NATIONAL UNIVERSITY OF HO CHI MINH CITY

UNIVERSITY OF INFORMATION TECHNOLOGY

UIT
TRƯỜNG ĐẠI HỌC
CÔNG NGHỆ THÔNG TIN

FINAL REPORT

INFORMATION SYSTEM ANALYSIS AND DESIGN
HOTEL MANAGEMENT SYSTEM

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Under the Guidance of:

Ms. Nguyễn Thị Kim Phụng

Ho Chi Minh, April 15th 2021

INTRODUCTION

As a matter of first importance, the creators might want to communicate our genuine gratitude to the lecturers at University of Information Technology – National University of Ho Chi Minh City and Faculty of Information System has assisted the creators with having the fundamental information as the establishment for implementing this theme.

In specific, the creators might want to communicate their most profound thanks and appreciation to Ms. Nguyễn Thị Kim Phụng (Lecturer in Information system analyst and design). The lecturer has straightforwardly guided, remedied and contributed numerous important remarks to help the group effectively complete their subject reports.

During one semester of the theme, the creators applied the establishment has collected in the mix with learning and exploring new. From that point, the creators capitalize on what has been gathered to finish the best project report. In any case, during the time spent execution, the creators bunch definitely shortcomings. Hence, the creators are anticipating accepting remarks from the teachers to improve the information that the creators have learned and are for the creators to forge ahead different themes later on.
Sincerely thank you, Ms.Phụng Nguyễn.

Ho Chi Minh, April 15th 2021

EVALUATION

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Contents

Chapter 1: Introduction

1 Project overview

While global economic integration makes the hotel industry market wider, it also makes the hotel industry facing increasingly fierce competition and rising customer expectations, forcing the insider to expand their customers constantly, improve service quality, lower administrative costs and improve customer satisfaction with new ways to enhance the hotel's core competence. Which is one of the effective means of mass application of advanced information technology, especially with the constant deepening of information, change hospitality industry competition and management models which in the traditional sense, in order to win new competitive advantages. Leading hotels in the world have been falling over themselves to explore, implement and promote integrated hotel management information. Modern hotel is the integration of consumer sites including rooms, business culture, and a variety of other services. Due to a huge membership and service projects, so naturally, it's the amount of carried in its management, in order to improve work efficiency, reduce operating costs, improve service quality and management levels, promote economic efficiency, we must use the computers to progress modern information management. The great development of modern computer technology, provide a favourable opportunity for hotel management to change.

1.1 Scope and objectives of the project

Objectives of the project:

Build "Hotel Management Software" to meet the accompanying necessities:

• There is a decentralized system.

• Manager is allowed to add a new employee and manage all employees,

• Receptionists are allowed to view information and perform their functions.

• Manage rooms, update room status, make reservations

• Permitting to see client data, add clients, alter client data, erase clients

• View booking history, check-out date

Scope:

- For users:
  - Clear interface, easy to use.
  - Limited software errors, stable on most operating systems.
- Functional requirements:
  - Customize, search, modify easily, efficiently, and with high security
- Request helpfulness

For management

- Search, add, delete, update and store booking information.
- Add, delete, edit client information.
- Add, delete, edit employee information.

For the receptionist:

- Search, add, delete, update and store booking information.
- Add, delete, edit client information.

Due to the limited time to implement the project, the development of "Hotel management system" will focus on the following main functions: Staff management, Client management, Room management, Booking and Rental history.

1.2 Roles and responsibilities of project members

ID	Full name	Role	Main responsibility
19521520	Phan Phạm Quỳnh Hoa	Team lead	
19521614	Lê Đinh Quốc Huy	Developer – Font end	
19521340	Nguyễn Thành Đạt	Analyst	
19522521	Lê Tiến Vinh	Developer – Back end	

1.3 Software tools

During the implementation of the project, the group utilized several supporting tools for Software development, such as:

• Database management system: SQL server

• Software build tools: Apache Netbeans IDE

• Manage source code: GitHub

• Project management: Microsoft Project

• Analysis: Microsoft Visio

2 Software development model

2.1 Model introduction

The waterfall model is intuitively the most obvious way to develop software. Though the waterfall model is elegant and intuitively obvious, it is not a practical model in the sense that it can not be used in actual software development projects. Thus, this model can be considered as a theoretical way of developing software. But all other life cycle models are essentially derived from the classical waterfall model. So, in order to be able to appreciate other life cycle models it is necessary to learn the classical waterfall model. The full stages of the waterfall model:

• Feasibility study: collect and analyze requirements, then write them into requirements specification document.

• Design analysis: Analyze and design software systems, determine the overall system architecture of the software.

• Coding: The system is developed by unit and integrated into the next phase. Each Unit is developed and tested by dev is called Unit Test.

• Testing: Install and test the software. The main work of this section is to check and correct all the errors found so that the software works correctly and following the requirements specification document.

• Integration: Deploy the system in the customer environment and launched.

• Operation and maintenance: Maintain the system when there are any changes from customers and users.
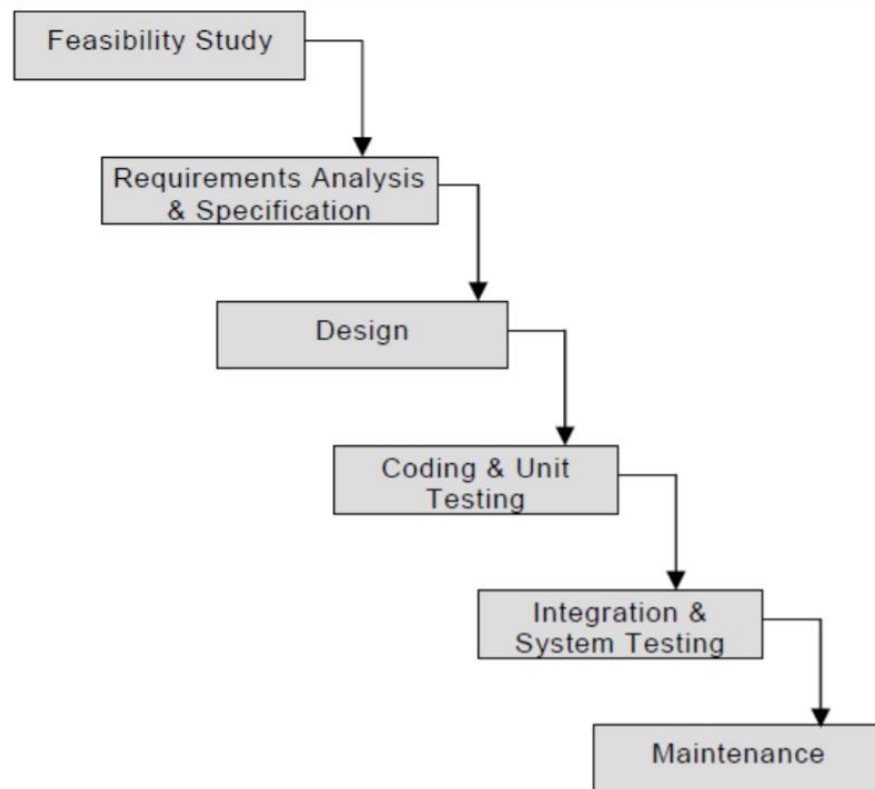
Advantages:

• Easy to use, easy to access, easy to manage.

• Products develop in well-defined stages.

• Validation at each stage, ensuring early detection of errors.

Defect

• Less flexibility, limited adjustment range.

• It is difficult to measure development in each stage.

• The model is not suitable for long, ongoing projects, or complex projects with many changes in requirements.

• Difficult to return once a certain period has ended

2.2 WBS

Task name	Duration	Start	Finish	Predecessors	Resource Names
Building a hotel management system	**57 days**	**Mon 4/12/21**	**Fri 6/18/21**		
Kick-off	**0 days**	**Mon 4/12/21**	**Mon 4/12/21**		

Determine	4 days	Mon 4/12/21	Thu 4/15/21		
Regular group meetings	0.5 days	Mon 4/12/21	Mon 4/12/21		Phan Phạm Quỳnh Hoa,Nguyễn Thành Đạt,Lê Tiến Vinh,Lê Đinh Quốc Huy
Identify problems, goals, results	0.5 days	Mon 4/12/21	Mon 4/12/21	4	Phan Phạm Quỳnh Hoa
Writing project outlines and feasibility studies	0.5 days	Tue 4/13/21	Tue 4/13/21	5	Phan Phạm Quỳnh Hoa
Identify risks	**1 day**	**Tue 4/13/21**	**Wed 4/14/21**		
Risk assumption	0.25 days	Tue 4/13/21	Tue 4/13/21	6	Phan Phạm Quỳnh Hoa
Risk Handling Solutions	0.25 days	Tue 4/13/21	Tue 4/13/21	8	Phan Phạm Quỳnh Hoa
Make a risk list	0.5 days	Wed 4/14/21	Wed 4/14/21	9	Phan Phạm Quỳnh Hoa
Initial planning	**1 day**	**Wed 4/14/21**	**Thu 4/15/21**		
Personnel Planning	0.25 days	Wed 4/14/21	Wed 4/14/21	10	Phan Phạm Quỳnh Hoa
Resource planning Propose solutions to users	0.25 days	Wed 4/14/21	Wed 4/14/21	12	Phan Phạm Quỳnh Hoa
Estimate project time and cost	0.25 days	Thu 4/15/21	Thu 4/15/21	13	Phan Phạm Quỳnh Hoa
Write an original plan	0.25 days	Thu 4/15/21	Thu 4/15/21	14	Phan Phạm Quỳnh Hoa
Propose solutions to users	**0.5 days**	**Thu 4/15/21**	**Thu 4/15/21**	15	Phan Phạm Quỳnh Hoa
Complete the specified stage	**0 days**	**Thu 4/15/21**	**Thu 4/15/21**	16	
Analyze	**5 days**	**Fri 4/16/21**	**Wed 4/21/21**		
Regular group meetings	0.5 days	Fri 4/16/21	Fri 4/16/21	17	Phan Phạm Quỳnh Hoa,Nguyễn Thành Đạt,Lê Tiến Vinh,Lê Đinh Quốc Huy

