Hotel Management System Diploma in Computer System Design Final Project Documentation 2021.1F



School of Computing and Engineering
National Institute of Business Management
Colombo-7

Project title : Hotel Management System

Authors : codcscd211f-007 - Budhima Arambepola

codcsd211f-009 - Imrah Haniffa

codcsd211f-018 - Janidu Ratnayake

codcsd211f-022 - Ranidu Kalugale

Name of the Program: Diploma in Computer System Design

Supervisor : Mr. K.V Narangoda

Institution : School of Computing and Engineering

National Institute of Business

Management

Signature :

Date : 19/12/2022

This project is submitted in partial fulfillment of the requirement of the Diploma in Computer System Design of the National institute of business management.

Declaration

I certify that this project does not use any materials previously submitted for a diploma at any institution without acknowledgment, and to the best of our knowledge and belief, it does not contain any materials previously published or written by us or by another person, other than where appropriate citation is made in the text. Additionally, we agree that, if our project report is approved, the title and summary may be shared with outside organizations as well as made available for photocopying and interlibrary loans.

Budhhima Arambepola	
Imrah Haniffa	
Janidu Ratnayake	
Ranidu Nirmal	

Contents

Contents

Declaration	3
Contents	4
Preamble	6
Abstract	6
List of Keywords	6
List of figures	7
List of Acronyms and Abbreviations	7
Acknowledgement	8
Chapter 1: Introduction	9
1.1 Introduction of the Company	9
1.2 Organizational Structure	9
1.3 Current Operations in the Organization	10
1.4 Users and Responsibilities Organization	10
1.5 Problem Definition	11
1.6 Project Objectives	11
1.7 Proposed Solution	11
1.8 Chapter Summary	13
Chapter 2: Methodology	13
2.1 Introduction	13
2.2 Data Collection Methods	13
2.3 Software Process Model	13
2.4 Development Tools	14
2.5 Testing Strategies	14
2.6 Implementation Plan	14
2.7 Chapter Summary	14
3.1 Introduction	15
3.2 UML Diagrams	15
3.3 ER Diagram of the Proposed System	48

3.4 Chapter Summary	49
Chapter 4: Solution Design	50
4.1 Introduction	50
4.2 Interface Design	50
4.3 Database Design	
4.4 Final Bill Layout	
4.5 Report Layout Design	85
4.6 Chapter Summary	
Chapter 5: Conclusion	87
References	

Preamble

Abstract

The system aims at the maintenance and management of the different Hotels that are available in the different parts of the world. It mainly takes care of the Hotel management at the core area of the database. The system provides the information regarding the different Hotels that are available and their status specific to availability. Each registered guest can raise a request for the unit bookings. The Guests are scheduled with the information of the availability of the units for they have requested the time.

So the purpose of our project was to implement such a system to replace the existing manual system of the Vila Ceylon hotel which will enable all the above mentioned features and benefits and to help the business reduce the problems they face through the existing system. The system is developed using Java which is a high-level programming language and My SQL database. Figma is the tool that is used to design the user interfaces and reports. NetBeans is the IDE used to code Java language and PHP My admin is the database tool used.

List of Keywords

- Receptionist
- Supervisor
- Manager
- Chairmen

List of figures

Figure 1: Use Case Diagram of Current System	19
Figure 2: Use Case Diagram of Proposed System	21
Figure 3: Class Diagram of Proposed System	22
Figure 4: Sequence Diagram for each Use Case	22

List of Acronyms and Abbreviations

- NIBM National Institute of Business Management
- DCSD Diploma in Computer System Design
- PK Primary Key
- FK Foreign Key
- HTML Hypertext Markup Language
- UML Unified Modeling Language
- SQL Structured Query Language.

Acknowledgement

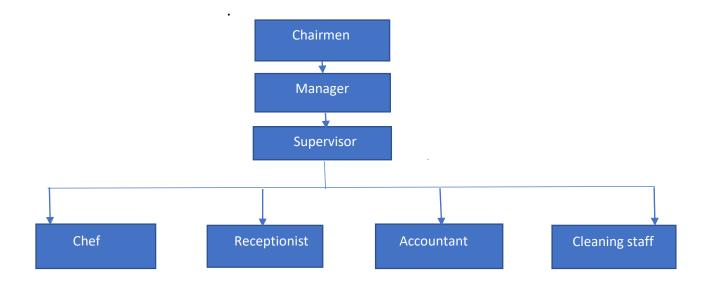
Initially, we would like to extend our heartiest thankfulness to School of Computing and Engineering of NIBM, for giving this challenging opportunity, where we were encouraged to apply what we have learned into practise through a project and to accomplish the end goal successfully. We like to convey our sincere thanks to all those who guided us in numerous ways in making this system study a success. The group members who gave their endless support until the end are also remarkably thanked. Our special thankfulness is rendered to our supervisor, who is also the course director of Higher National Diploma in Information Systems, Mr. K.V Narangoda for guiding and directing us throughout the study to make this project a success where he encouraged us a lot by giving advice for us to improve the project in a more professional and standard way. Last but not the least, we extend our thanks and gratitude for our parents, friends and everybody who involved with us directly and indirectly to help us in completing the project work. Thank you

Chapter 1: Introduction

1.1 Introduction of the Company

Vila Ceylon was started on 2016 September 15 in Katunayake, Negambo, Sri Lanka. It is a small-scale business. It is tourism oriented hotel that mainly focuses on tourists. It provides customers with room accommodations, Vehicles, Transportation, and a restaurant. In this hotel, there is a chairman, manager, supervisor, receptionist chef, and cleaning staff who're working together to take their smaller business to success. The chairmen and manager keep track of all the records of customers, payments, suppliers, materials, and staff.

1.2 Organizational Structure



1.3 Current Operations in the Organization

The existing system is a manual one. It uses papers and files to store data of customers, restaurants, payments, suppliers, materials, and staff. When a customer comes and asks to book a room staff member writes it in the customer details book. If a customer needs to get food and beverages from the restaurant they also write details in the restaurant details book. Payment details are maintained in another book. If the kitchen needs materials manager contact suppliers and spent money on it. After receiving the materials it's recorded in the details of the materials book and supplier details records in the supplier details book. They keep another two records books one for employee attendance and another one for calculating the employee's salary.

1.4 Users and Responsibilities Organization

1. Chairmen

- Getting strategic decisions with the manager.
- Examines the daily process of the hotel.

2. Manager

- Manager wants to adhere to the chairmen's commands.
- Spends money on materials.
- Examines and controls the daily process of the hotel.
- Giving commands to supervisors to supervise operational-level staff.

3. Supervisor

- Supervise operational-level staff
- Help to Manger to control the overall operations of the hotel.
- Handle the transportation service.

4. Chef

- Make the customer's food orders and satisfies the customer.
- If needs to fulfill the materials chef need to send a message to the manager through the supervisor.

5. Receptionist

Give the great welcome to the customers.

 ☐ Mark attendance of the cleaning the staff.

6. Accountant

• Make the profit and loss statements.

7. Cleaning Staff

• Cleans the entire hotel to get customer satisfaction.

1.5 Problem Definition

The current manual system is difficult to manage because when they want to find customer details it consumes so much time to find them as they're written in a book. Since it is a manual one sometimes, they're getting the wrong bill amounts. It is also less secure than data of bookings and customers can be lost or stolen by any person who comes to the hotel. If the books are subject to any outside factor like water, the information will be lost. Data duplication is also another problem that they're frequently facing. If the customer asks to update any customer details like his/her phone number, the old number from the customer's details book will be erased and updated but, in the payment, the details book won't be updated since they forget sometimes to update it.

1.6 Project Objectives

This software solution attempt to cover all operations that occurs in the hotel's daily operation. It is all identified, from employee management to booking, floors, offices, and room type management, among other things. Our only aim is to make it easier to handle overall operations inside the hotel. We sought to demonstrate how data/information is processed in hotels in our project, Hotel Management System.

1.7 Proposed Solution

In identifying a solution for the problem discussed above, the following could be taken into consideration. The proposed solution is a computerized system that can make their tasks without any hesitation. It will make it easier for hotel staff.

Functional Requirements

- Admin can register or log in as an admin by providing their details.
- Allowing the customers to view their bookings.
- Allowing selecting rooms with A/C or without A/C
- Can get discounts when a customer register and make their booking.
- Can show the total amount for the customer after their ordering process.
- Generate invoice after customers are done booking.
- Sending a booking confirmation invoice to the customer's Email and phone number.
- Management can see all hotel information like total bookings, total income, etc....
- Management can generate reports. Like Sales reports.
- Can check room availability
- Admin can change admins profile details
- Admin can change customer profile for request from the customer.
- Customers can make an order for food through the admin.
- Generate invoices for when they are orders food.
- Customers can reserve the vehicle for going to the airport.
- Generate an invoice for the customer after reserving the vehicle
- Admin can see the customer's reservation and if a customer needs any changes admin can update it.
- After the daily business software can calculate daily income. It will be help full for the Accountant.

Non - Functional Requirements

Security

Customer and hotel data is always secured with a computerized system that is protected with passwords and usernames.

Reliability

A computerized system is always more reliable than a manual one because it doesn't subject to physical damage.

Usability

Nothing is more important than the usability of the software. We're planning to create a good-looking UI that will make customers' user experience to the next level.

Manageability

This hotel has 3 main parts customer booking side, restaurant side, and transportation side. This software can manage the core processes of these three sides.

Performance

Performance of this computerized system is much better than the earlier manual system as it is easy to use and more convenient for staff.

1.8 Chapter Summary

This chapter explained the introduction of the company, organizational structure, Current operations of the organization, problem definition when they use a manual system, project objectives in project objectives explained about what targets we want to achieve after the built this software, proposed solution in the proposed solution we explained about functional and nonfunctional requirements in this hotel management software.

Chapter 2: Methodology

2.1 Introduction

This chapter going to explain about what is the data collection method when used in during requirements gathering time, what software process model we are using, what software development tools we are going to use, what are testing strategies going to use, and an explanation of this software implementation plan.

2.2 Data Collection Methods

In requirements gathering time we used our data collection methods as

- Interviews
- Observation

2.3 Software Process Model

We are using our software process model as a waterfall model. The waterfall model relies on teams following a sequence of steps and never moving forward until the previous phase has been completed. This structure is suited to smaller projects with deliverables that are easy to define from the start that's why we using the waterfall model

2.4 Development Tools

The following technologies/tools are going to use in our hotel management development project.

1. NetBeans IDE 8.0.2

This platform has been selected due to the reason that it is suitable to develop an enterprise application.

2. PHP my admin

This platform has been selected due to the reason that it is suitable to create a database for an enterprise application.

3. Draw.io

This platform has been selected due to the reason that it is suitable to design the ER diagrams and UML diagrams that are needed in system design.

2.5 Testing Strategies

We are going to use White box testing as our testing strategy because white box testing can see the inside of the program and also easily can find the faults in the software. And also this software can generate invoices, in this case, we need to be accurate because if an invoice is incorrect it damages the hotel's financial side every invoice wants to generate accurately in white box testing we can easily find what are the faults software doing generating the invoices.

2.6 Implementation Plan

We are going to use a parallel approach because a parallel approach is always a new system to be used at the same time as the old system the two systems are said to be running in parallel. Before implementing software, the hotel is running on the manual system after the new software implementation process we need to get old data from the manual system so for the data migration process we need manual system data that's why we are going to use a parallel implementation approach.

2.7 Chapter Summary

This chapter explained about data collection method of our project, Software process model, Software development tools, Testing Strategies, and Implementation plan. We used our data collection methods as Interviews and observation and we are using our software process model as the waterfall model it's the most suitable model for our project and going to use our development tools such as Netbeans IDE, PHP my admin, and draw.io. Our implementation strategy is the parallel approach.

