionEvent ae){
77     if(ae.getSource()== add){
78
79         String name=tfname.getText();
80         String costperperson=tcost.getText();
81         String acroom=tfac.getText();
82         String food=tfoot.getText();
83
84         try{
85             Conn c=new Conn();
86             String query= "insert into hotel values('"+name+"','"+costperperson+"','"+acroom+"','"+food+"')";
87             c.s.executeUpdate(query);
88             JOptionPane.showMessageDialog(null, "Hotel added succesfully");
89         }catch(Exception e){
90             e.printStackTrace();
91         }
92         setVisible(false);
93     }else{
94         setVisible(false);
95     }
96 }
97
Output
Travel Management System (run) #2 running... x (1 more...) 1:1 INS Unix (LF)
```

Figure 29 Screenshot of Add Hotel

Supervisor Visit Log Sheet

Table 9 Supervisor Log sheet

Teacher Name	Date	Signature