User request analysis	**2.5 days**	**Sat 4/17/21**	**Tue 4/20/21**		
Non-functional request analysis	1 day	Sat 4/17/21	Sat 4/17/21	19	Nguyễn Thành Đạt
Functional request analysis	1 day	Mon 4/19/21	Mon 4/19/21	21	Nguyễn Thành Đạt
Write analytical reports	0.25 days	Tue 4/20/21	Tue 4/20/21	22	Nguyễn Thành Đạt
Write function specifications	0.25 days	Tue 4/20/21	Tue 4/20/21	23	Nguyễn Thành Đạt
Analyze resource status	**0.5 days**	**Tue 4/20/21**	**Tue 4/20/21**	24	Nguyễn Thành Đạt
Re-examine analysis	**0.25 days**	**Wed 4/21/21**	**Wed 4/21/21**	25	Phan Phạm Quỳnh Hoa
Overall design	**0.25 days**	**Wed 4/21/21**	**Wed 4/21/21**	26	Lê Đinh Quốc Huy
Write a project implementation plan	**0.5 days**	**Wed 4/21/21**	**Wed 4/21/21**	27	Phan Phạm Quỳnh Hoa
Complete the analysis phase	**0 days**	**Wed 4/21/21**	**Wed 4/21/21**	28	
Design	**11.5 days**	**Thu 4/22/21**	**Fri 5/7/21**		
Regular meetings	4 hrs	Thu 4/22/21	Thu 4/22/21	18	Phan Phạm Quỳnh Hoa,Nguyễn Thành Đạt,Lê Tiến Vinh,Lê Đinh Quốc Huy
Overall design	**9.5 days**	**Thu 4/22/21**	**Wed 5/5/21**		
Data design	**1 day**	**Thu 4/22/21**	**Fri 4/23/21**	31	Lê Đinh Quốc Huy
Component design and processing	**5 days**	**Fri 4/23/21**	**Thu 4/29/21**		
Processing diagram design	1.5 days	Fri 4/23/21	Sat 4/24/21	33	Lê Đinh Quốc Huy
Functional diagram design	1.5 days	Mon 4/26/21	Tue 4/27/21	35	Lê Đinh Quốc Huy
Screen map design	2 days	Tue 4/27/21	Thu 4/29/21	36	Lê Đinh Quốc Huy
Interface design	**3.5 days**	**Thu 4/29/21**	**Wed 5/5/21**		

Sign-in interface	0.5 days	Thu 4/29/21	Thu 4/29/21	37	Lê Đinh Quốc Huy
Management interface	1.5 days	Mon 5/3/21	Tue 5/4/21	39	Lê Đinh Quốc Huy
Employee interface	1.5 days	Tue 5/4/21	Wed 5/5/21	40	Lê Đinh Quốc Huy
Write design specifications	**0.5 days**	**Thu 5/6/21**	**Thu 5/6/21**	41	Lê Đinh Quốc Huy
Write an acceptance test plan	**0.5 days**	**Thu 5/6/21**	**Thu 5/6/21**	42	Lê Đinh Quốc Huy
Check estimates	**0.5 days**	**Fri 5/7/21**	**Fri 5/7/21**	43	Lê Đinh Quốc Huy
Completion of the design stage	**0 days**	**Fri 5/7/21**	**Fri 5/7/21**	44	
Implement	**23.5 days**	**Fri 5/7/21**	**Thu 6/3/21**		
Regular meetings	4 hrs	Fri 5/7/21	Fri 5/7/21	45	Phan Phạm Quỳnh Hoa,Nguyễn Thành Đạt,Lê Tiến Vinh,Lê Đinh Quốc Huy
Build an interface	**5.5 days**	**Sat 5/8/21**	**Fri 5/14/21**		
Manage employees tab	**0.5 days**	**Sat 5/8/21**	**Sat 5/8/21**		
Employee information display	0.5 days	Sat 5/8/21	Sat 5/8/21	47	Lê Đinh Quốc Huy
Manage Rooms tab	**1 day**	**Sat 5/8/21**	**Mon 5/10/21**	50	
Room information display	0.5 days	Sat 5/8/21	Sat 5/8/21		Lê Đinh Quốc Huy
Booking screen	0.5 days	Mon 5/10/21	Mon 5/10/21	52	Lê Đinh Quốc Huy
Manage Clients tab	**1.5 days**	**Mon 5/10/21**	**Tue 5/11/21**		
Display of customer information	1.5 days	Mon 5/10/21	Tue 5/11/21	53	Lê Đinh Quốc Huy
User Information tab	**1 day**	**Wed 5/12/21**	**Wed 5/12/21**	55	
User information view screen	0.5 days	Wed 5/12/21	Wed 5/12/21		Lê Đinh Quốc Huy

Password change view screen	0.5 days	Wed 5/12/21	Wed 5/12/21	57	Lê Đinh Quốc Huy
Rental History tab	**1 day**	**Thu 5/13/21**	**Thu 5/13/21**	58	
Screen view booking history	1 day	Thu 5/13/21	Thu 5/13/21		Lê Đinh Quốc Huy
Sign-in screen	0.5 days	Fri 5/14/21	Fri 5/14/21	60	Lê Đinh Quốc Huy
Build functionality	**13 days**	**Fri 5/14/21**	**Sat 5/29/21**		
Reception functions	**6 days**	**Fri 5/14/21**	**Fri 5/21/21**		
View employee information	1 day	Fri 5/14/21	Sat 5/15/21	61	Lê Tiến Vinh
Client management	1 day	Sat 5/15/21	Mon 5/17/21	64	Lê Tiến Vinh
Room management	1 day	Mon 5/17/21	Tue 5/18/21	65	Lê Tiến Vinh
Booking	1 day	Tue 5/18/21	Wed 5/19/21	66	Lê Tiến Vinh
View booking history	1 day	Wed 5/19/21	Thu 5/20/21	67	Lê Tiến Vinh
Change your password	1 day	Thu 5/20/21	Fri 5/21/21	68	Lê Tiến Vinh
Functions for management	**7 days**	**Fri 5/21/21**	**Sat 5/29/21**		
Employee management	1 day	Fri 5/21/21	Sat 5/22/21	69	Lê Tiến Vinh
Room management	1 day	Sat 5/22/21	Mon 5/24/21	71	Lê Tiến Vinh
Client management	1 day	Mon 5/24/21	Tue 5/25/21	72	Lê Tiến Vinh
View employee information	1 day	Tue 5/25/21	Wed 5/26/21	73	Lê Tiến Vinh
Change your password	1 day	Wed 5/26/21	Thu 5/27/21	74	Lê Tiến Vinh
View booking history	1 day	Thu 5/27/21	Fri 5/28/21	75	Lê Tiến Vinh
Client management	1 day	Fri 5/28/21	Sat 5/29/21	76	Lê Tiến Vinh
Software finishing	**2 days**	**Sat 5/29/21**	**Tue 6/1/21**	77	Lê Tiến Vinh

Check software functionality	**6 days**	**Wed 5/26/21**	**Wed 6/2/21**		
Test each component	5 days	Wed 5/26/21	Tue 6/1/21	78FS-5 days	Nguyễn Thành Đạt
Write a test record for each component	1 day	Tue 6/1/21	Wed 6/2/21	80	Nguyễn Thành Đạt
Write a software construction report	**0.5 days**	**Tue 6/1/21**	**Tue 6/1/21**	78	Phan Phạm Quỳnh Hoa
Develop a system testing plan	**0.5 days**	**Wed 6/2/21**	**Wed 6/2/21**	81	Lê Tiến Vinh
Compile documents for users	**2 days**	**Wed 6/2/21**	**Thu 6/3/21**	82	Phan Phạm Quỳnh Hoa
Completion of the project implementation phase	**0 days**	**Thu 6/3/21**	**Thu 6/3/21**	83,84	
System testing	**7 days**	**Fri 6/4/21**	**Fri 6/11/21**		
Regular meetings	4 hrs	Fri 6/4/21	Fri 6/4/21	85	Phan Phạm Quỳnh Hoa,Nguyễn Thành Đạt,Lê Tiến Vinh,Lê Đinh Quốc Huy
Equip the necessary equipment	0.5 days	Fri 6/4/21	Fri 6/4/21	87	Lê Đinh Quốc Huy
Check the operation of the software	0.5 days	Sat 6/5/21	Sat 6/5/21	88	Nguyễn Thành Đạt
Planned system testing	5 days	Sat 6/5/21	Fri 6/11/21	89	Nguyễn Thành Đạt
Write a record of system test results	0.5 days	Fri 6/11/21	Fri 6/11/21	90	Nguyễn Thành Đạt
Complete stage of system testing	0 days	Fri 6/11/21	Fri 6/11/21	91	
Acceptance test	**1 day**	**Sat 6/12/21**	**Sat 6/12/21**		
Perform the tests given in the acceptance test plan	2 hrs	Sat 6/12/21	Sat 6/12/21	92	Lê Tiến Vinh
Demo for clients	2 hrs	Sat 6/12/21	Sat 6/12/21	94	Lê Tiến Vinh
Write a demo report	2 hrs	Sat 6/12/21	Sat 6/12/21	95	Lê Tiến Vinh
Write a user's confirmation record	2 hrs	Sat 6/12/21	Sat 6/12/21	96	Lê Tiến Vinh