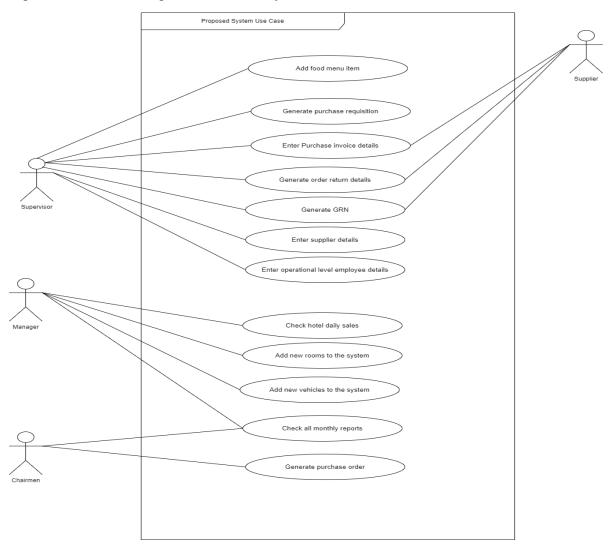
Chapter 3: Analysis

3.1 Introduction

A deep analysis of the existing system is done and after identifying the issues,a proposed system followed by the class diagram and ER diagram is designed in the Analysis phase. These issues are identified based on the interview done with the owner of the hotel and the diagrams are designed accordingly.

3.2 UML Diagrams

Figure 1: Use Case Diagram of Current System



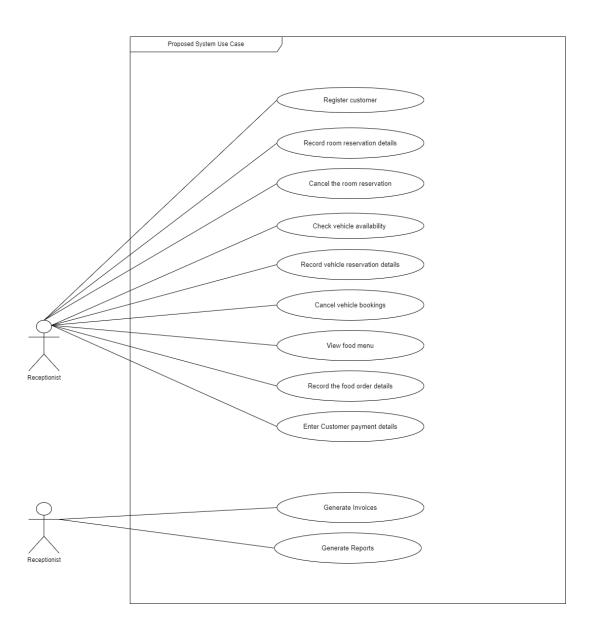
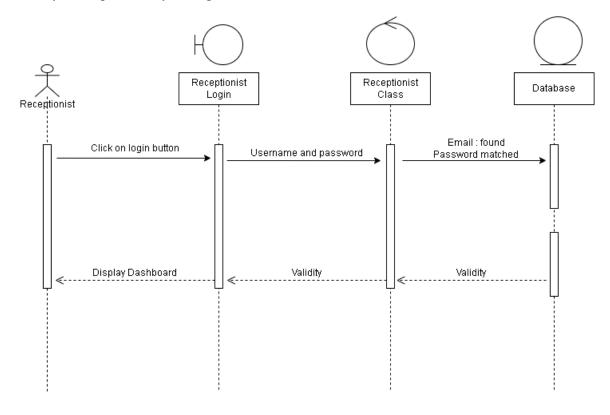


Figure 2: Use Case Diagram of Proposed System

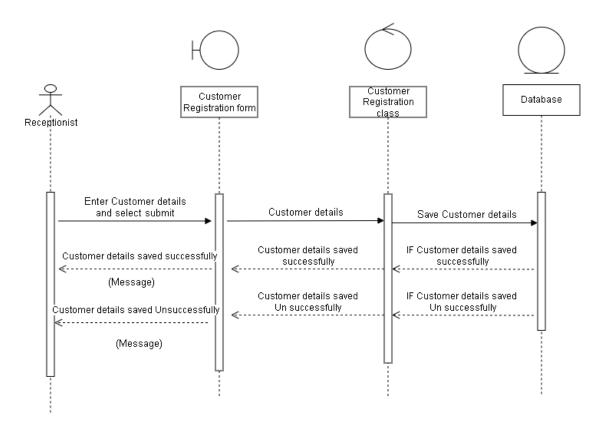


Receptionist Sequence

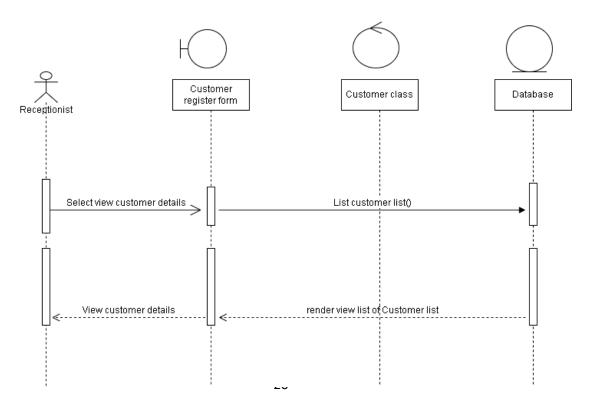
1.Sequence Diagram for receptionist login



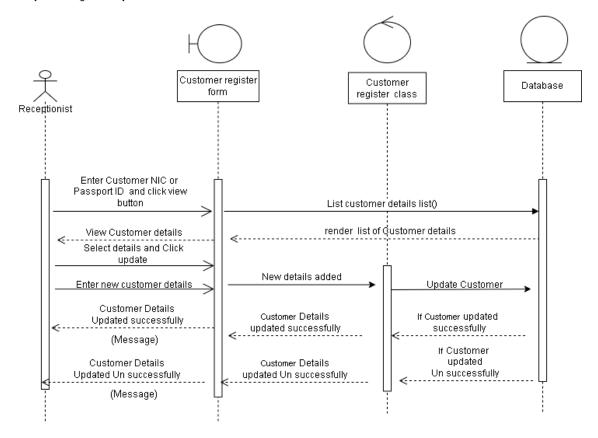
2. Sequence diagram for Register customer Details



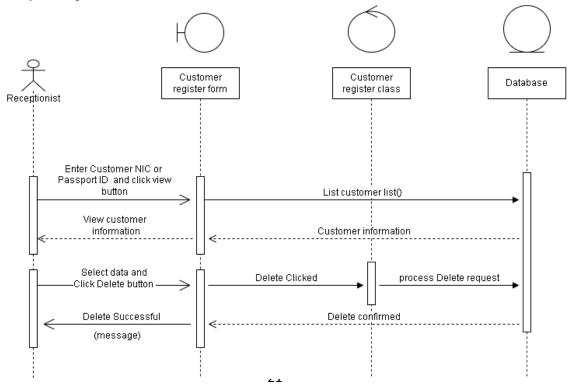
3. Sequence diagram for View customer Details



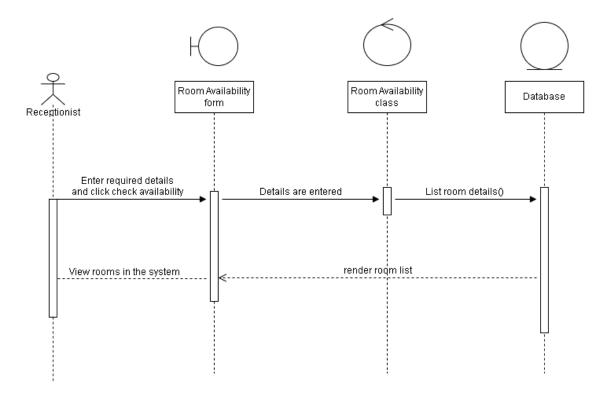
4. Sequence diagram to Update Customer details



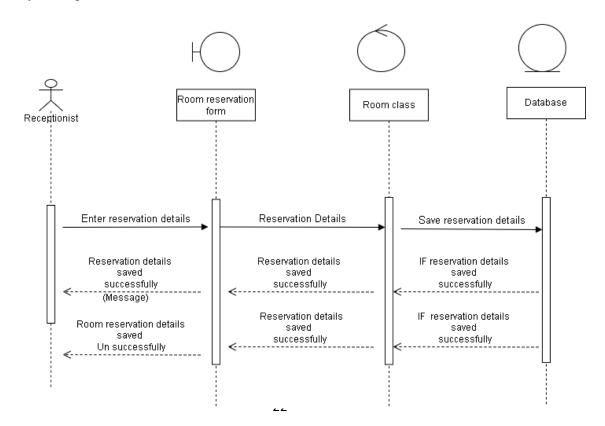
5. Sequence diagram to delete customer details



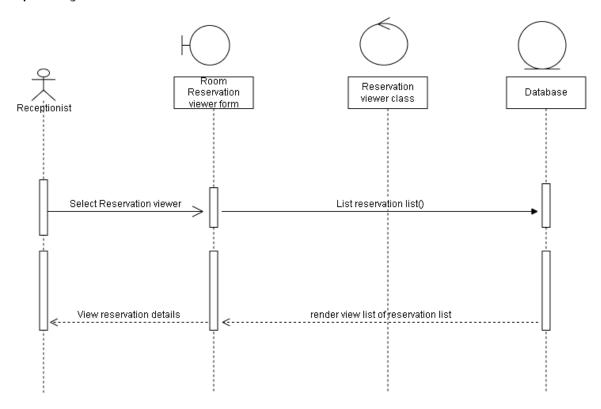
6. Sequence Diagram for check availability of rooms



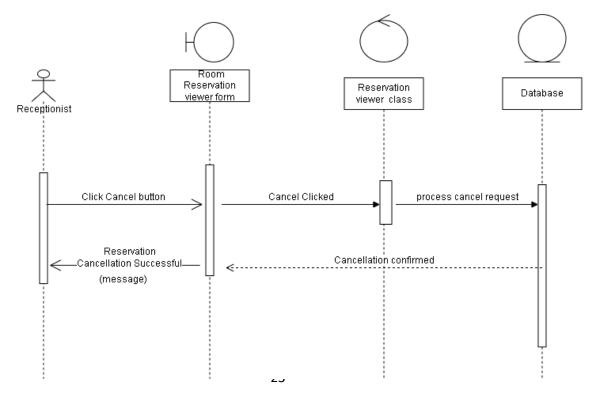
7. Sequence Diagram for Record room reservation details

