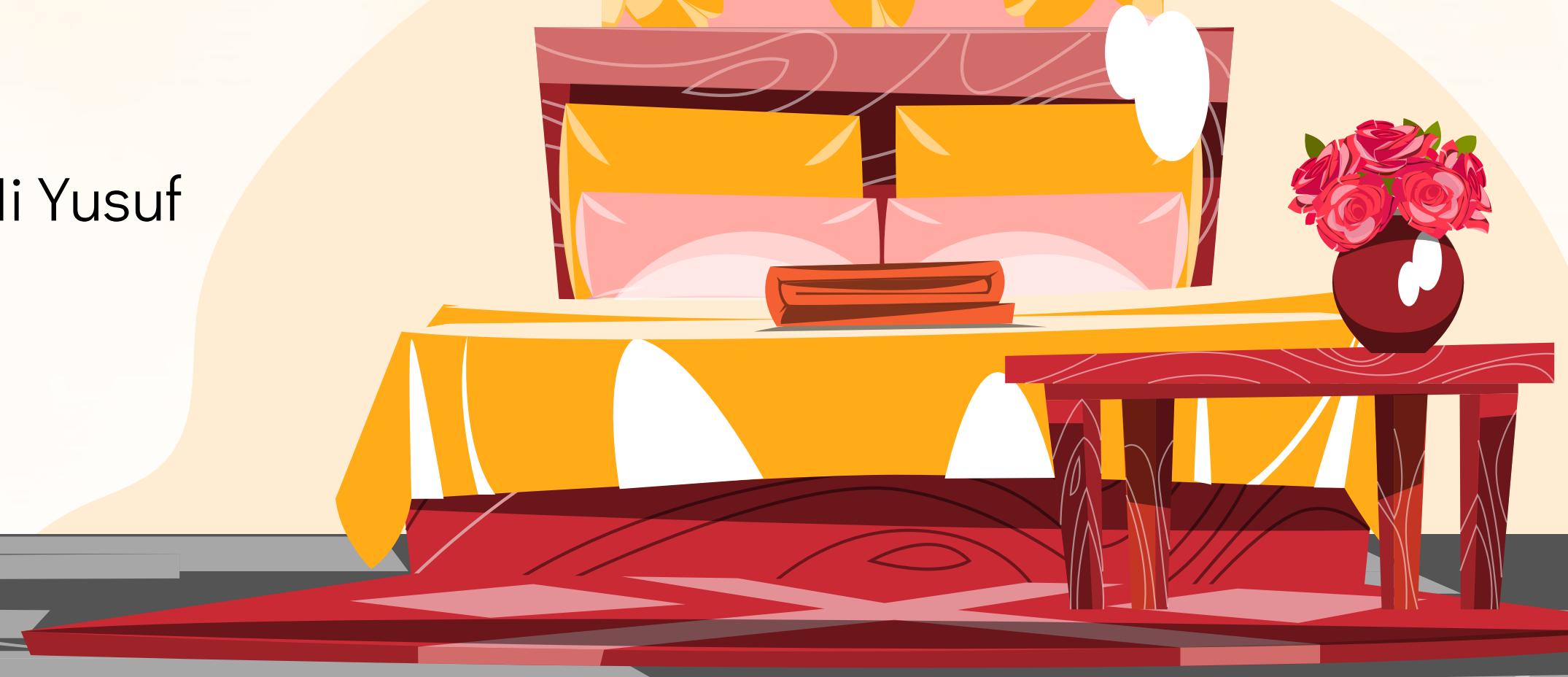
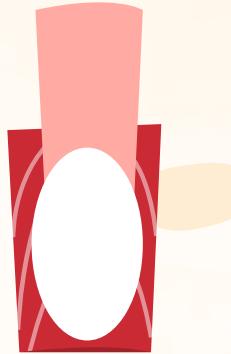


MOYAI HOTEL BOOKING SYSTEM

Group 2

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INTRODUCTION

Moyai Hotel Booking System is an upgraded system for staff to make booking for guest easier. The booking process is efficiently streamlined by this system and improve hotel management productivity and have an user-friendly interface. The main goal of the hotel booking system is to increase overall efficiency and, as a result, staff satisfaction by automating and streamlining operations related to hotel reservation.