Complete the acceptance test phase	0 days	Sat 6/12/21	Sat 6/12/21	97	
Operate	**5 days**	**Mon 6/14/21**	**Fri 6/18/21**		
System settings for customers	1 day	Mon 6/14/21	Mon 6/14/21	98	Lê Đinh Quốc Huy
User training	1 day	Tue 6/15/21	Tue 6/15/21	100	Lê Đinh Quốc Huy,Lê Tiến Vinh
Write a report on operating results	0.5 days	Wed 6/16/21	Wed 6/16/21	101	Lê Đinh Quốc Huy
Project audit	0.5 days	Wed 6/16/21	Wed 6/16/21	102	Phan Phạm Quỳnh Hoa
Project handover	0.5 days	Thu 6/17/21	Thu 6/17/21	103	Phan Phạm Quỳnh Hoa
Write project transfer documents	0.5 days	Thu 6/17/21	Thu 6/17/21	104	Phan Phạm Quỳnh Hoa
Experience meetings	4 hrs	Fri 6/18/21	Fri 6/18/21	105	Phan Phạm Quỳnh Hoa,Nguyễn Thành Đạt,Lê Tiến Vinh,Lê Đinh Quốc Huy
Project summary report	0.5 days	Fri 6/18/21	Fri 6/18/21	106	Phan Phạm Quỳnh Hoa
End of project	**0 days**	**Fri 6/18/21**	**Fri 6/18/21**	107	

Chapter 2: Analysis

1 Requirement determination

1.1 Survey

Interview Plan				
Hotel Management system				
Author: Phan Phạm Quỳnh Hoa				
Date: April 18th 2021				
S. No	Subject	Requirements	Start	Finish
1	Purpose of the system	In order to improve work efficiency, reduce operating costs, improve service quality and management levels	April 18th 2021	April 18th 2021
2	Reservation process	Select an available room and enter reservation information, then return room status to booked, when clients check out, return to available	April 18th 2021	April 18th 2021
3	Client management	Add, delete, edit client information	April 18th 2021	April 18th 2021
4	Employee management	Add, delete, edit employee information	April 18th 2021	April 18th 2021

5	Room management	Search, add, delete, edit and store booking data	April 18th 2021	April 18th 2021
6	Decentralized system	Manager and Receptionist are allowed to use it.	April 18th 2021	April 18th 2021

Interview Schedule	
Hotel Management System	
Interviewee/Place: Deluxe Hotel Start: 8 am April 20th 2021 Finish: 10 am April 20th 2021	Analyst: Phan Phạm Quỳnh Hoa

Interview details:
• Introduction
• Overview of system
• Overview of the interview:
  - Purpose of the system
  - Reservation process
  - Client management
  - Employee management
  - Room management
  - Decentralized system
	Time expected:
	- 5 min
	- 10 min
	- 40 min

Overview & Exception	

1.2 Organizational structure
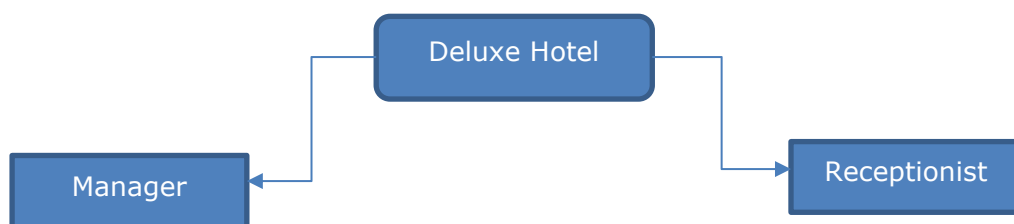
1.3 Business analysis process

Position	Professional		Process
Receptionist, Manager	Client management	Look into client data	At the point when you need to view, or refresh client data, the receptionist directs a query of that client data first.
		Update client data	In the process of managing client information, the employee can change wrong information, refreshes client data
	Room management	Look into room data	At the point when you need to view room information, the receptionist directs a query of that room.
		Update room data	Employees can update room information.
		Reservation	Employees enters client information and chooses an available room.
	Rental history	View rental history	Employees can view rental history.
Manager	Employee management	Look into employee data	
		Update employee data	The manager can change all the employee information
		Detele employee data	In case the employee has left work, manager can delete the employee.
		Add new employee	When recruiting new employees, the manager enters employee information.

2 Requirements analysis

2.1   Storage requirements

The Deluxe hotel management system needs to store the information below:

Object	Data storage
Client	Client ID, Full name, Phone Number, Date of birth, CCCD
Employee	Staff ID, Full name, Gender, Address, Phone Number, Date of birth, Position
Room	Room ID, Type of room, Room status, Staff ID
Booking	Booking ID, Room ID, Client ID, Check-in date, Check-out date
User login	Username, password, authority

2.2   Functional requirements

- Sign-in function:
  - Implementer: Manager, Receptionist
  - Input: Enter valid username and password to
  - Processing: In case invalid username or password, a message will appear to warn. In contrast, leading to the Homepage with functions per the right permissions.
- View user information
  - Function: users are allowed to see their information
- Change password:
  - Function: Users can change the default password
  - Processing: Enter a new password and then confirm the password
- Client management:
  - Functions: Look up client data, add new client, delete client, change client information

- Implementer: Receptionist, manager
- Input: Client information
- Output: Client data table

- Employee management:
  - Functions: Add new Employee Details to the Records, edit the details of the employees & modify the employees records
  - Implementer: Manager
  - Input: Enter employee information
  - Output: Employee data table

- Room management
  - Functions: change room status
  - Implementer: Manager
  - Input: Enter room information
  - Output: Room data table

- Booking
  - Input: Choose an available room, then enter booking information
  - Implementer: Manager, Receptionist
  - Output: return the room status to booked.

- View rental history
  - Function: users are allowed to view rental history, check-in date, check-out date

2.3   Non-functional requirements

- Interface requirements: Simple, user-friendly, and suitable for hotel business.
- Performance requirements:
  - The allowable time for the system to respond to information that has accepted a processing request on the user side is 5 seconds.

- The allowable time for returning information search results is 5 seconds.

- Security requirements:

Function	Receptionist	Manager
Client management	Yes	Yes
Room management	Yes	Yes
Employee management	No	Yes
Rental history	Yes	Yes