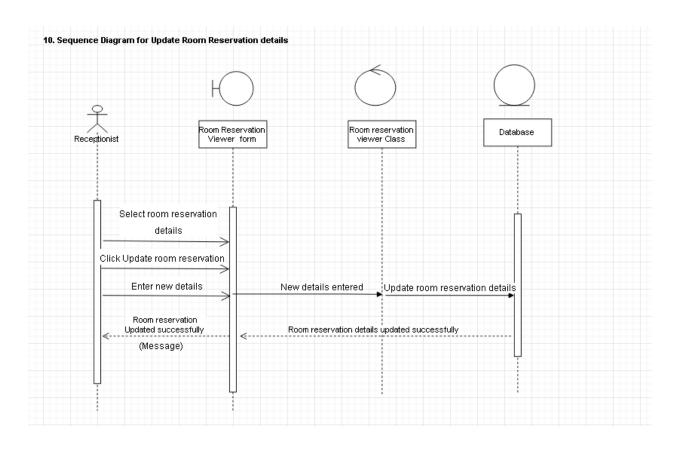


8. Sequence Diagram for view room reservation details

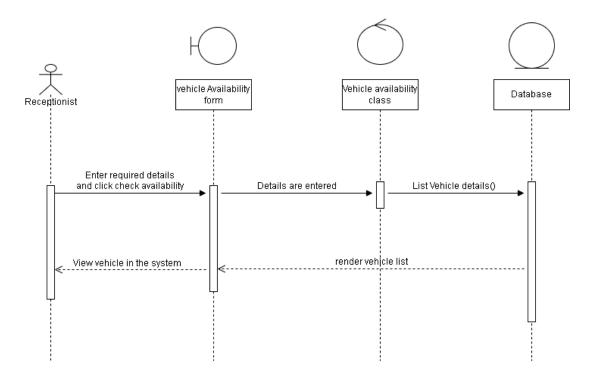


9. Sequence Diagram for cancel room reservation details

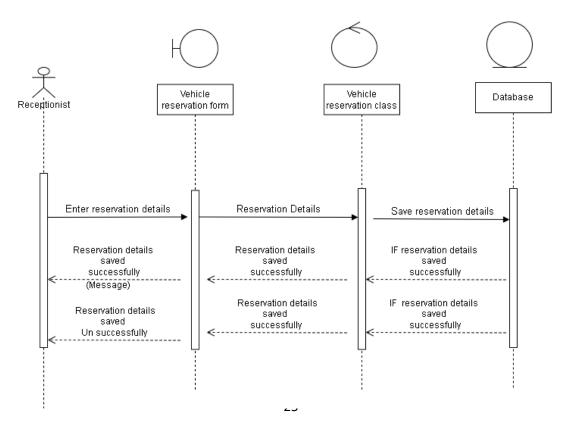




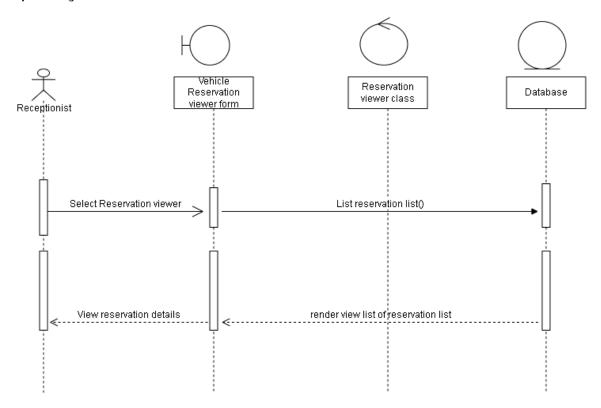
11. Sequence Diagram for check availability of vehicles



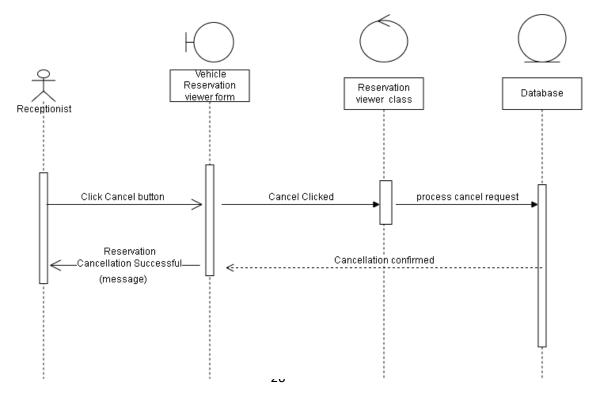
12. Sequence Diagram for Record vehicle reservation details

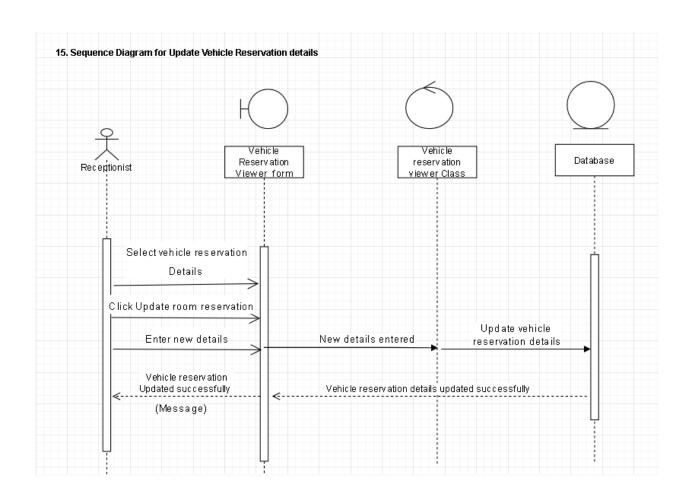


13. Sequence Diagram for view vehicle reservation details

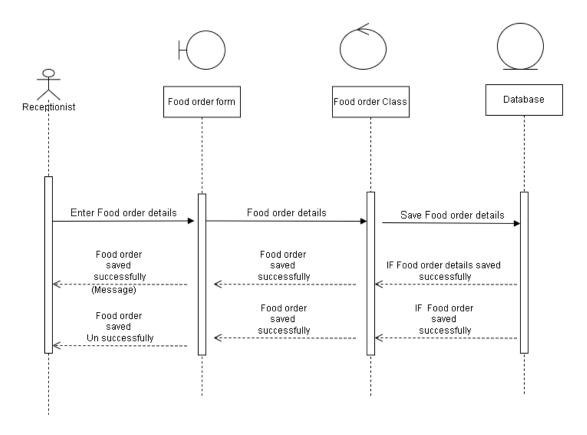


14. Sequence Diagram for cancel Vehicle reservation details

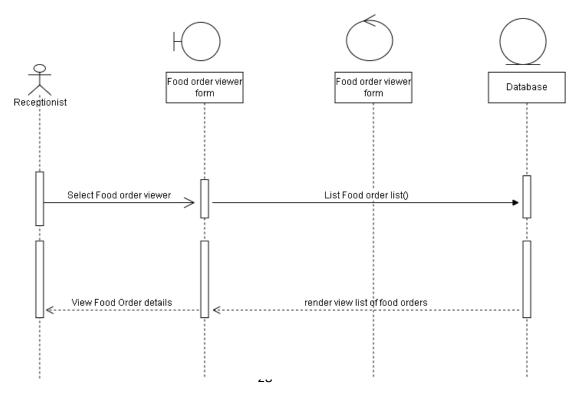


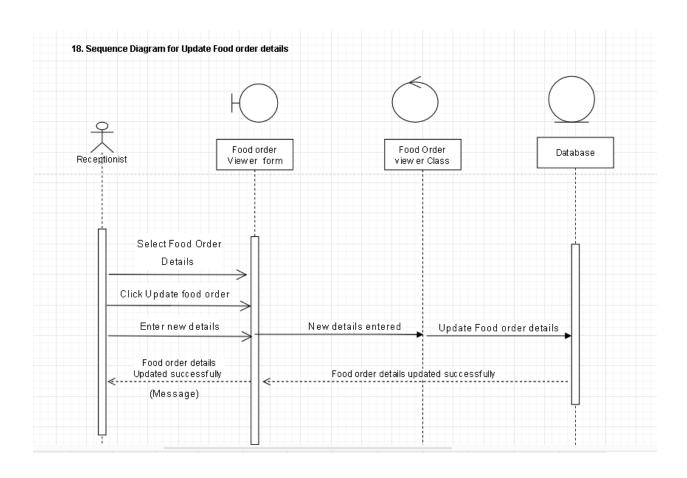


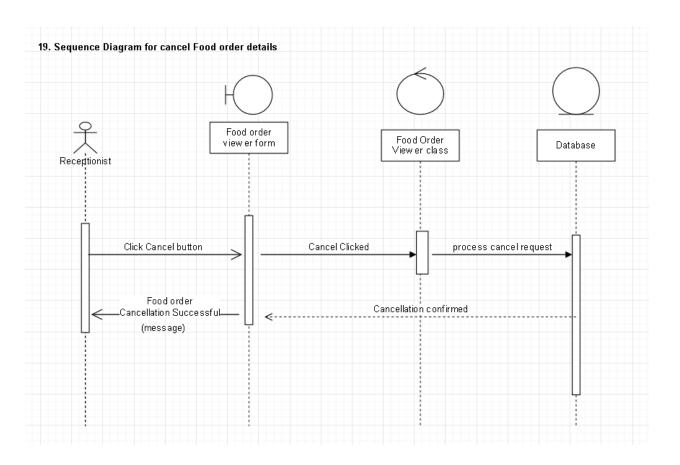
16. Sequence Diagram for Record Food order details



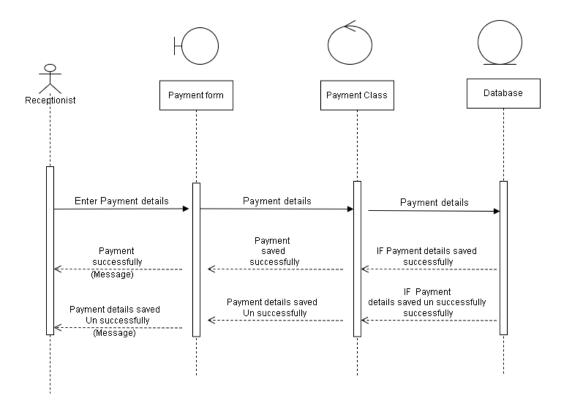
17. Sequence Diagram for view Food order details



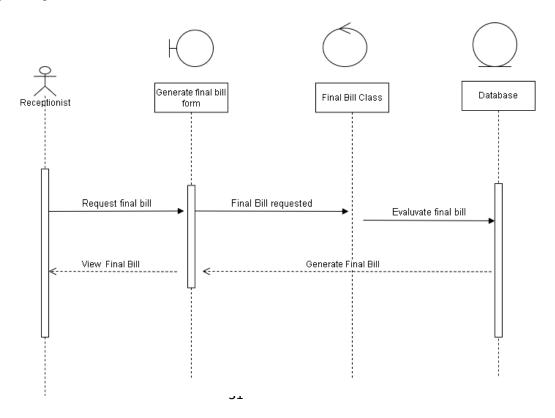




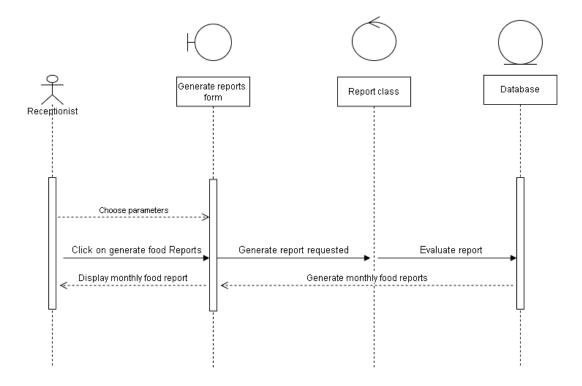
20. Sequence Diagram for record customer payment details



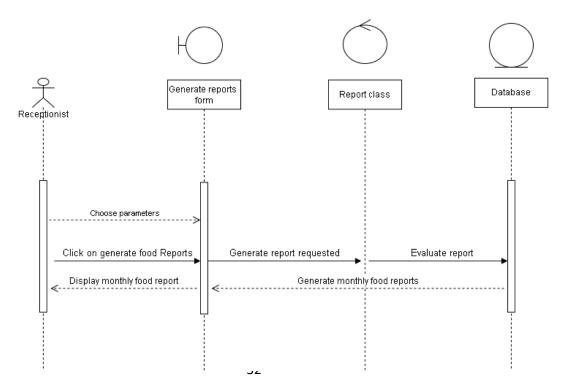
21. Sequence Diagram for Generate Final Bill