PROBLEM STATEMENT

Moyai hotel current booking system is an outdated system that have many bugs and error with not user-friendly to use. In order to enhance system efficiency and hotel productivity, we decide to develop a new system with user-friendly interface for Moyai hotel staff to easy to use the system.

OBJECTIVE

USER-FRIENDLY INTERFACE:

Provide a user-friendly interface for staff to make room reservations easily and efficiently

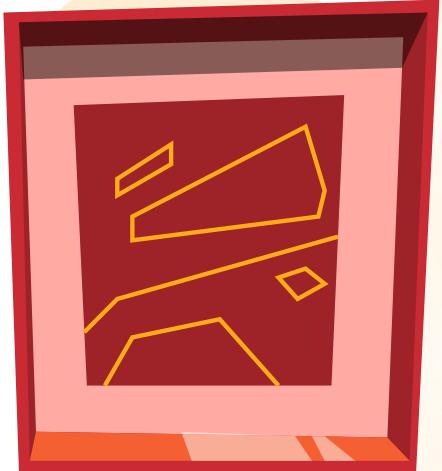
ENHANCED SYSTEM STABILITY & PERFORMANCE:

Streamlining the booking process through automation validation to reduces human error, minimizes errors, and speeds up reservation procedures.

IMPROVE HOTEL PRODUCTIVITY:

This new system can increase the Moyai Hotel productivity in order to get good customer service from guest when making room reservation faster for guest.

OOP CONCEPTS



01

**ENCAPSULATION &
DATA HIDING**

02

**CLASS
RELATIONSHIP
(AGGREGATION,
COMPOSITION &
ASSOCIATION)**

03

INHERITANCE

04

**ABSTRACTION &
POLYMORPHISM**

05

**TEXT FILE
OPERATION**

06

**EXCEPTION
HANDLING**

OOP CONCEPTS



ENCAPSULATION & DATA HIDING



```
// Inheritance: DeluxeRoom extends the Room class, inheriting its attributes and methods.
public class DeluxeRoom extends Room {

    // Enum for DeluxeRoomType with associated base price.
    public enum DeluxeRoomType {
        DELUXE(basePrice:200.0); // The start room number is now managed separately

        private final double basePrice;

        DeluxeRoomType(double basePrice) {
            this.basePrice = basePrice;
        }

        // Encapsulation: Provides access to the private basePrice field.
        public double getBasePrice() {
            return basePrice;
        }
    }

    // Constructor: Initializes DeluxeRoom with specific DeluxeRoomType, availability, and room price.
    public DeluxeRoom(DeluxeRoomType roomType, boolean availability, double roomPrice) {
        // Constructor chaining: Calls the superclass constructor to initialize common attributes.
        super(roomNumber:0, capacity:6, roomType:"Deluxe", roomPrice, availability);
    }

    // Polymorphism and Method Override: Overrides the description method in the base class Room.
    @Override
    public String description() {
        return "Deluxe Room with capacity of " + getCapacity() + " guest.";
    }
}
```

OOP CONCEPTS



AGGREGATION



```
public class Report {  
    UserInterface userInterface = new ConsoleScreenController();  
  
    public void generateReport(List<BookingInfo> bookings) throws IOException {  
        if (bookings.isEmpty()) {  
            System.out.print("No bookings to generate. Please create a new booking!");  
            userInterface.loadingAnimation();  
            userInterface.clearScreen();  
            return;  
        }  
  
        FileWriter fw = new FileWriter("./report/Report.txt");  
        BufferedWriter bw = new BufferedWriter(fw);  
        PrintWriter pw = new PrintWriter(bw);  
  
        LocalDateTime now = LocalDateTime.now();  
        DateTimeFormatter dateFormatter = DateTimeFormatter.ofPattern("dd-MM-yyyy");  
        String currentDate = now.format(dateFormatter);
```

OOP CONCEPTS



COMPOSITION



```
public class BookingInfo {  
  
    // Composition: The class has member variables representing other classes, forming a composition.  
    private Room bookedRoom;  
    private Guest guest;  
    private LocalDate checkInDate;  
    private LocalDate checkOutDate;  
    private Payment payment;  
  
    // Constructor: Initializes the BookingInfo object with provided values during object creation.  
    public BookingInfo(Room bookedRoom, Guest guest, LocalDate checkInDate, LocalDate checkOutDate, Payment payment) {  
        // Encapsulation: Setting private fields using constructor parameters.  
        this.bookedRoom = bookedRoom;  
        this.guest = guest;  
        this.checkInDate = checkInDate;  
        this.checkOutDate = checkOutDate;  
        this.payment = payment;  
    }  
  
    // Getter methods: Provide access to the private fields, following encapsulation principles.  
    public Room getBookedRoom() {  
        return bookedRoom;  
    }  
  
    public Guest getGuest() {  
        return guest;  
    }  
  
    public LocalDate getCheckInDate() {  
        return checkInDate;  
    }  
  
    public LocalDate getCheckOutDate() {  
        return checkOutDate;  
    }  
}
```