Chapter 3: Design - system specification

1 Design of processing components

1.1 Use Case diagram
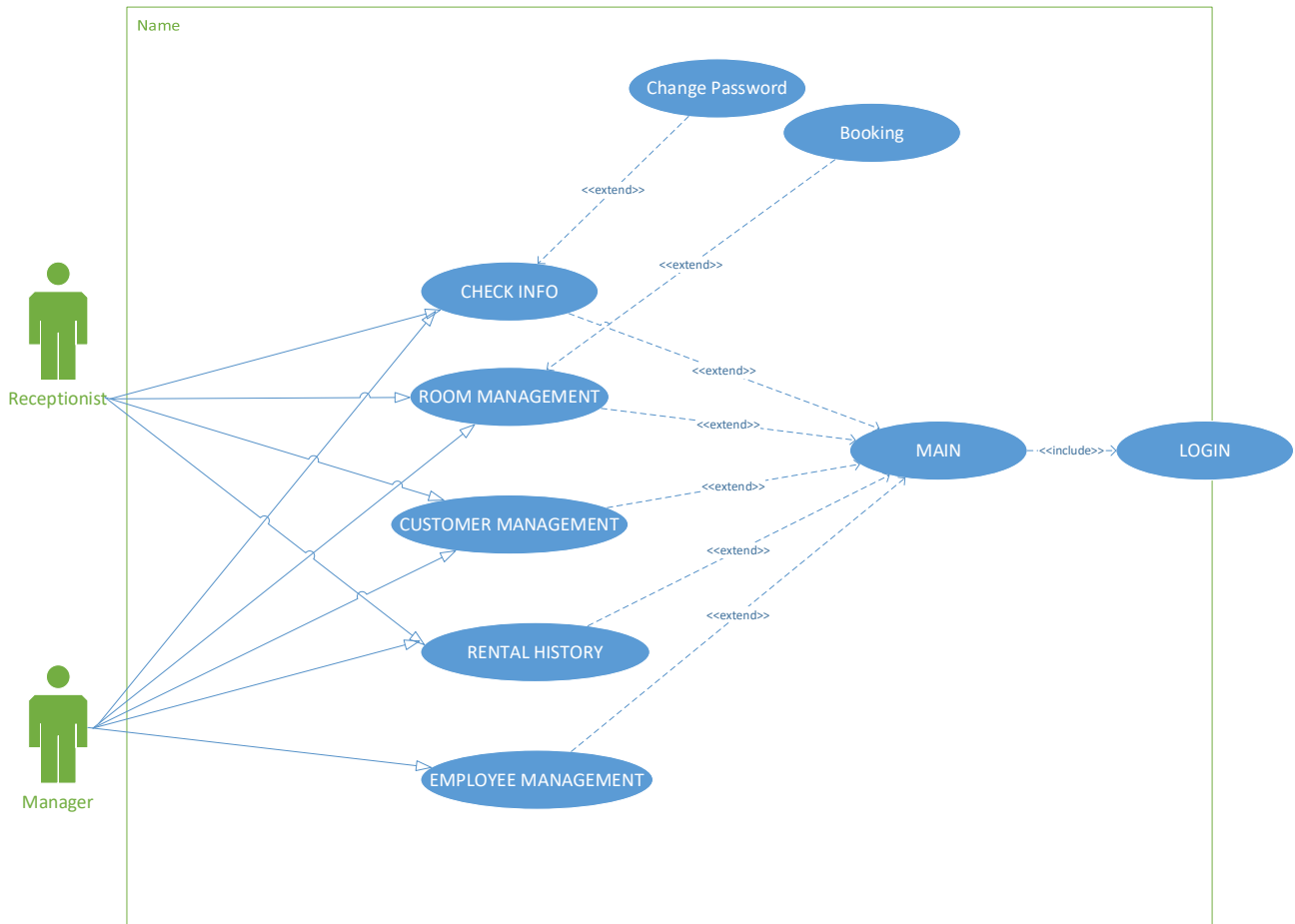
Employee Management use case:
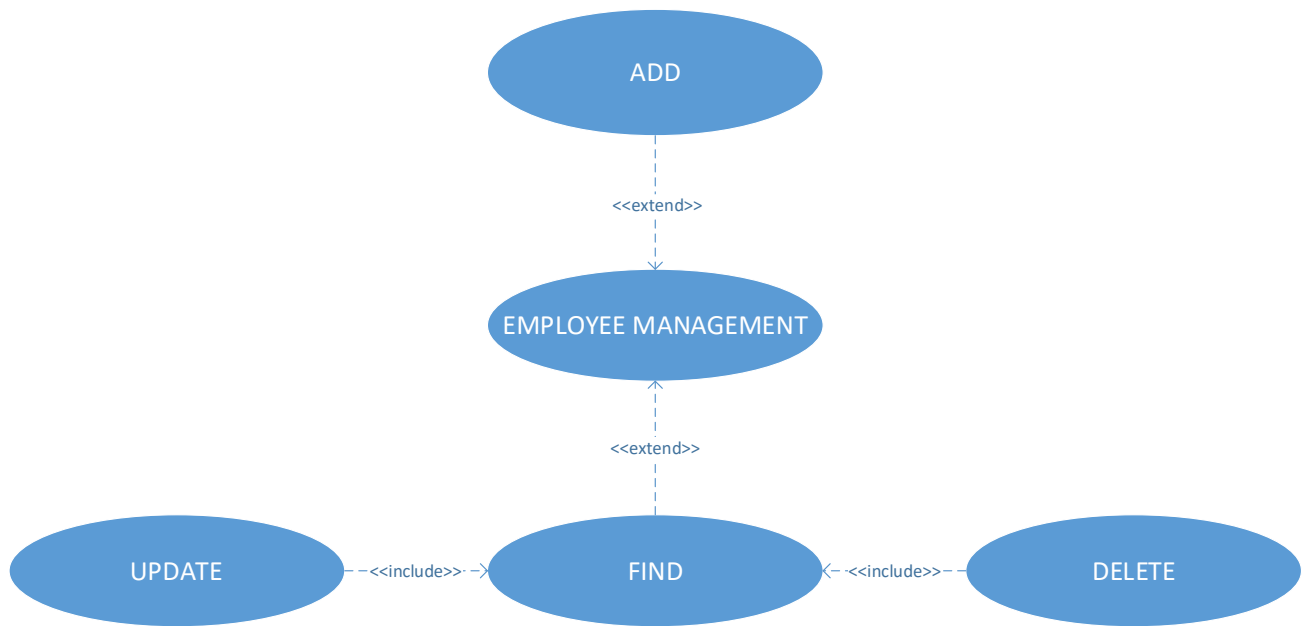
Customer Management use case:
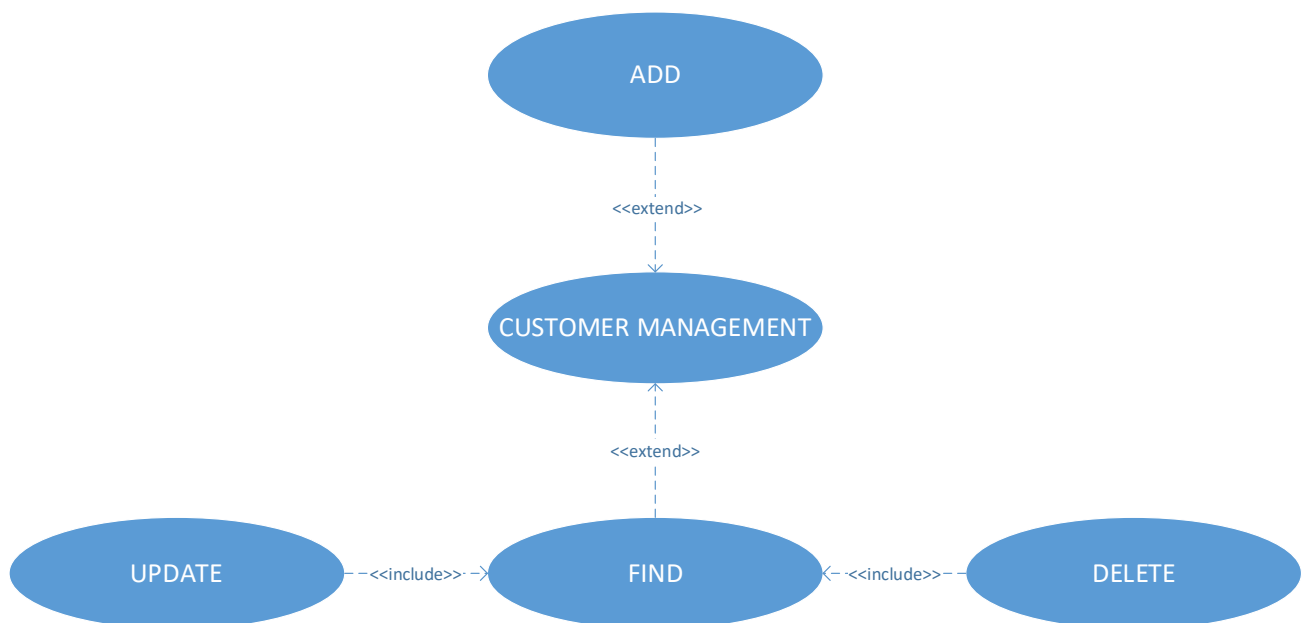
Room Management use case:
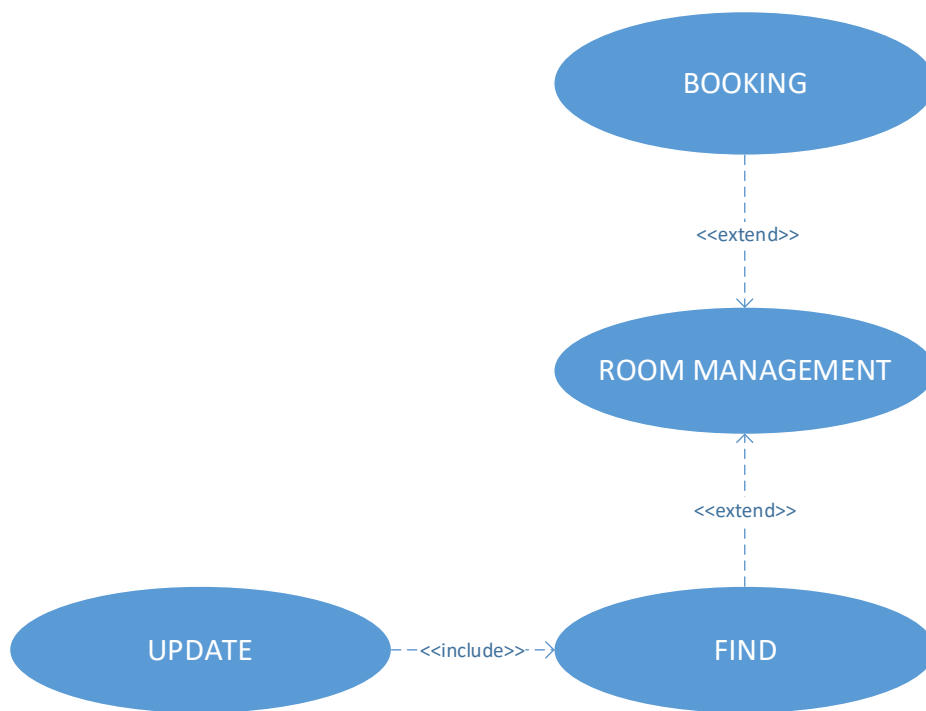
1.2 List of system actors

S. No	Authors	Task
1	Manager	Hotel managers are responsible for managing employees and for planning, marketing, coordinating, and administering hotel services such as accommodation facilities, etc.
2	Receptionist	The department that has the function of receiving customers, doing check-in, check-out procedures, receiving booking

S. No	Use Case	Description
1	Login	Allows users to log into the system with decentralized permissions.
2	Room management	Permits users to update room information.
3	Employee management	Permits the manager to add/update/delete employees.
4	Customer management	Permits users to add/update/delete customers.
5	Change Password	Users are allowed to change the password differently from the default password.
6	Check info	Users can see their information.
7	Rental history	Users can see rental history.
8	Booking	Enter client information to make a reservation.