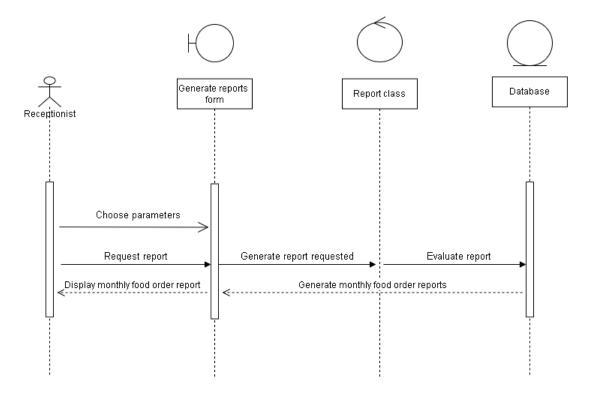
22. Sequence diagram to generate Monthly room report



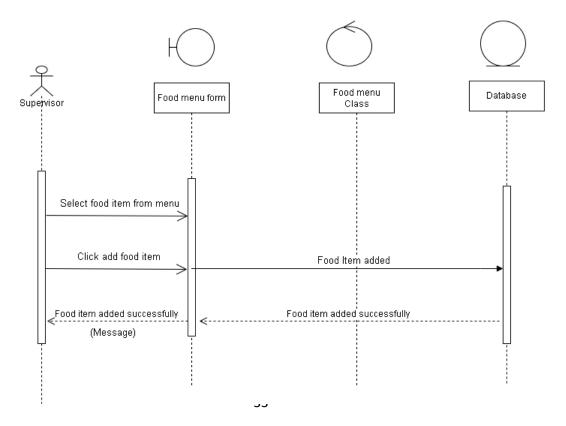
23. Sequence diagram to generate Monthly Vehicle report



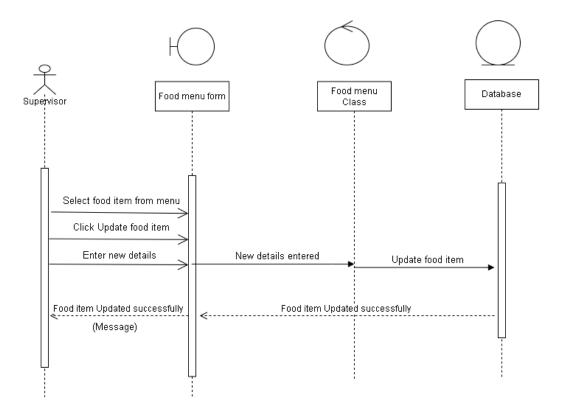
24. Sequence diagram to generate Monthly Food order report



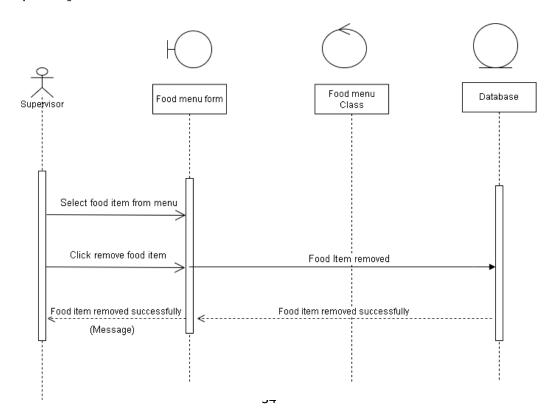
25. Sequence Diagram for Add food menu item

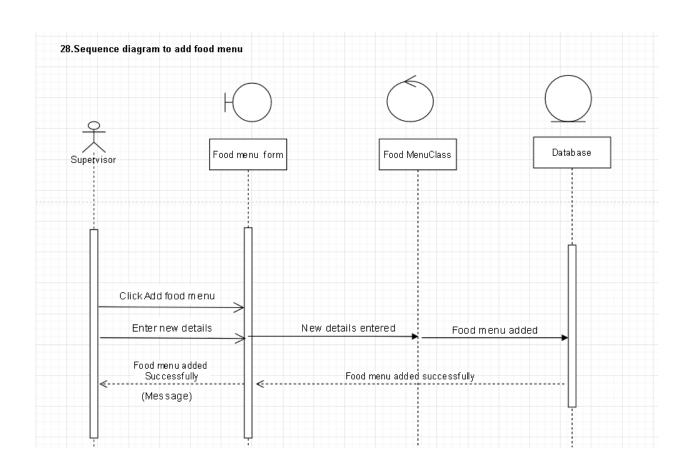


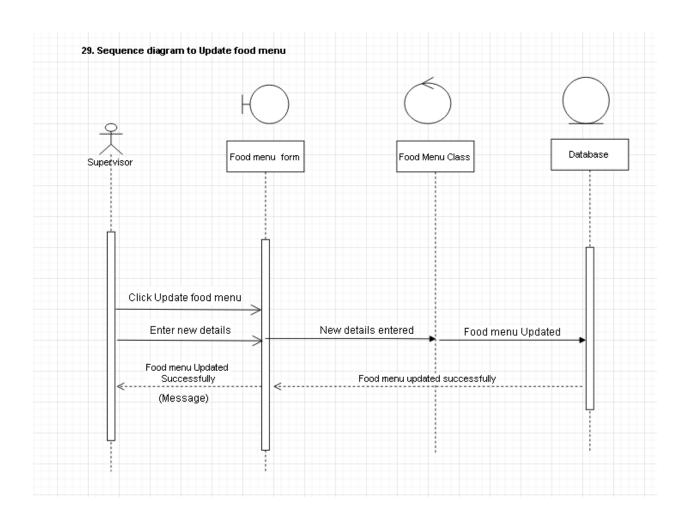
26. Sequence Diagram for Update food menu item

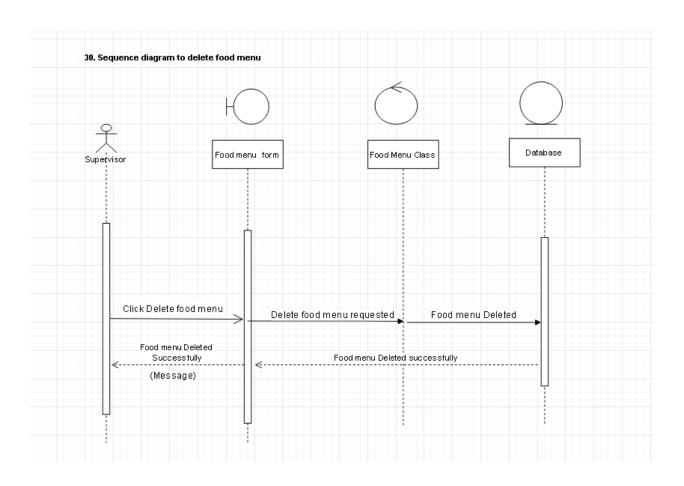


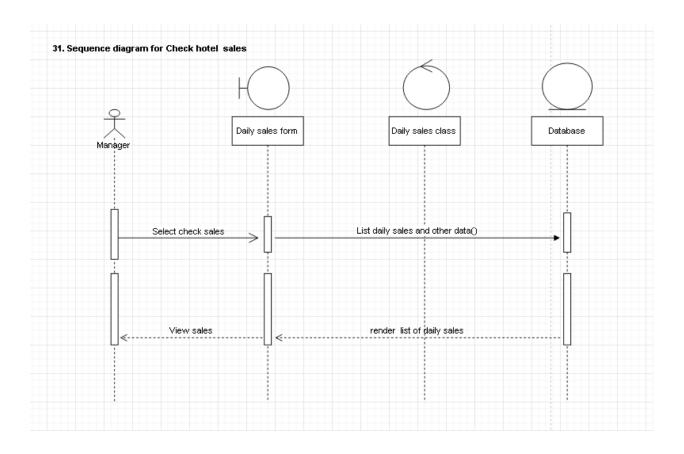
27. Sequence Diagram for remove food menu item



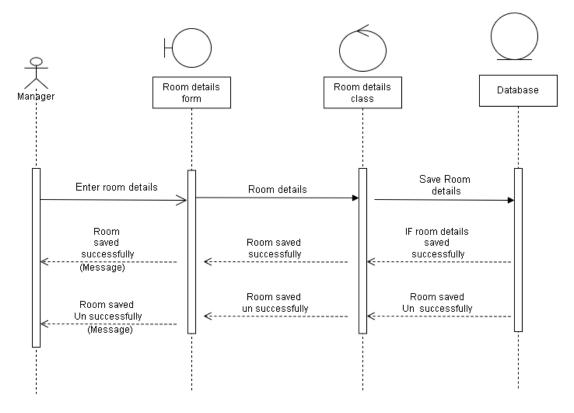




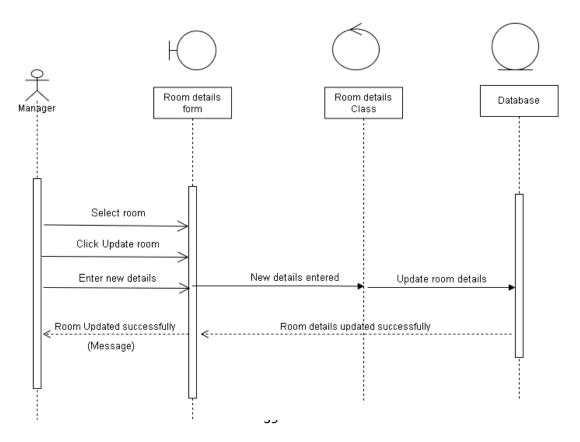


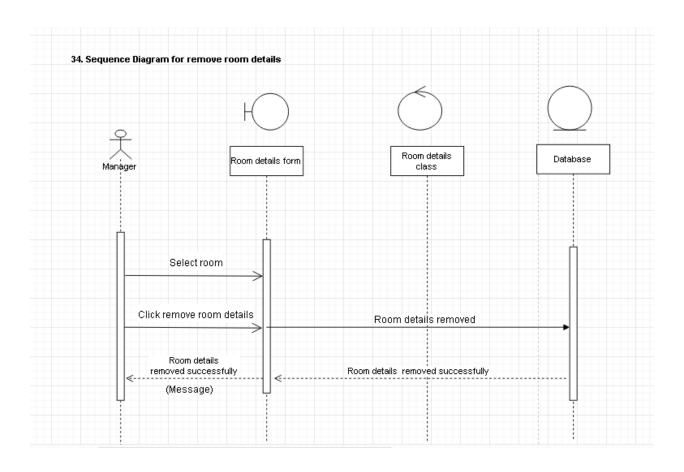


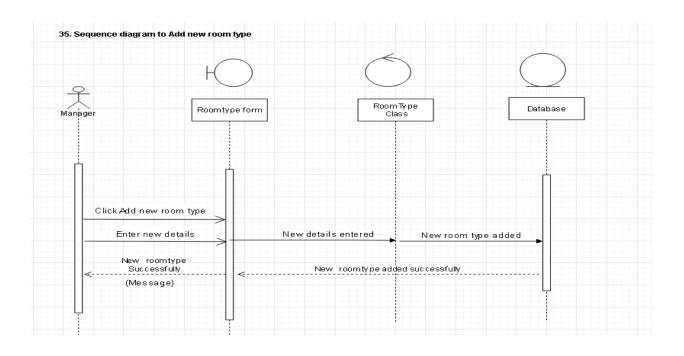
32. Sequence diagram for Add Room details

