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Hotel Management System Project Report\*\*

1. Introduction

This report documents the Hotel Management System, a Java-based application with MySQL database integration that provides comprehensive functionality for hotel administration, including employee management, room management, driver management, and customer reception services.

2. System Overview

2.1 Key Features

- User Authentication: Separate login for admin and reception

- Administration Module:

- Add/Manage employees

- Add/Manage rooms

- Add/Manage drivers

- Reception Module:

- Customer check-in/check-out

- Customer information management

- Room status tracking

- Reporting: View department budgets, employee details, customer information

2.2 Technologies Used

- Frontend: Java Swing for GUI

- Backend: MySQL database

- Connectivity: JDBC for database operations

- Additional Libraries:

- net.proteanit.sql.DbUtils for table display

3. Detailed Module Description

3.1 Authentication and Dashboard

Login2.java (not shown in files) and Dashboard.java provide the entry point to the system:

- Two access levels: Admin and Reception

- Dashboard presents options based on user role

3.2 Administration Module

admin.java serves as the main admin interface with options to:

1. Add Employees (AddEmployee.java)

- Stores: name, age, gender, job role, salary, contact details

- Input validation and database insertion

2. Add Rooms (AddRoom.java)

- Manages room numbers, availability, pricing, cleaning status

- Dropdowns for standardized options (availability, bed type)

3. Add Drivers (addDriver.java)

- Tracks driver details and vehicle information

- Availability status management

3.3 Reception Module

Reception.java (not shown) would interface with:

1. Customer Check-in/Check-out (CheckOut.java)

- Customer ID tracking

- Room assignment

- Time-stamped transactions

2. Customer Information (CustomerInfo.java)

- Tabular display of customer data

- Search and filter capabilities

3.4 Database Management

con.java handles all database connections:

- MySQL connection to hotelMS database

- Standardized connection for all modules

- Error handling for database operations

4. Database Schema

Key tables inferred from the code:

1. employee: Stores staff information

2. room: Manages room inventory and status

3. driver: Tracks driver details and availability

4. customer: Stores guest information

5. department: Tracks departmental budgets

5. User Interface Design

5.1 Common Design Elements

- Consistent color scheme (dark teal background with white text)

- Standardized button styles

- Image icons for visual cues

- Responsive layouts

5.2 Key Screens

1. Dashboard: Main navigation with icons

2. Admin Panel: Centralized control for all management functions

3. Data Entry Forms: Clean, labeled input fields with validation

4. Data Display: Tabular formats with sorting capabilities

6. Technical Highlights

1. Database Integration:

- Secure connection handling

- Parameterized queries (though some SQL concatenation present)

- Comprehensive CRUD operations

2. Error Handling:

- Basic exception handling with stack trace printing

- User notifications for successful operations

3. UI Consistency:

- Reusable component styles

- Standardized layouts across forms

7. Potential Improvements

1. Security Enhancements:

- Password protection for admin access

- SQL injection prevention with prepared statements

2. Additional Features:

- Billing and payment processing

- Room service tracking

- Reporting and analytics

3. Code Refactoring:

- Centralize common UI components

- Implement MVC pattern for better separation

- Enhance error handling with user-friendly messages

8. Conclusion

This Hotel Management System provides a solid foundation for hotel operations with its comprehensive feature set covering administration, room management, and customer service. The Java Swing interface offers an intuitive user experience while the MySQL backend ensures reliable data storage. With some enhancements in security and additional operational features, this system could serve as a complete solution for small to medium-sized hotel operations.

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