The cell above the table (continuation from previous page):

		information, making reservations in the hotel.

1.3 List of usecase

1.4 Use case specification and Activity diagram

1.4.1 Use case: Login

- Actors: Manager, Receptionist
- Description: Allows users to log into the system with decentralized permissions.
- Pre-condition: The user already has an account.
- Post-condition: Display Main frame.

- Flow of events:

LOGIN ACTIVITY

Receptionist/Manager	System

Enter ID/Password

Press "LOGIN"

Show message "Username or password is wrong!"

Incorrect

Check ID — Correct → Check Password

Incorrect

Correct

Check Role

Receptionist

Show Receptionist_UI

Manager

Show Manager_UI
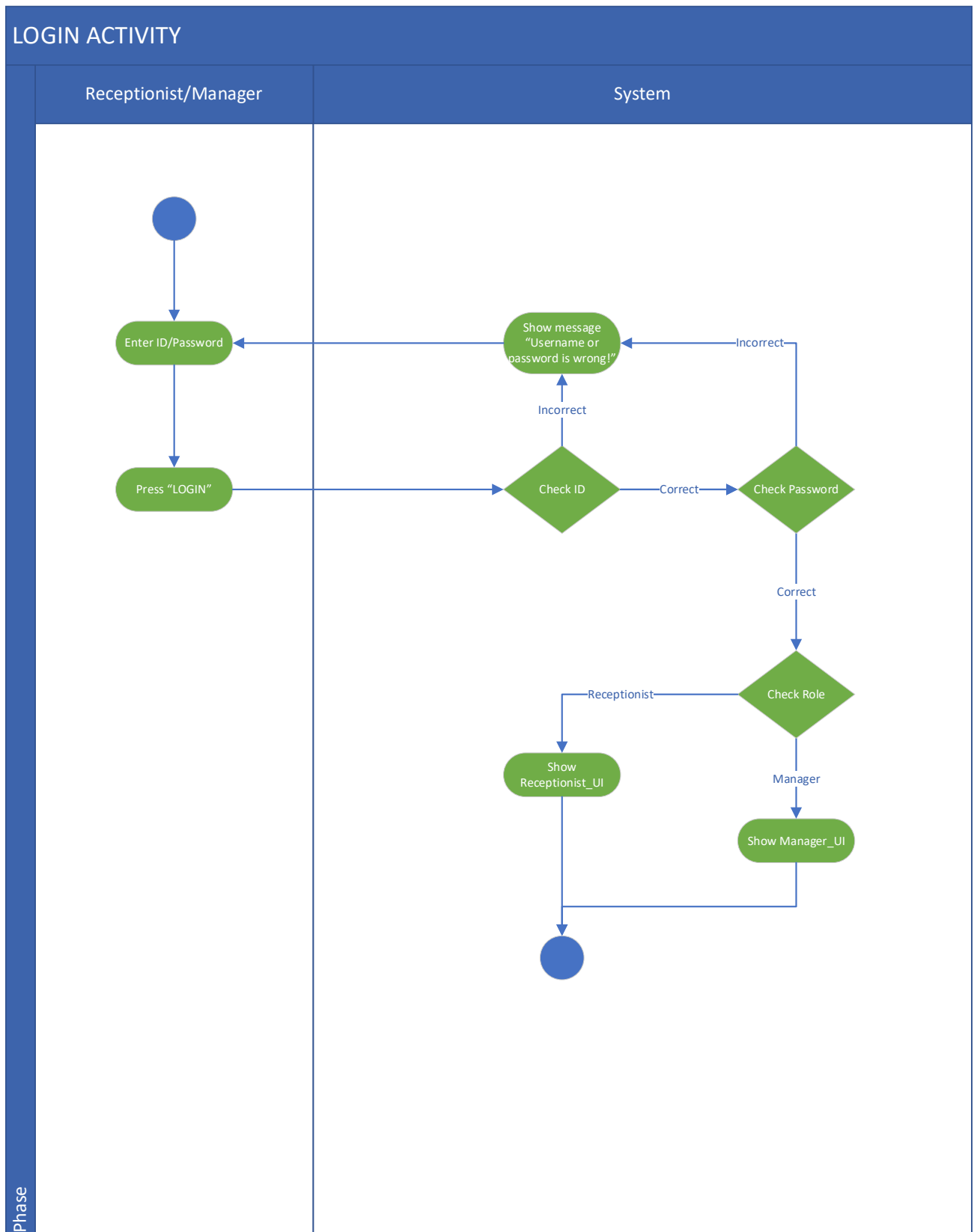
1.4.2 Use case: Room management

- Actors: Manager, Receptionist

- Description: Permit users to update the room.

- Pre-condition: Login successful.

- Post-condition: All changes are saved to the database.

- Flow of events:

ROOM MANAGEMENT ACTIVITY

Receptionist/Manager	System
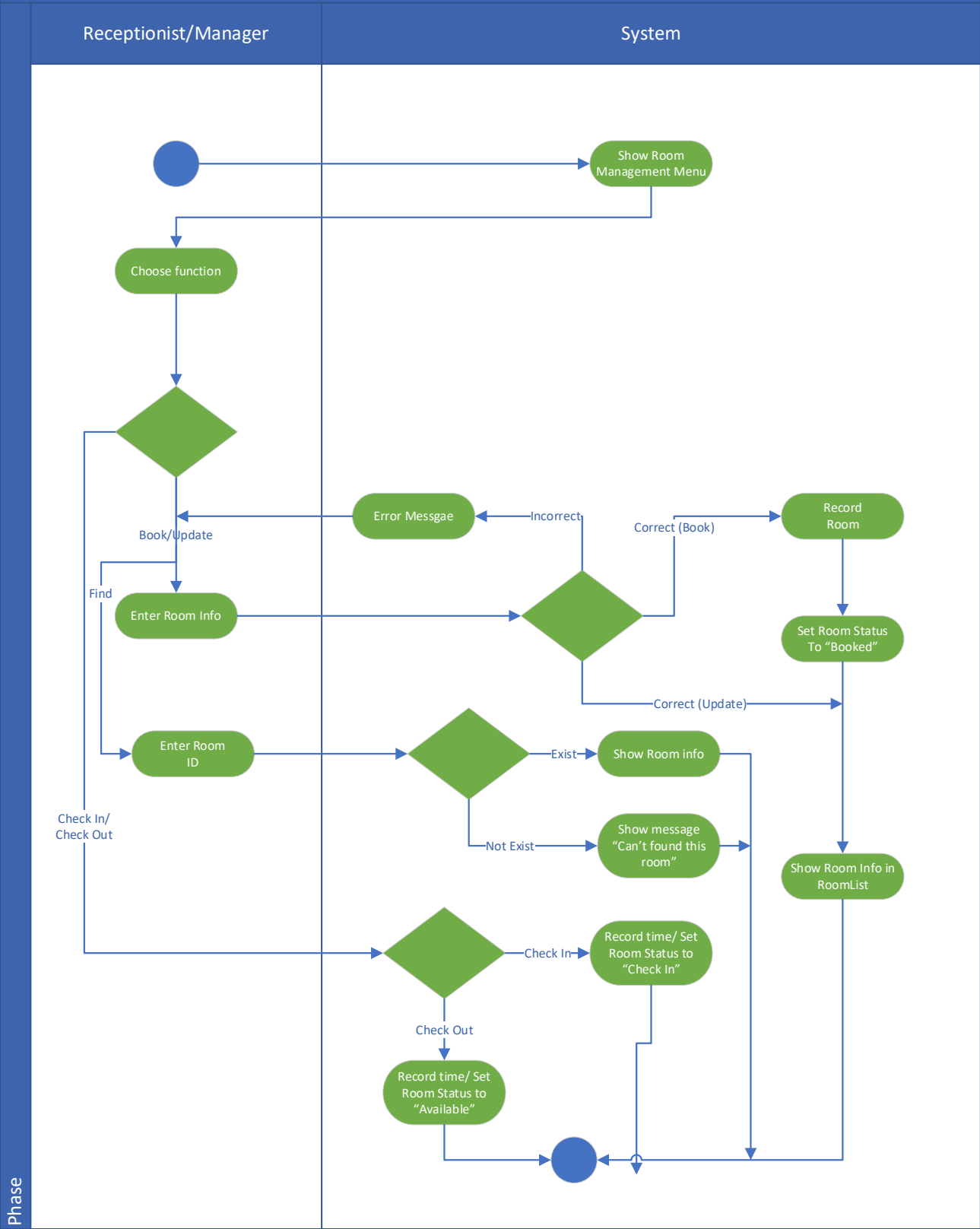
1.4.3 Use case: Employee management

- Actors: Manager

- Description: Permits the manager to add/update/delete employees.

- Pre-condition: Manager signed in.

- Post-condition: All changes are saved to the database.

- Flow of events:

EMPLOYEE MANAGEMENT ACTIVITY

Manager	System

Show Employee Management Menu

Choose function

Update/Add

Find

Detele

Error Messgae — Incorrect

Enter Employee Info — Correct — Record Employee

Enter Employee Info — Matched — Show matched Employee — Show Employee Info in EmployeeList

Unmatch — Show message "No employee matched"

Choose a Employee from EmployeeList

Detele

Remove Employee From EmployeeList

Phase

1.4.4 Use case: Customer management

- Actors: Manager, Receptionist

- Description: Permits users to add/update/delete customers.

- Pre-condition: Users signed in.