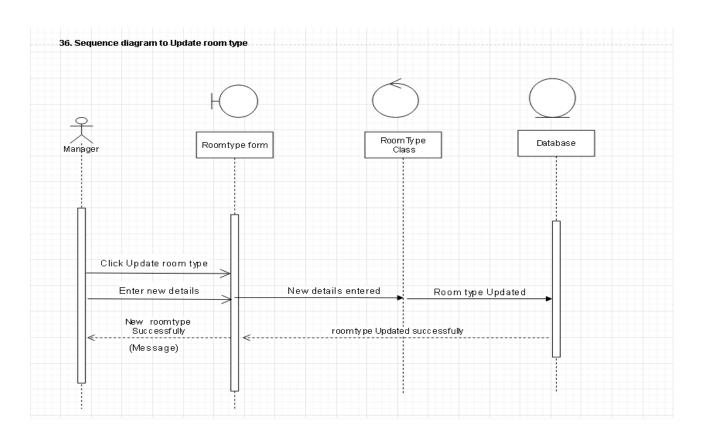


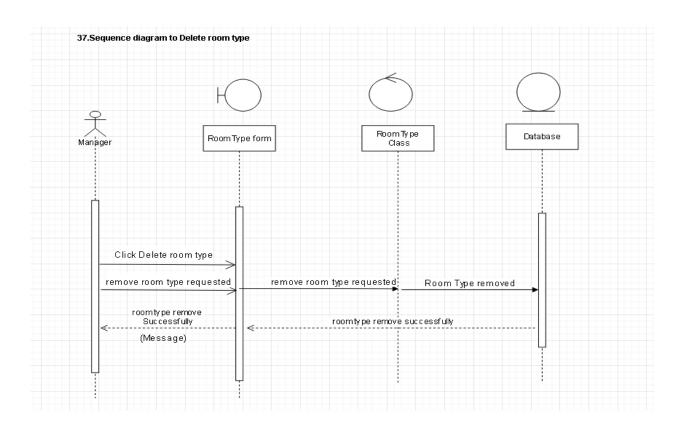
33. Sequence Diagram for Update Room details

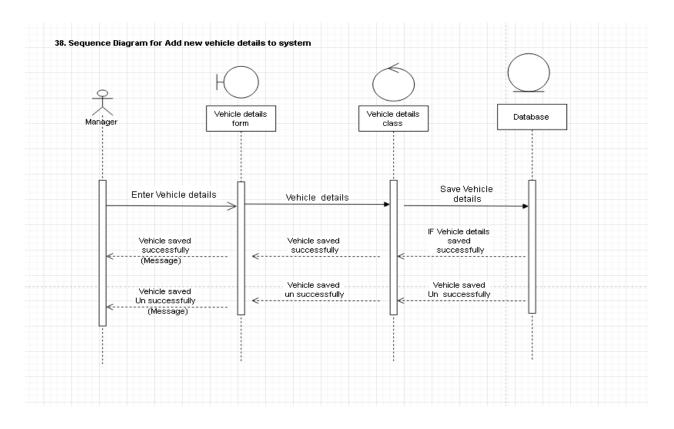




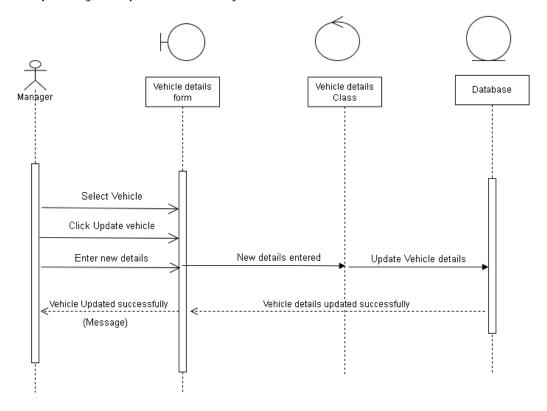




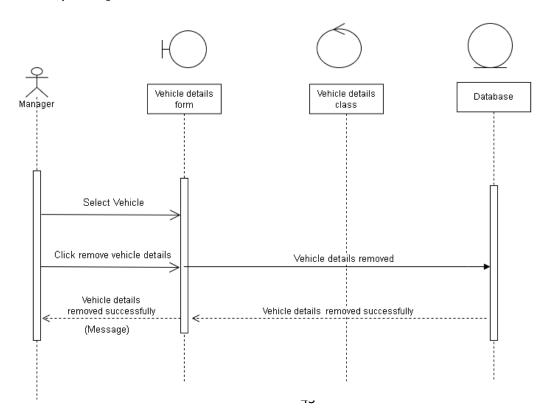


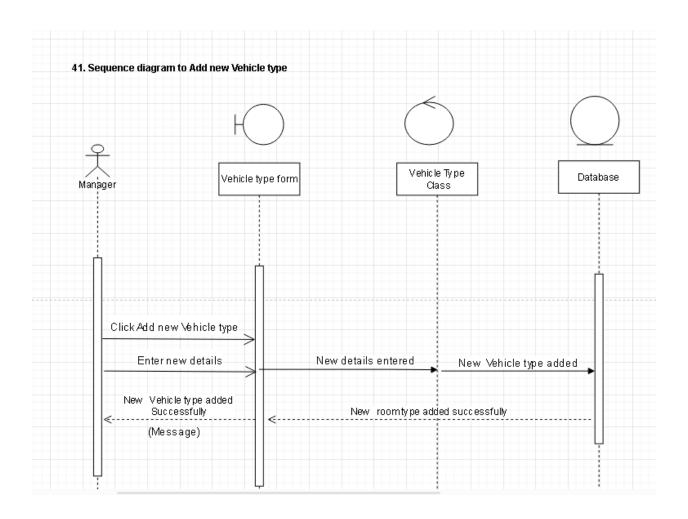


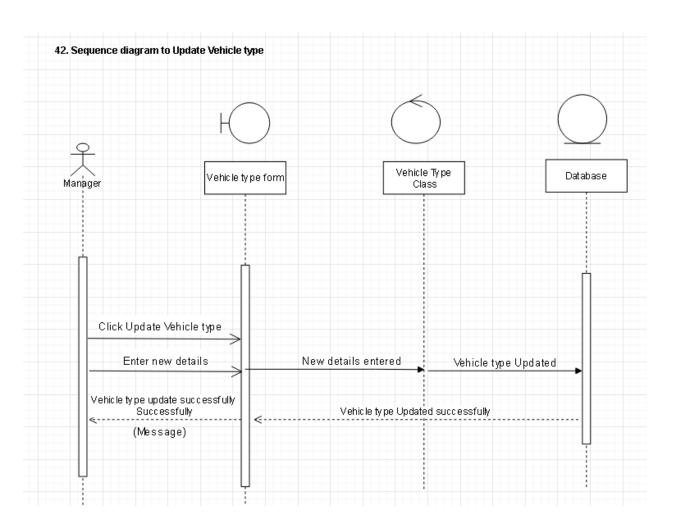
39. Sequence Diagram for Update vehicle details to system

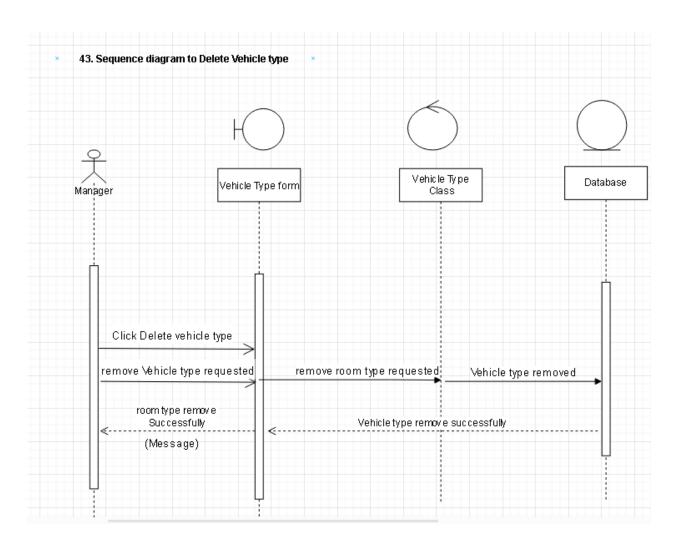


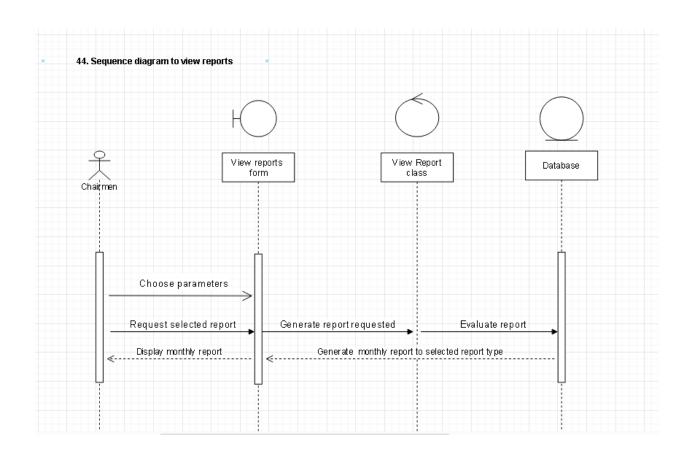
40. Sequence Diagrams for remove vehicle details











3.3 ER Diagram of the Proposed System

3.4 Chapter Summary

This chapter demonstrates all the diagrams designed including UML and ER, starting from the use case diagram of the existing system. Then the problem within the existing system is identified and the use case diagram for the proposed system, class diagrams and sequence diagrams are drawn for the proposed system. Finally, the ER diagram is included.

Chapter 4: Solution Design

4.1 Introduction

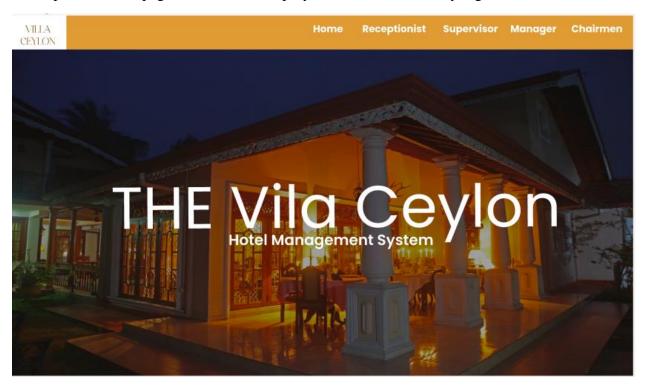
This chapter includes all the interface, database and report layout designs of the proposed system design by FIGMA.