OOP CONCEPTS



ASSOCIATION



```
public void handleBooking(BookingInfo bookingInfo) { //Association - BookingInfo Class
    String fullName, contactNumber, email, checkInDateString, checkOutDateString;
    LocalDate checkInDate = null;
    LocalDate checkOutDate = null;
    double totalAmount;

    if (allRoomsOccupied()) {
        System.out.println(x:"Sorry, all rooms are currently occupied. No new bookings can be made at the moment.");
        return;
    }

    System.out.println(x:"----- Make New Booking -----");
    System.out.print(s:"\nChoose a room type \n(1 for Standard, 2 for Deluxe, 3 for Superior): ");

    int roomTypeChoice = getUserChoice();

    if (roomTypeChoice == 1 && allRoomsOccupiedByType(roomType:1)) {
        System.out.println(x:"Sorry, all Standard rooms are currently occupied. Please choose another room type.\n");
        return;
    } else if (roomTypeChoice == 2 && allRoomsOccupiedByType(roomType:2)) {
        System.out.println(x:"Sorry, all Deluxe rooms are currently occupied. Please choose another room type.\n");
        return;
    } else if (roomTypeChoice == 3 && allRoomsOccupiedByType(roomType:3)) {
        System.out.println(x:"Sorry, all Superior rooms are currently occupied. Please choose another room type.\n");
        return;
    }

    displayAvailableRoomsByType(roomTypeChoice);

    // Assign room number manually
    System.out.print(s:"Enter the desired room number: ");
    int roomId = scanner.nextInt();

    userInterface.clearScreen();
```

OOP CONCEPTS



INHERITANCE



```
// Inheritance: DeluxeRoom extends the Room class, inheriting its attributes and methods.
public class DeluxeRoom extends Room {

    // Enum for DeluxeRoomType with associated base price.
    public enum DeluxeRoomType {
        DELUXE(basePrice:200.0); // The start room number is now managed separately

        private final double basePrice;

        DeluxeRoomType(double basePrice) {
            this.basePrice = basePrice;
        }

        // Encapsulation: Provides access to the private basePrice field.
        public double getBasePrice() {
            return basePrice;
        }
    }

    // Constructor: Initializes DeluxeRoom with specific DeluxeRoomType, availability, and room price.
    public DeluxeRoom(DeluxeRoomType roomType, boolean availability, double roomPrice) {
        // Constructor chaining: Calls the superclass constructor to initialize common attributes.
        super(roomNumber:0, capacity:6, roomType:"Deluxe", roomPrice, availability);
    }

    // Polymorphism and Method Override: Overrides the description method in the base class Room.
    @Override
    public String description() {
        return "Deluxe Room with capacity of " + getCapacity() + " guest.";
    }
}
```

OOP CONCEPTS



ABSTRACTION



```
// Abstraction: Declares an abstract class named Room, serving as a base class for specific types of rooms.  
abstract class Room {  
  
    // Encapsulation: Protected fields to encapsulate the internal state, accessible to subclasses.  
    protected int roomNumber;  
    protected int capacity;  
    protected String roomType; // Added roomType  
    protected double price;  
    protected boolean isAvailable;  
  
    // Encapsulation and Constructor: Initializes the common attributes of a room during object creation.  
    public Room(int roomNumber, int capacity, String roomType, double price, boolean isAvailable) {  
        this.roomNumber = roomNumber;  
        this.capacity = capacity;  
        this.roomType = roomType; // Set roomType in the constructor  
        this.price = price;  
        this.isAvailable = isAvailable;  
    }  
}
```

OOP CONCEPTS



POLYMORPHISM



```
// Inheritance: DeluxeRoom extends the Room class, inheriting its attributes and methods.
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```

OOP CONCEPTS



TEXT FILE OPERATION : CREATE NEW FILE





OOP CONCEPTS

TEXT FILE OPERATION : READ INPUT FILE