- Post-condition: All changes are saved to the database.

- Flow of events:

CUSTOMER MANAGEMENT ACTIVITY

Receptionist/Manager	System

- Show Customer Management Menu
- Choose function
- Update/Add
- Find
- Detele
- Enter Customer Info
- Error Messgae
- Incorrect
- Correct
- Record Customer
- Enter Customer Info
- Matched
- Show Customer info
- Show Customer Info in CustomerList
- Unmatch
- Show message "No customer matched"
- Choose a Customer from CustomerList
- Press Detele
- Remove Customer from Customer List

Phase

1.4.5 Use case: Change password

- Actors: Manager, Receptionist

- Description: Users are allowed to change the password differently from the default password.

- Pre-condition: Users signed in.

- Post-condition: All changes are saved to the database.

- Flow of events:

CHANGE PASSWORD ACTIVITY
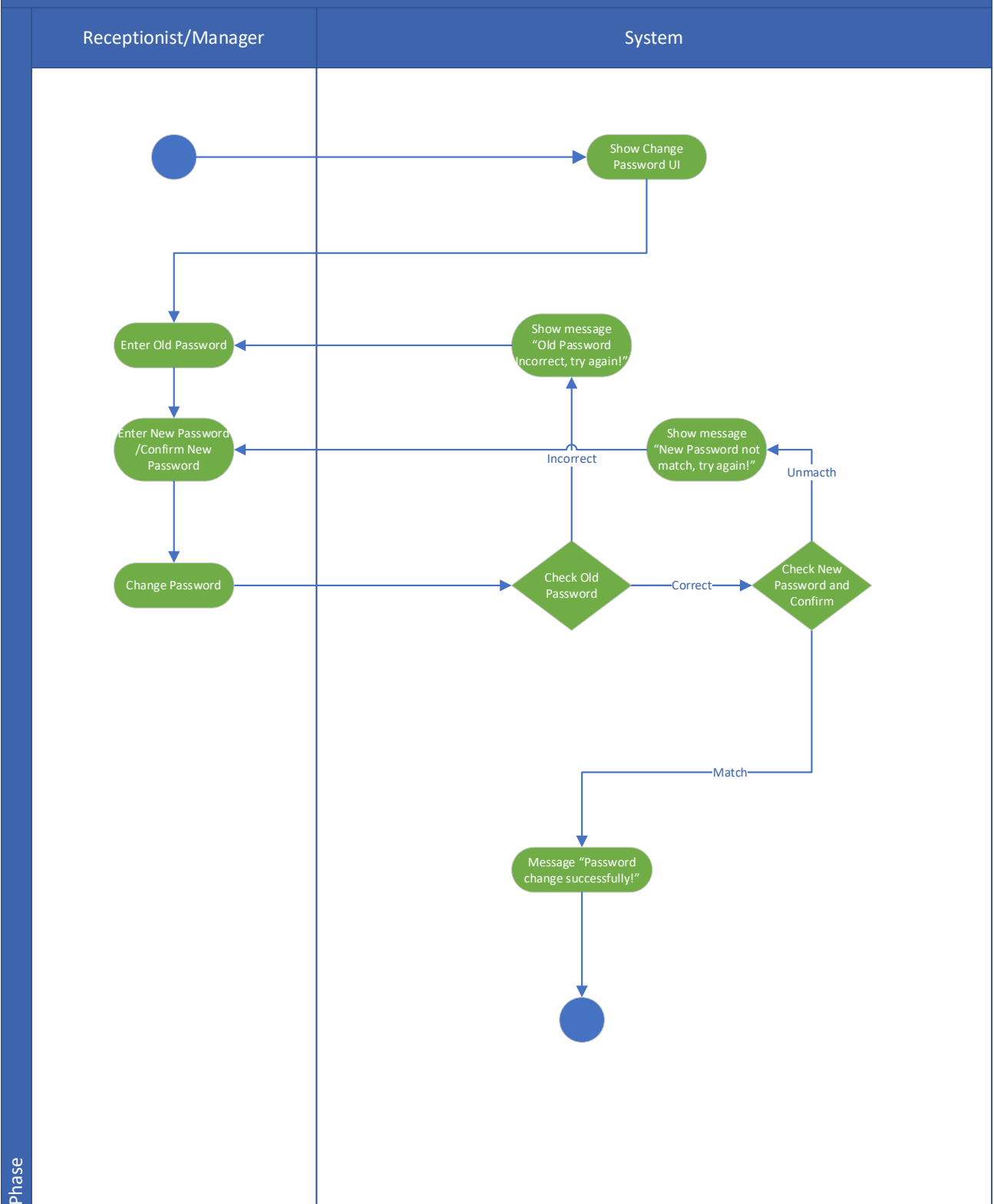
1.4.6 Use case: Rental history

•Actors: Manager, Receptionist

- Description: Users can see rental history.

- Pre-condition: Users signed in.

- Post-condition: Displays.

- Flow of events:

RENTAL HISTORY ACTIVITY

Receptionist/Manager	System

Room have been Checked out

Record Booking

Show New booking infor in Rental table

Rental History
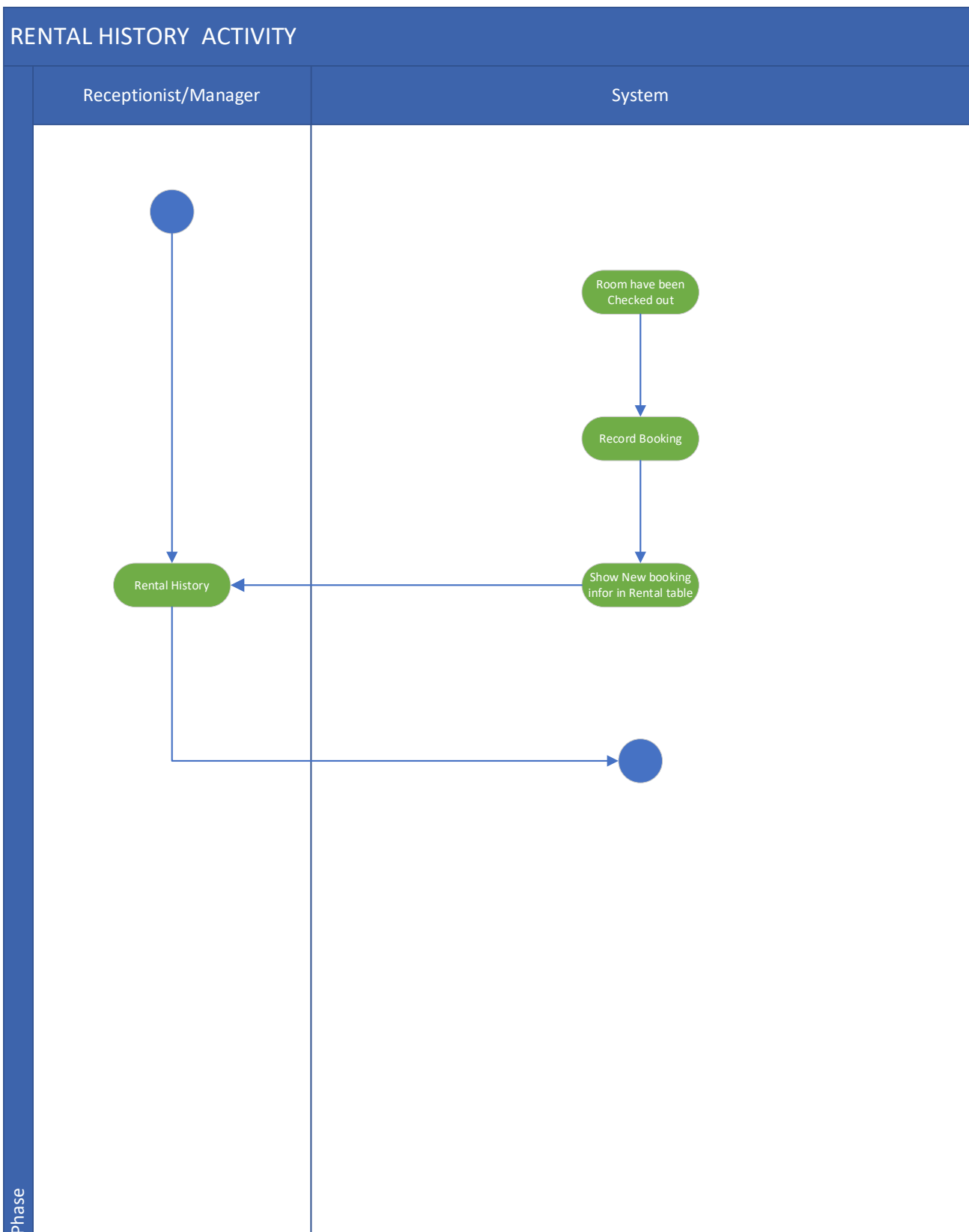
1.4.7   Use case: Booking

•Actors: Manager, Receptionist

- Description: Enter client information to make a reservation.

- Pre-condition: Users signed in.

- Post-condition: All changes are saved to the database.