4.2 Interface Design Staff

Interface no.1

Interface Name: Welcome Page

Description: This is page where all the employees can see before they log into relevant accounts

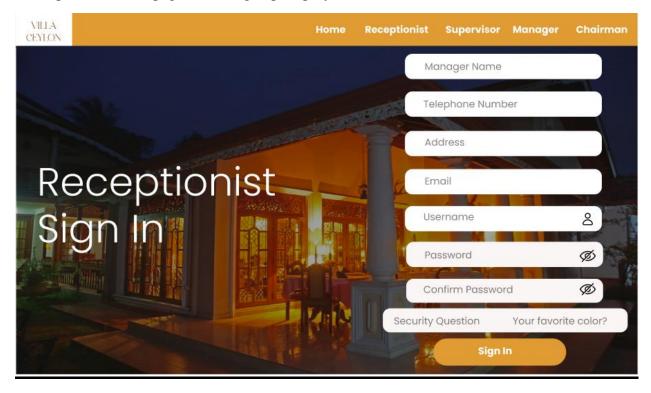


Employee Sign-Up

Interface no. 2

Interface Name. Sign up page

Description. This the page Use to sign up employees in the hotel

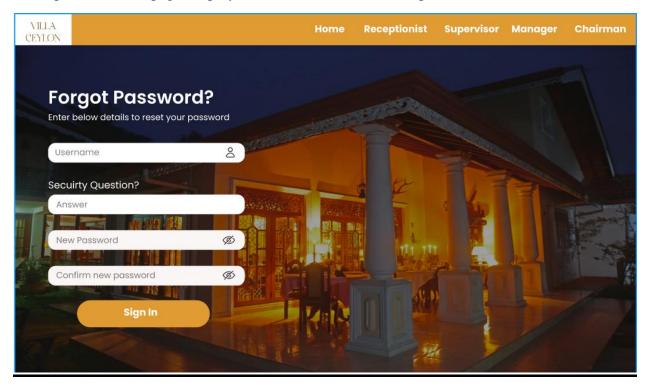


Password-Recovery

Interface no. 3

Interface Name. Password recovery page

Description. This the page Employees are used to recover their password

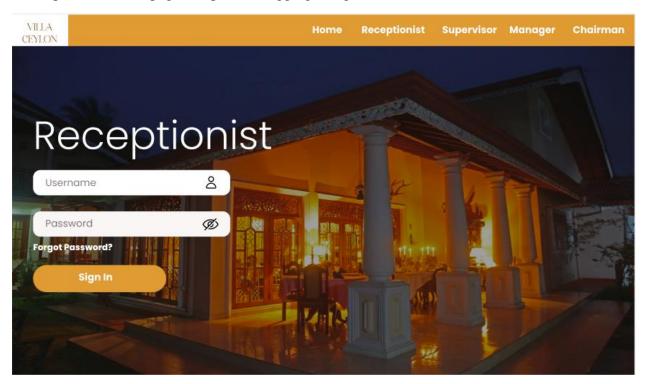


Receptionist

Interface no. 4

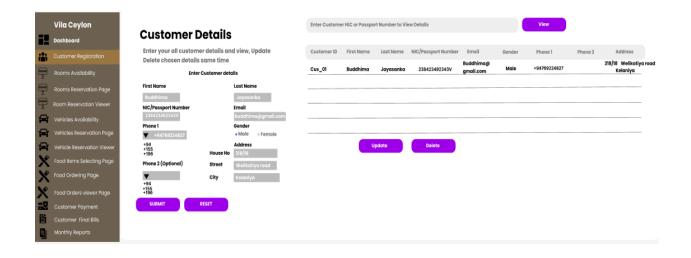
Interface Name. Receptionist Login Page

Description. This the page receptionist logging using Username and Password

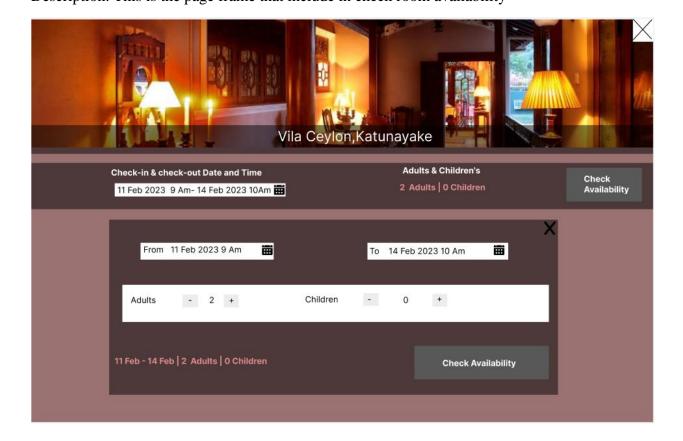


Interface Name. Customer registration

Description. This page receptionist use to register customer

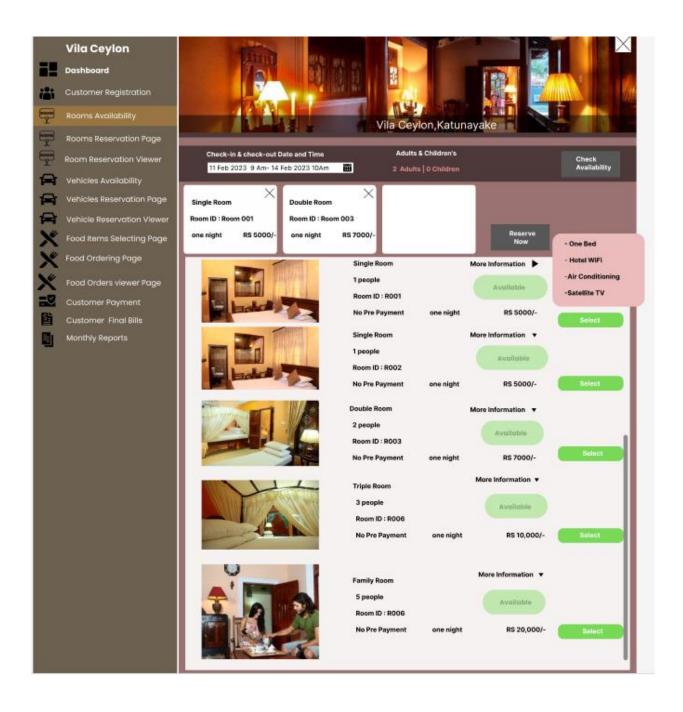


Interface no. 6 Interface Name. Rooms availability page checking checkout option Description. This is the page frame that include in check room availability



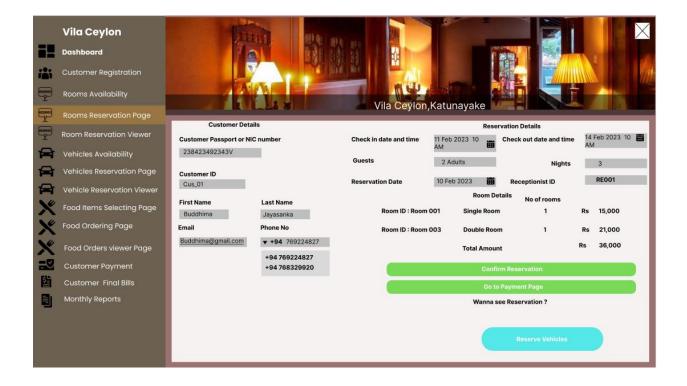
Interface Name. Rooms availability page

Description. In this page receptionist can select suitable rooms for customer



Interface Name. Room reservation page

Description. This is the page receptionist can add room reservation details



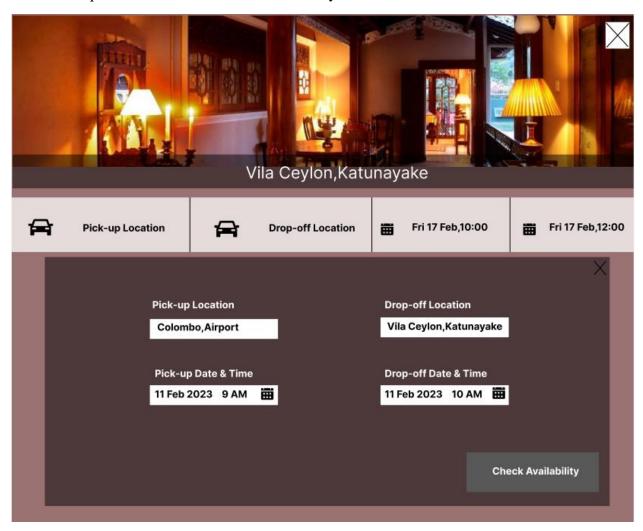
Interface Name. Room reservation viewer

Description. In this page receptionist can see all customer rooms reservations and same time receptionist can update , delete room reservation



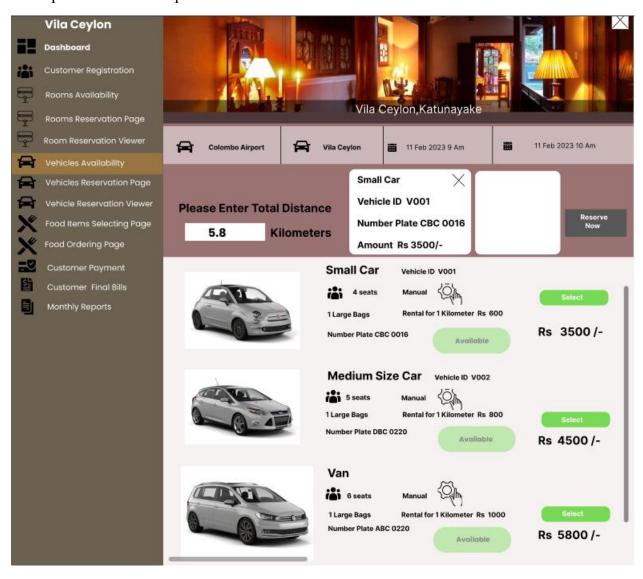
Interface Name. Vehicles Availability

Description. This page is related to vehicle availability page in this page receptionist Fill the customer required data and click check availability



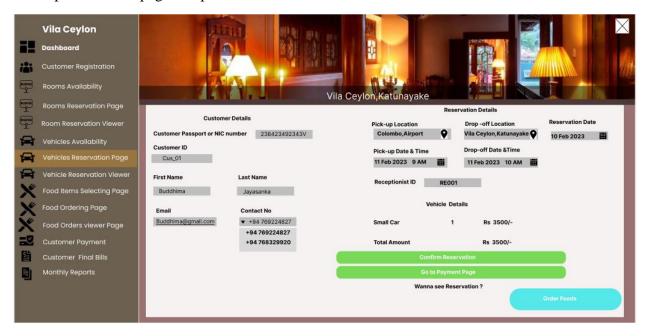
Interface Name. Vehicles availability page

Description. In this page shows matching records for customer pickup location drop off location Pick up date time and drop off date times



Interface Name. Vehicle reservation page

Description. In this page receptionist enter the customer vehicle reservation details



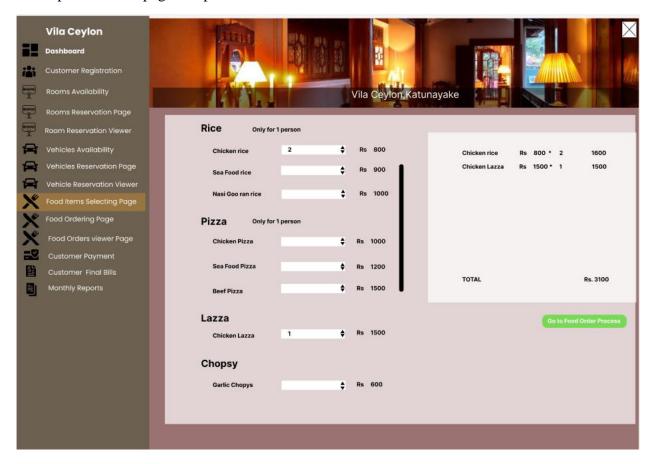
Interface Name. Vehicle reservation viewer

Description. In this page receptionist can add new customer food order and also can update



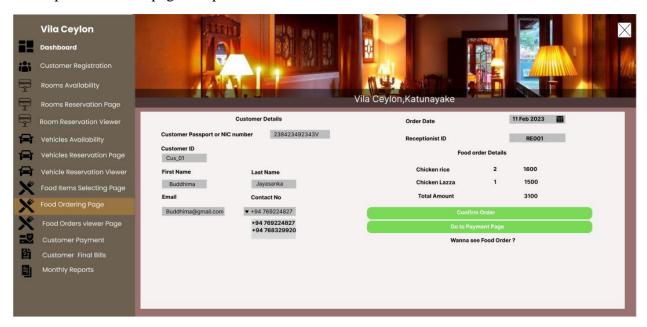
Interface Name. Food Items selecting page