```
private boolean checkCredentials(String username, String password) {
    try {
        File file = new File(pathname:"C:\\\\Users\\\\ASUS\\\\Desktop\\\\Degree UTM\\\\SEMESTER 1\\\\OOP\\\\Projek\\\\HotelBookingSystem
Scanner fileScanner = new Scanner(file);

        while (fileScanner.hasNextLine()) {
            String line = fileScanner.nextLine();
            String[] credentials = line.split(regex:",");

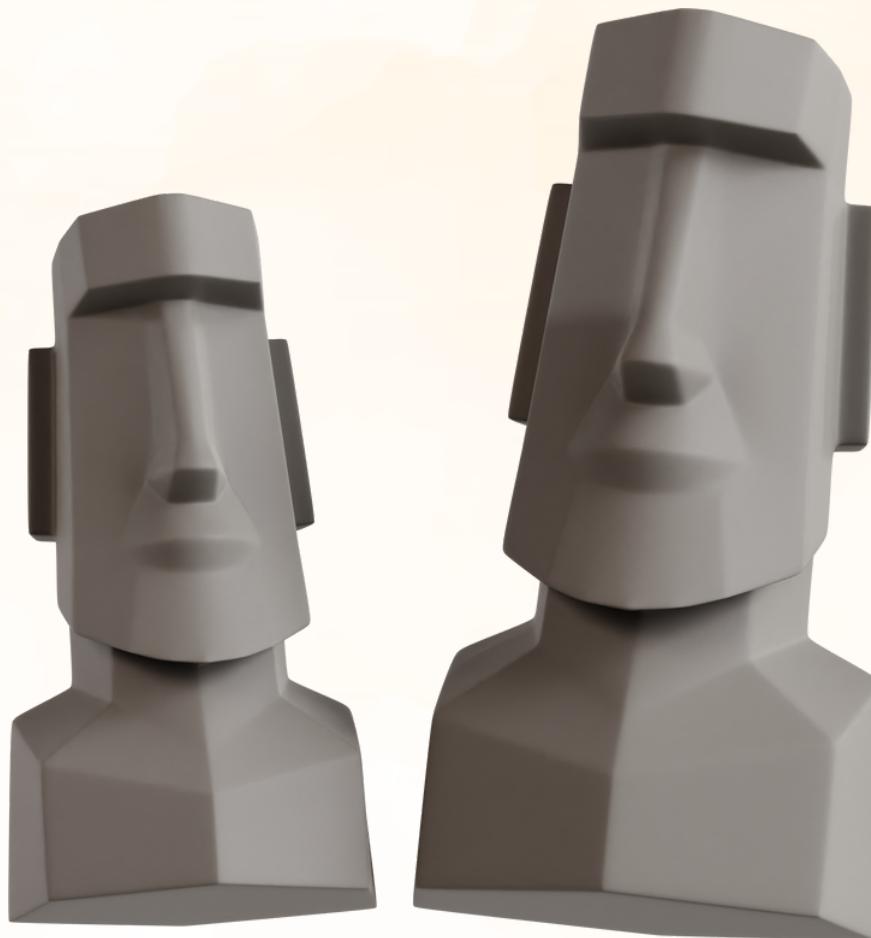
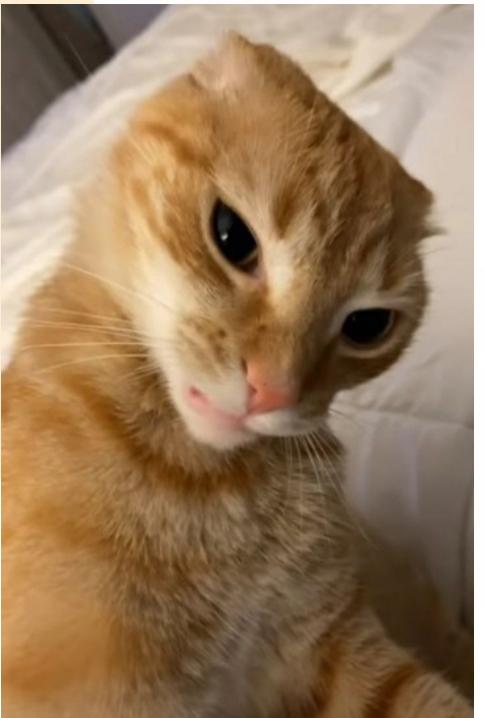
            if (credentials.length == 2) {
                String storedUsername = credentials[0];
                String storedPassword = credentials[1];