- Flow of events:
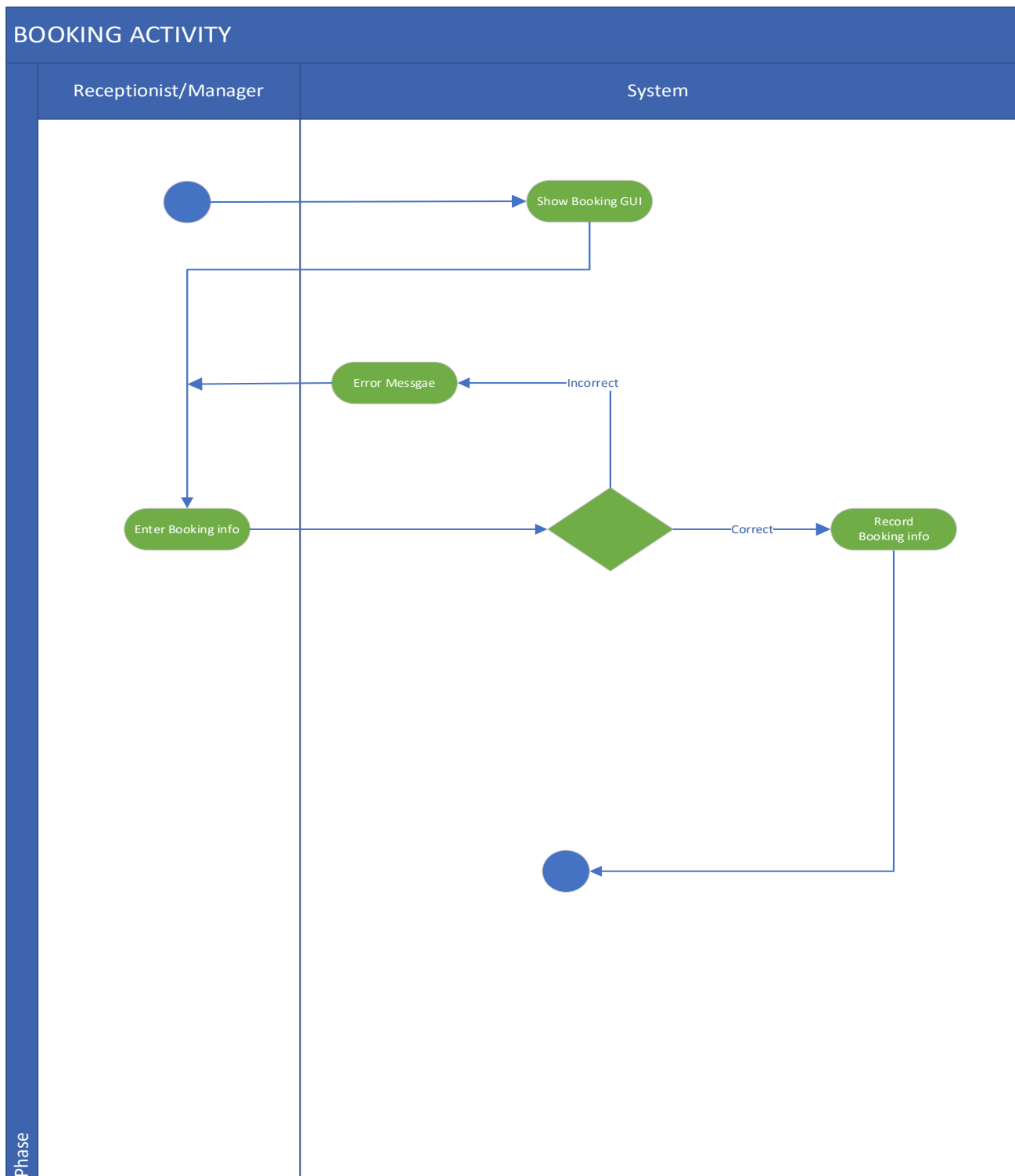
1.5 Sequence Diagram

1.5.1 Sequence: Login
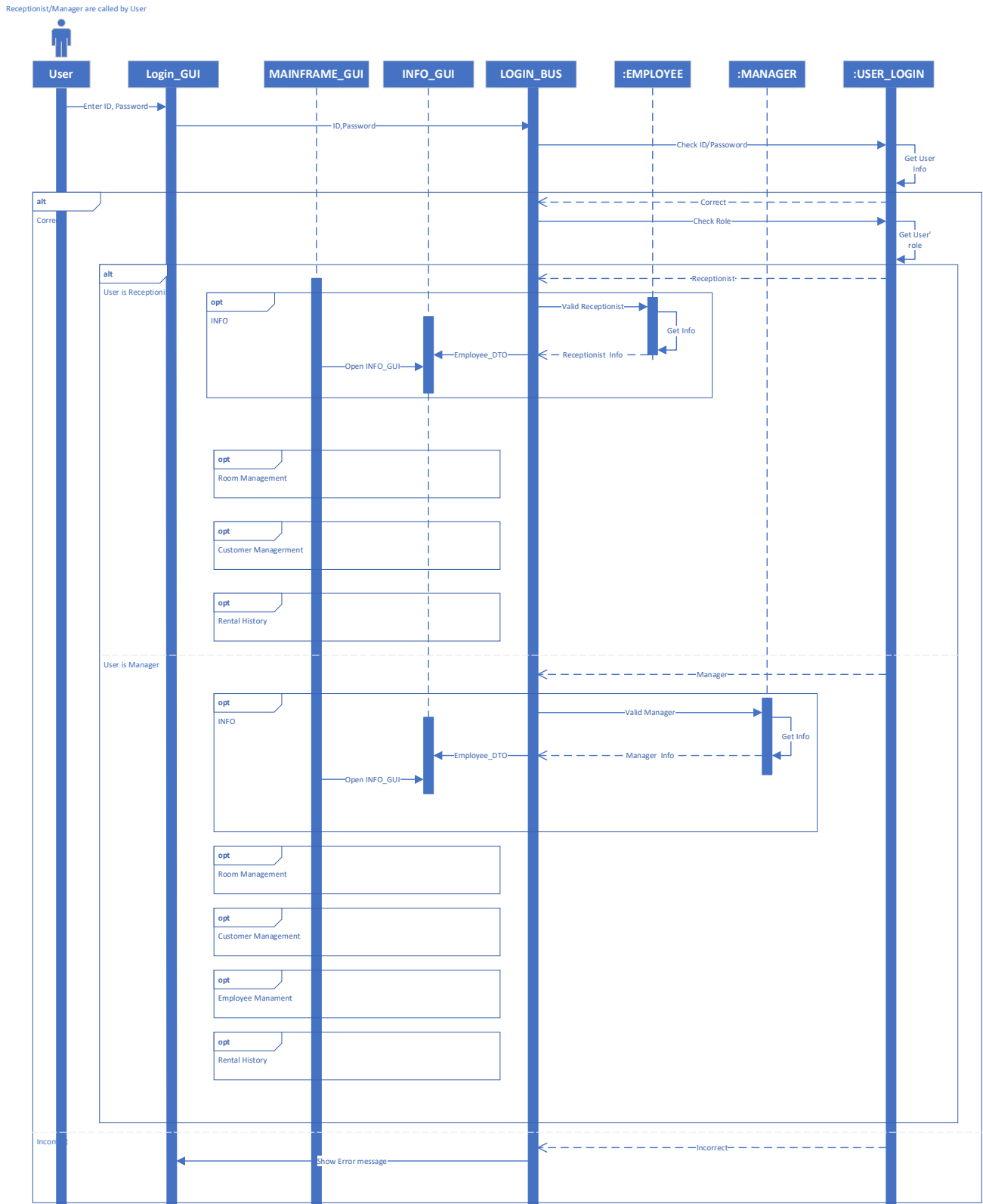
1.5.2 Sequence: Room management
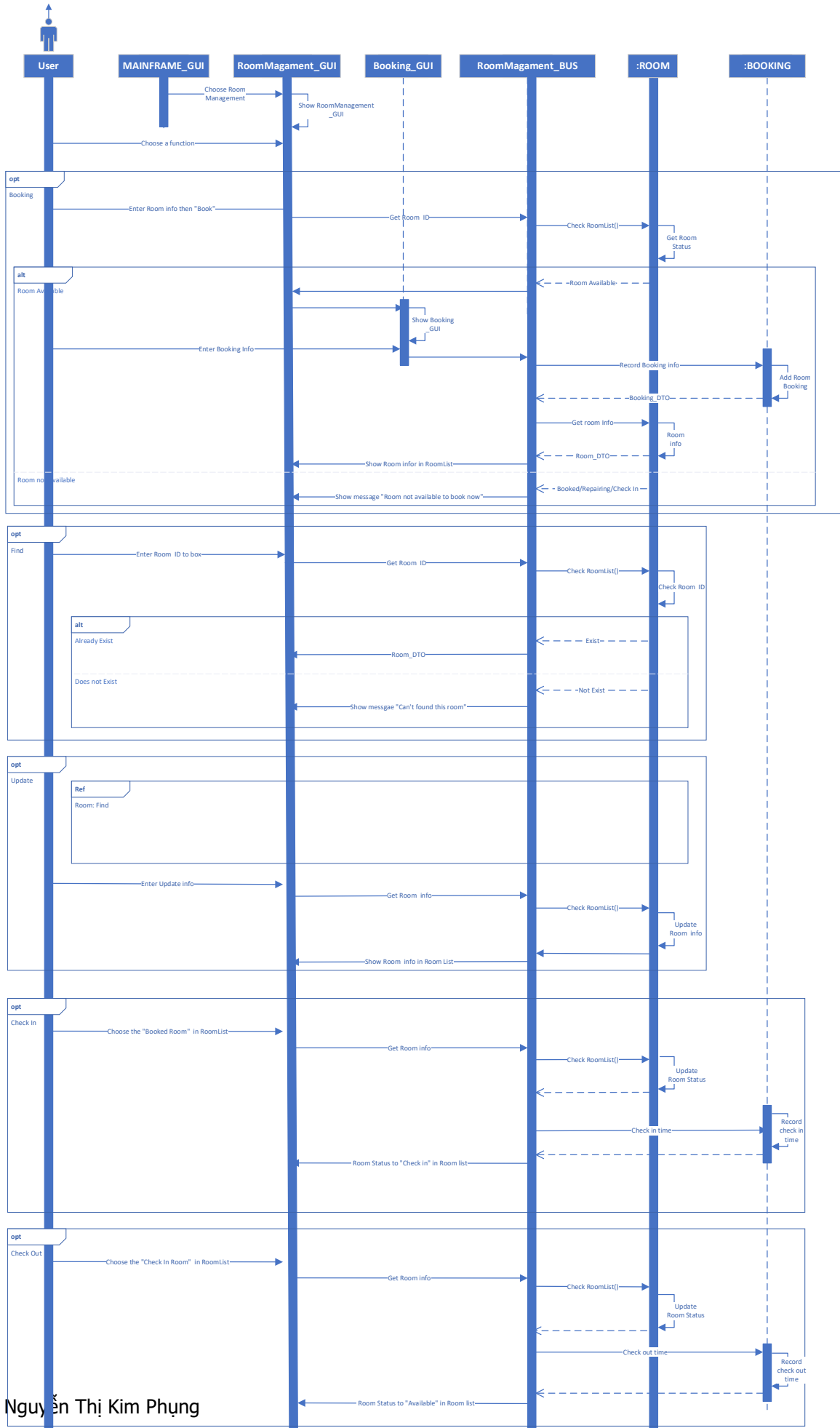