Description. In this page receptionist can select customer favor food items



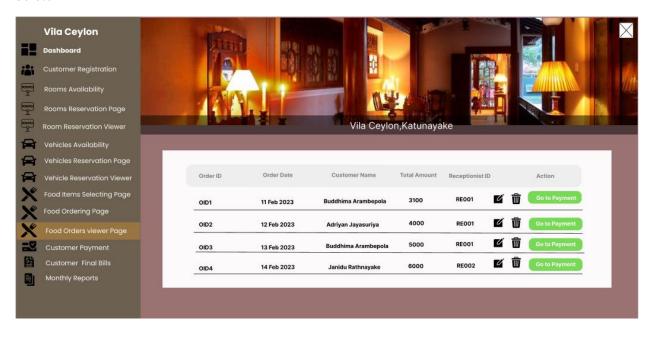
Interface Name. Food Ordering page

Description. This the page receptionist can add customer food order details



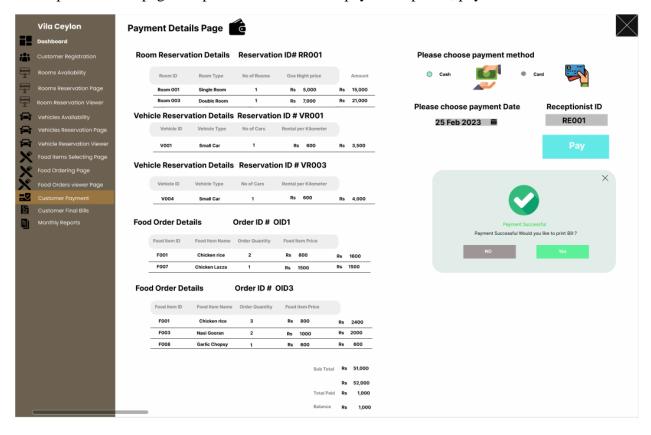
Interface Name. Food Order viewer

Description. In this page receptionist can view customer food order and also can update and delete



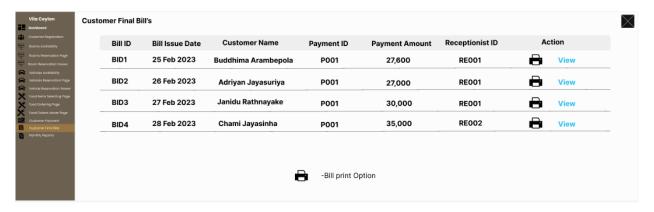
Interface Name. Customer Payment Page

Description. In this page receptionist add customer payment options, payment dates



Interface Name. Customer final Bills

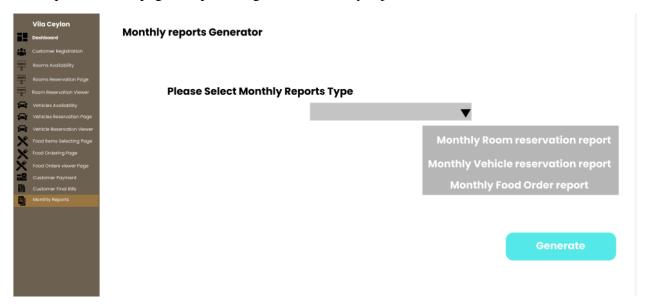
Description. In this page Receptionist can see customers final bill's and can generate and view each customer final bill in same time



Interface no.19

Interface Name. Monthly reports generations

Description. In this page receptionist generate monthly reports

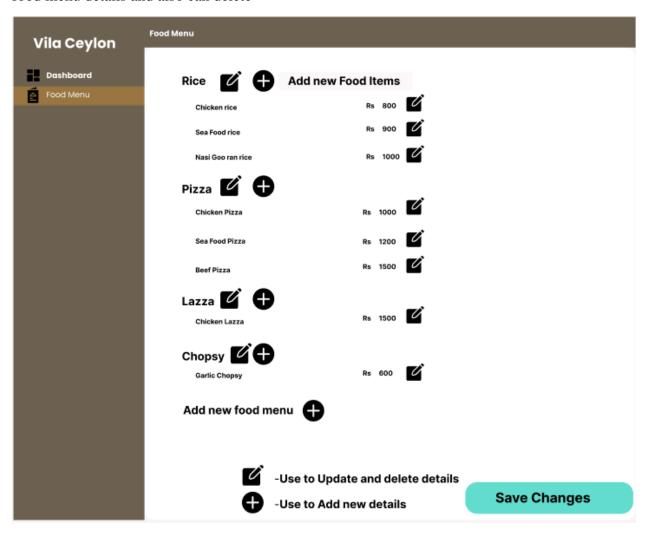


Supervisor UI

Interface no.20

Interface Name. Food Menu

Description. In this page supervisor can add food menu items ,can add new food menus ,can edit food menu details and also can delete

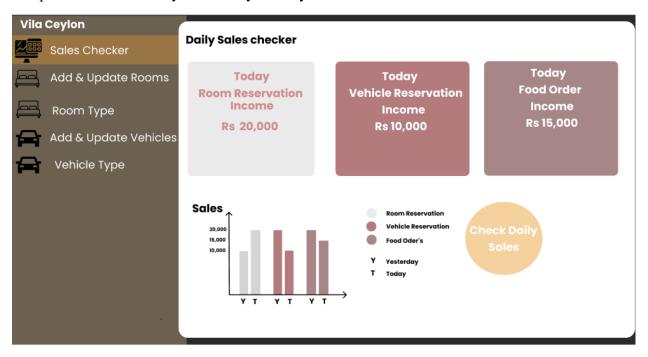


Manager

Interface no.21

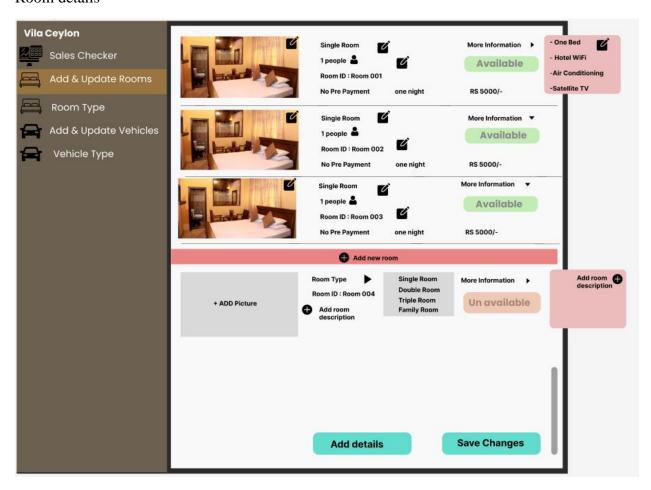
Interface Name. Manager hotel sales checking user interface

Description. In this page manager click the check sales button it will be show daily sales and comparison between daily sales and yesterday sales amounts



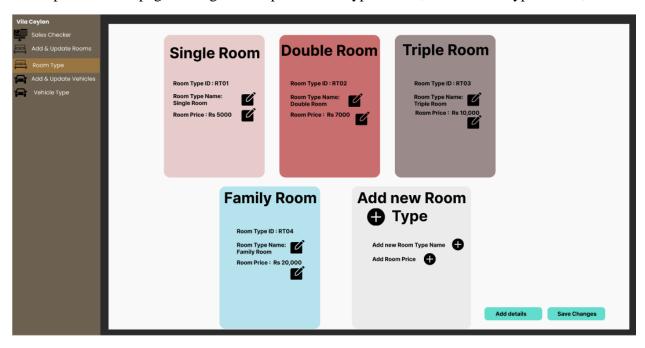
Interface Name. Add & Update room details

Description. In this page Manager can add new rooms to system and also can update and delete Room details



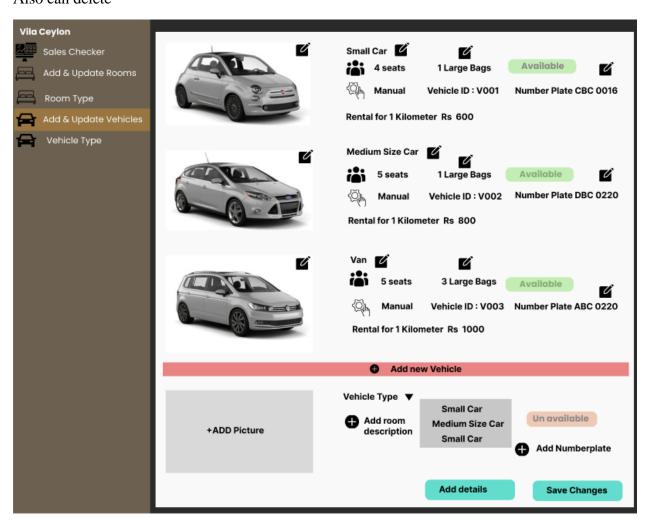
Interface Name. Room Types

Description. In this page Manager will update room type details, delete room type details,



Interface Name. Add and update vehicles in the system

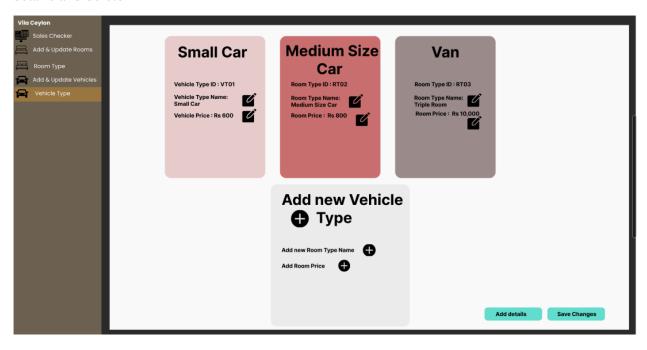
Description. In this page Manager can Add new vehicles, Updates system existing vehicles and Also can delete



Interface no.25

Interface Name. Vehicle Type

Description. In this page Manager can add new vehicle types, also can update vehicle type details and delete

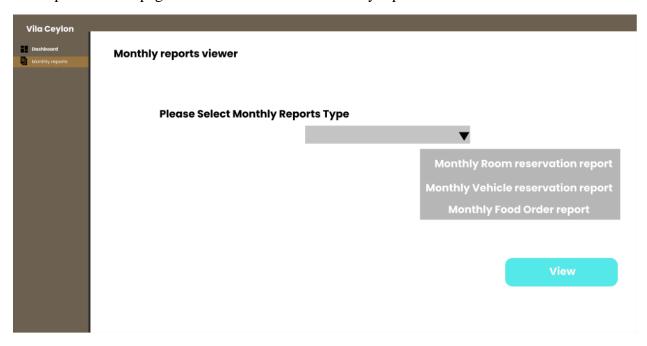


Chairmen

Interface no.26

Interface Name. View report User Interface

Description. In this page Chairmen can view all monthly reports



4.3 Database Design

Table No: 1

Table Name: Customer

Primary key: - Customer_ID

Field Names	Data Types	Data Size	Description
Customer_ID	Text	05	Customer ID
First_Name	Text	15	Customer First Name
Last_Name	Text	15	Customer Last Name
Customer_Email	Text	25	Customer Email
House_No	Text	05	Customer Address House No
Street	Text	15	Customer Address Street
City	Text	15	Customer Address City
Cus_NIC_&Passport	Text	12	Customer NIC or Passport no
Customer_Gender	Text	10	Customer Gender
Record Size		117	

Table No: 2

Table Name: Customer Phone

Foreign Key: Customer_ID

Field Names	Data Types	Data Size	Description
Customer_ID	Text	05	Customer_ID
Customer_Phone	Number	10	Customer Phone
Record Size		15	