                if (username.equals(storedUsername) && password.equals(storedPassword)) {
                    fileScanner.close();
                    return true;
                }
            } else {
                System.out.println("Error: Invalid credentials format in the file.");
            }
        }

        fileScanner.close();
    } catch (FileNotFoundException e) {
        System.out.println("Error: Credentials file not found. Please create new credential file");
        System.exit(status:0);
    }

    return false;
}
```

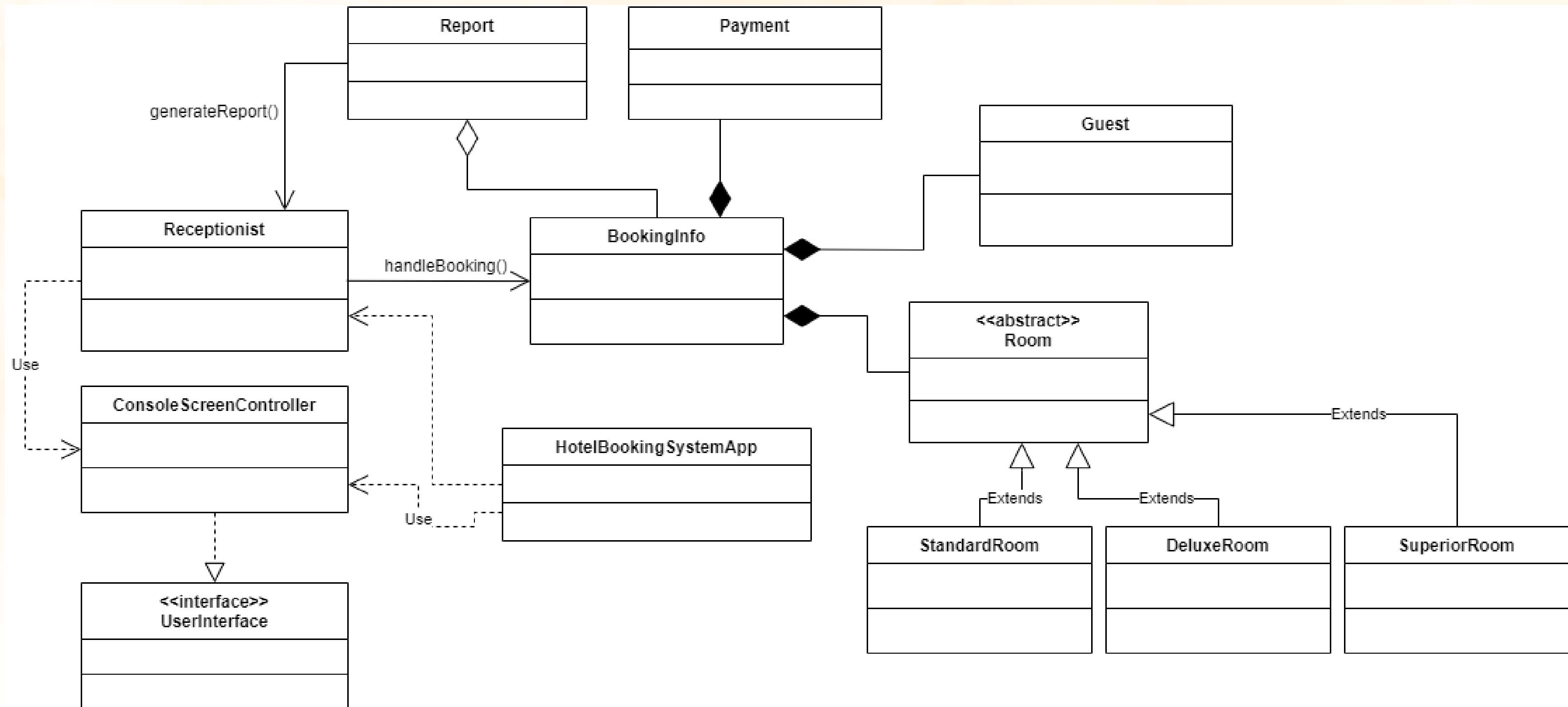
SYSTEM FUNCTIONALITIES



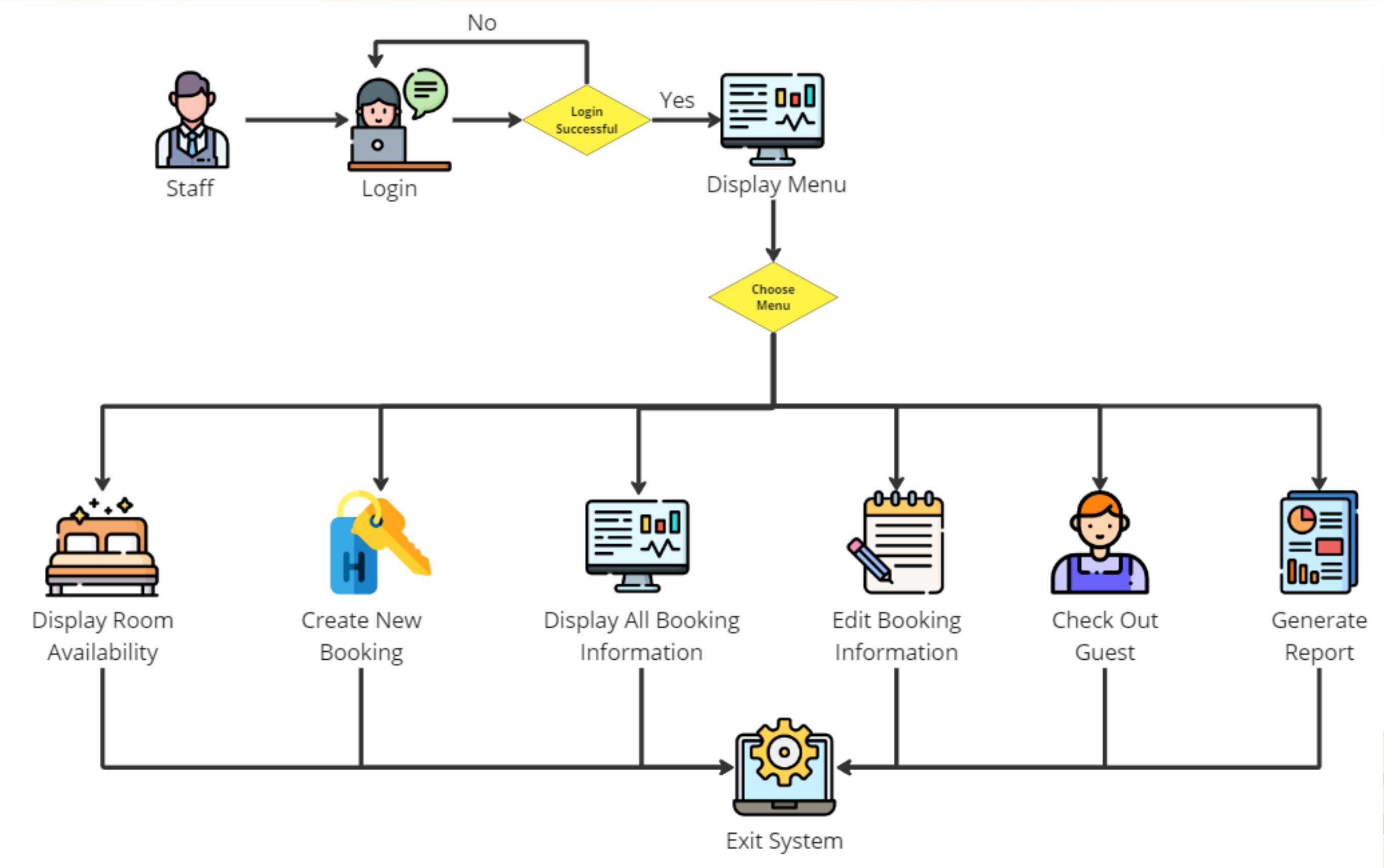
STAFF

- Login via validation and verification from credentials file.
- View available room in the hotel
- Create new booking for hotel guest
- Display all booking information
- Edit booking information
- Check-out guest
- Generate report

CLASS DIAGRAM



SYSTEM PRESENTATION



CONCLUSION

Moyai Hotel Booking System provide an efficient and user-friendly system that improve the hotel management productivity.



SYSTEM DEMONSTRATION



THANK YOU