Table Name: Room Reservation

Primary key: - Room_reservation_ID

Foreign Key: - Customer_ID, Receptionist_ID

Field Names	Data Types	Data Size	Description
Room_reservation_ID	Text	05	Room Reservation ID
Room_Reservation_Date	Date	10	Room Reservation Date
Check_in_date&time	DateTime	15	Check in date and time
Check_out_date&time	DateTime	15	Check in date and time
No_of_Guests	Number	05	Number of Guests
Room_Reservation_Total_amount	Number	10	Room Reservation Total amount
Customer_ID	Text	05	Customer ID
Receptionist_ID	Text	05	Receptionist_ID
Record Size		70	

Table No: 04

Table Name: Room

Primary Key: - Room_ID

Foreign Key :- RoomType_ID

Field Name	Data Types	Data Size	Description
Room_ID	Text	05	Room ID
RoomType_ID	Text	05	Room Type ID
Room_Description	Text	20	Room Description
Room_Status	Text	05	Room Status
Record Size		35	

Table Name: Room Reservation Room

Primary Keys: Room_reservation_ID, Room_ID

Foreign Keys: Room_reservation_ID, Room_ID

Field Name	Data Types	Data Size	Description
Room_reservation_ID	Text	05	Room reservation
			ID
Room_ID	Text	05	Room ID
No_of_rooms	Number	05	Number of rooms
Room_Reservation_Sub_total	Number	10	Room reservation
			Sub Total
Record Size		25	

Table No: 06

Table Name : RoomType

Primary key: RoomType_ID

Foreign key: Room_ID

Field Name	Data Types	Data Size	Description
RoomType_ID	Text	05	Room Type ID
Room_ID	Text	05	Room ID
RoomType_Name	Text	10	Room Type Name
Room_Price	Number	05	Room Type Price
Record Size		20	

Table Name: Vehicle Reservation

Primary key: - Vehicle_reservation_ID

Foreign Key: - Customer_ID, Receptionist_ID

Field Names	Data Types	Data Size	Description
Vehicle_reservation_ID	Text	05	Vehicle Reservation ID
Vehicle_Reservation_Date	Date	10	Vehicle Reservation Date
Pickup_Date&time	DateTime	15	Pickup Date and Time
Pickup_location	Text	10	Pickup location
Drop_Date&time	DateTime	15	Drop Date and Time
Drop_Location	Text	10	Drop Location
Vehicle_Reservation_Total _Amount	Number	10	Vehicle Reservation Total amount
Customer_ID	Text	05	Customer ID
Receptionist_ID	Text	05	Receptionist_ID
Record Size		85	

Table No: 08

Table Name: Vehicle

Primary Key: - Vehicle_ID

Foreign Key: - VehicleType_ID

Field Names	Data Types	Data Size	Description
Vehicle_ID	Text	05	Vehicle ID
VehicleType_ID	Text	05	Vehicle Type ID
Vehicle_Description	Text	20	Vehicle Description
Vehicle_Status	Text	10	Vehicle Status
NumberPlate	Text	15	Vehicle Number Plate
Record Size		55	

Table Name: Vehicle Reservation Vehicle

Primary keys: Vehicle_reservation_ID, Vehicle_ID

Foreign keys: Vehicle_reservation_ID, Vehicle_ID

Field Name	Data Types	Data Size	Description
Vehicle_reservation_ID	Text	05	Vehicle reservation
			ID
Vehicle_ID	Text	05	Vehicle ID
No_of_cars	Number	10	Number of Cars
Vehicle_Reservation_Sub_Total	Number	10	Reservation Sub
			Total
Record SIze		30	

Table No: 10

Table Name: Vehicle Type

Primary Key: VehicleType_ID

Field Name	Data Types	Data Size	Description
VehicleType_ID	Text	05	Vehicle Type ID
VehicleType_Name	Text	10	Vehicle Type Name
Vehicle_Price	Number	10	Vehicle Price
Record size		25	

Table Name: Food Order

Primary Key: Food_Order_ID,

Foreign keys: Custome_ID, Receptionist_ID

Field Name	Data Types	Data Size	Description
Food_Order_ID	Text	05	Food Order ID
Customer_ID	Text	05	Customer ID
Receptionist_ID	Text	05	Receptionist ID
Order_Date	Date	10	Food Order Date
Order_Unit_price	Number	05	Food order unit Price
Order_Total_amount	Number	10	Food order total
			amount
Record Size		40	

Table No: 12

Table Name: Food Item

Primary Key: Fooditem_id

Field Name	Data Type	Data Size	Description
Fooditem_id	Text	05	Food Item ID
Food_Item_name	Text	10	Food Item Name
Food_item_price	Number	10	Food item price
Record Size		25	

Table Name: Food Order Food Item

Primary Keys: Food_Order_ID, Fooditem_id

Foreign keys: Food_Order_ID, Fooditem_id

Field Name	Data Types	Data Size	Description
Food_Order_ID	Text	05	Food Order ID
Order_Date	Date	10	Food Order Date
Food_Item_ID	Text	05	Food Item ID
Order_Sub_Total	Number	10	Order Sub Total
Order_Quantity	Number	10	Order Quantity
Record Size		40	

Table No: 14

Table Name: Food Menu

Primary Key: Food_Menu_ID

Field Name	Data Types	Data Size	Description
Food_Menu_ID	Text	05	Food Menu ID
Food_Menu_Name	Text	10	Food Menu Name
Record SIze		15	

Table No: 15

Table Name: Food Menu Item

Primary Keys: Fooditem_ID, Food_Menu_ID

Foreign Keys: Fooditem_ID, Food_Menu_ID

Field Name	Data Type	Data Size	Description
Fooditem_ID	Text	05	Food Item ID
Food_Menu_ID	Text	05	Food Menu ID
FoodMenu_Item_Quantity	Number	10	Food Menu Item
			Quantity
Record SIze		20	

Table Name: Payment

Primary key: - Payment_ID

Foreign Keys: - Customer_ID, Room_reservation_ID, Vehicle_reservation_ID, Food_order_ID,

Receptionist ID

Field Names	Data Types	Data Size	Description
Payment_ID	Text	05	Payment ID
Customer_ID	Text	05	Customer ID
Receptionist_ID	Text	05	Receptionist ID
Room_reservation_ID	Text	05	Room reservation ID
Vehicle_reservation_ID	Text	05	Vehicle reservation
			ID
Food_Order_ID	Text	05	Food Order ID
Payment_Date	Date	10	Payment Date
Payment_method	Text	05	Payment Method
Payment_amount	Number	15	Payment Amount
Record Size		60	

Table Name: Final Bill

Primary key: - Bill_ID

Foreign Keys: - Payment_ID, Room_reservation_ID, Vehicle_reservation_ID, Food_order_ID,

Receptionist_ID

Field Names	Data Types	Data Size	Description
Bill_ID	Text	05	Bill ID
Payment_ID	Text	05	Payment ID
Room_reservation_ID	Text	05	Room reservation ID
Vehicle_reservation_ID	Text	05	Vehicle reservation
			ID
Food_order_ID	Text	05	Food order ID
Receptionist_ID	Text	05	Receptionist ID
Issue_date	Date	10	Bill Issue date
Record Size		40	

Table No: 18

Table Name: Receptionist

Primary Key:- Receptionist_ID

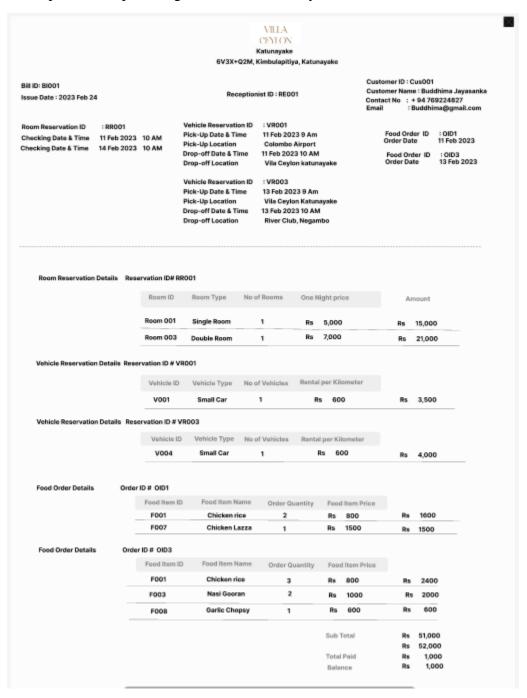
Field Names	Data Types	Data Size	Description
Receptionist_ID	Text	05	Receptionist ID
Receptionist_Name	Text	15	Receptionist Name
Rec_Email	Text	25	Receptionist Email
Rec_Telephone	Number	10	Receptionist
			Telephone
Receptionist_Address	Text	20	Receptionist Address
Username	Text	10	Receptionist
			Username
Password	Text	08	Receptionist
			Password
Record Size		93	

4.4 Final Bill Layout

Invoice Layout No.1

Invoice Layout Name. Final Bill

Description: Receptionist generates final bill layout



4.5 Report Layout Design

Report Layout No.1

Report Layout Name. Monthly Room Reservation Report

Description: System generated room reservation report



Monthly Hotel Room Reservation Income Report January 2023

Generated Date and time: 1st of March 2023 05.00 PM

Room Type	No of Rooms Reserved	Room Price	Total Amount
Single Rooms	30	Rs 5000	Rs 400,000
Double Rooms	15	Rs 7000	Rs 600,000
Triple Rooms	10	Rs 10,000	Rs 800,000
Family Rooms	15	Rs 20,000	Rs 1000,000
Revenue	Rs 2800,000		

	Signature
Date	Signature

Report Layout No.2

Report Layout Name. Monthly Food Order Report

Description: System generated Monthly food order report

VILLA CEYLON

Monthly Hotel Food Order Income Report January 2023

Generated Date and time: 1st of March 2023 05.00 PM

Food Name	Food Price	Quantity Sold	Final Amount
Chicken rice	Rs 800	200	Rs 160,000
Sea Food rice	Rs 900	100	Rs 90,000
Nasi Goo ran rice	Rs 1000	200	Rs 200,000
Revenue		Rs 450	,000

***************************************	***************************************
Date	Signature

Report Layout No.3

Report Layout Name. Monthly Vehicle Reservation Report

Description: System generated Monthly Vehicle Reservation Report

VILLA CEYLON

Monthly Hotel Vehicle Reservation Income Report January 2023

Generated Date and time: 1st of March 2023 05.00 PM

Vehicle Type	No of Vehicle Reserved	Vehicle Rental Price	Total Amount
Small Cars	05	Rs 600	Rs 1000,000
Medium Size Cars	10	Rs 800	Rs 150,000
Vans	11	Rs 1000	Rs 1600,000
Revenue		Rs 2750,	,000

Date	Signature

4.6 Chapter Summary

This chapter contains all the interfaces which include interface number, interface names, database designs which includes table numbers, table names and report layout designs which includes report layout number, report layout names of the proposed system.

Chapter 5: Conclusion

Our client's need was to implement a computerized system as the restaurant was having a manual system with lots of paperwork. By gathering the information required from our client according to his needs we were able to create a computerized system which suits his

requirements. The designing of the interfaces and reports were designed by Figma, the use case diagrams, class diagrams, sequence diagrams and er diagrams were designed using the draw.io tool. This proposed system software will enable the client to reduce problems in his existing system and carry out the business efficiently and effectively.

References

- Cardinality in ER Diagram | DBMS
 Cardinality in ER Diagram | DBMS | Gate Vidyalay
- What is a Goods Received Note (GRN) & Why Do You Need it Published 21.11.2022 What is a Goods Received Note (GRN) & Why Do You Need it (kissflow.com)
- Entity-Relationship Diagram Symbols and Notation

 Entity-Relationship Diagram Symbols and Notation | Lucidchart