1.5.3 Sequence: Employee management
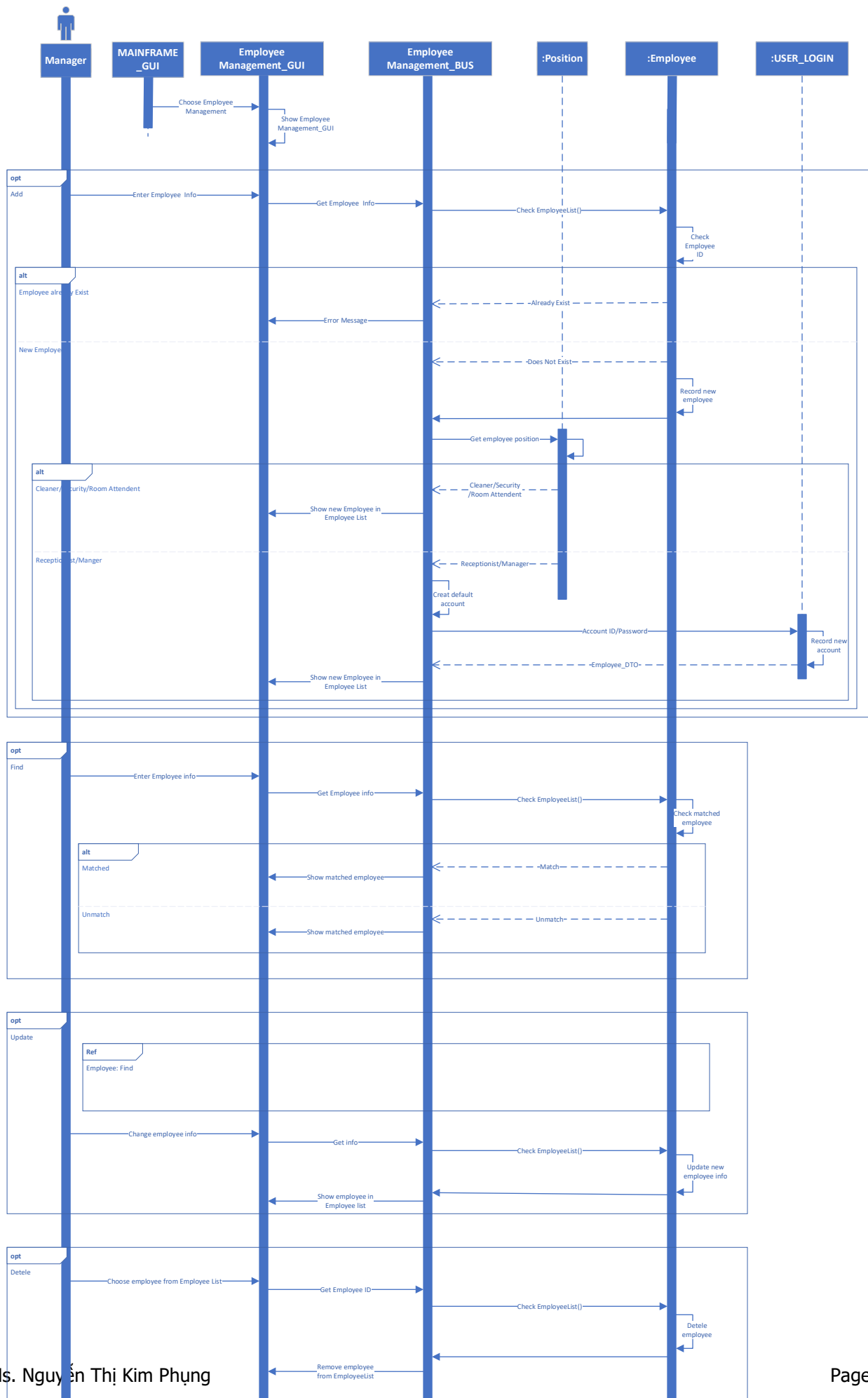
1.5.4 Sequence: Customer management
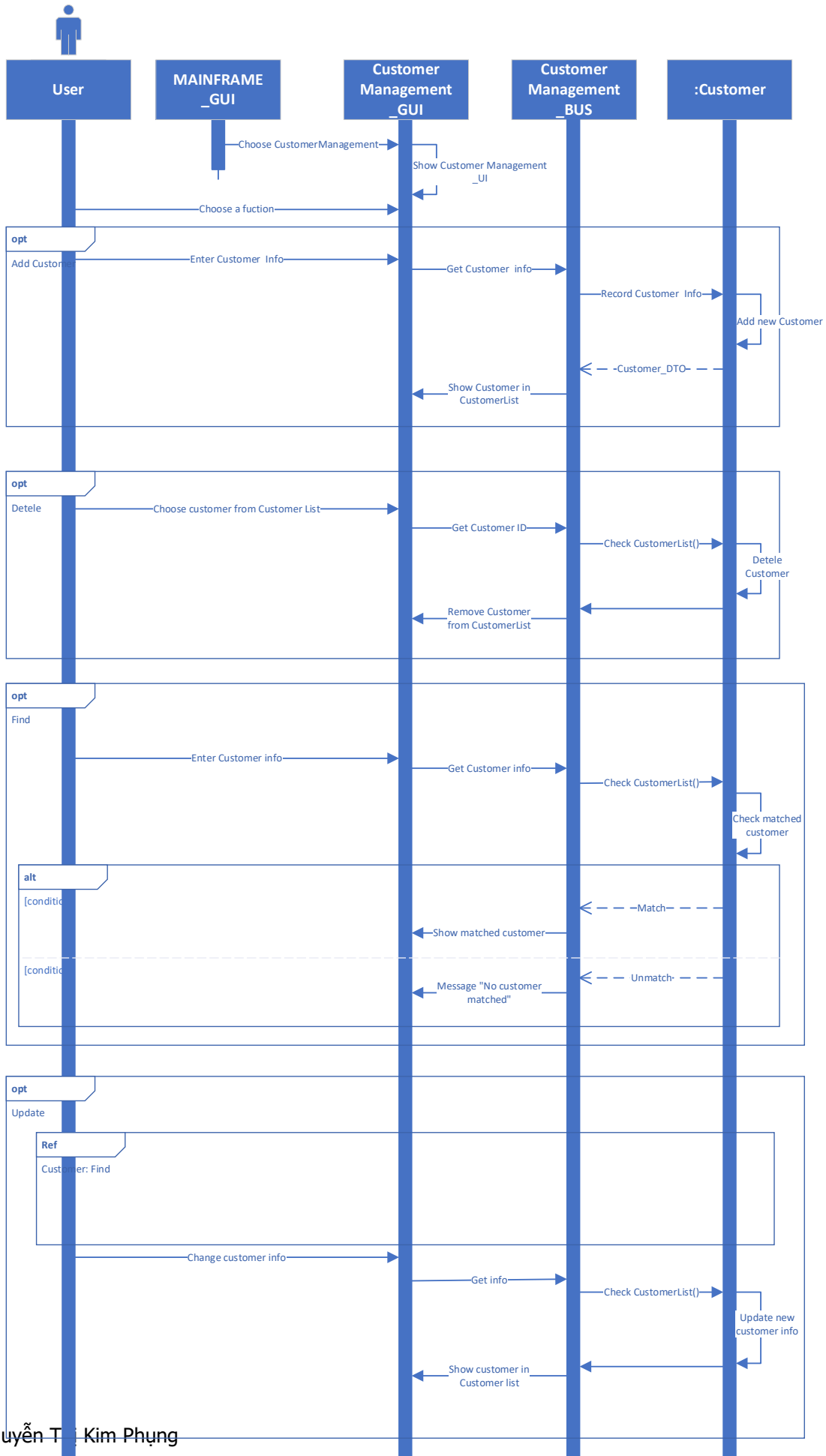
1.5.5 Sequence: Change password
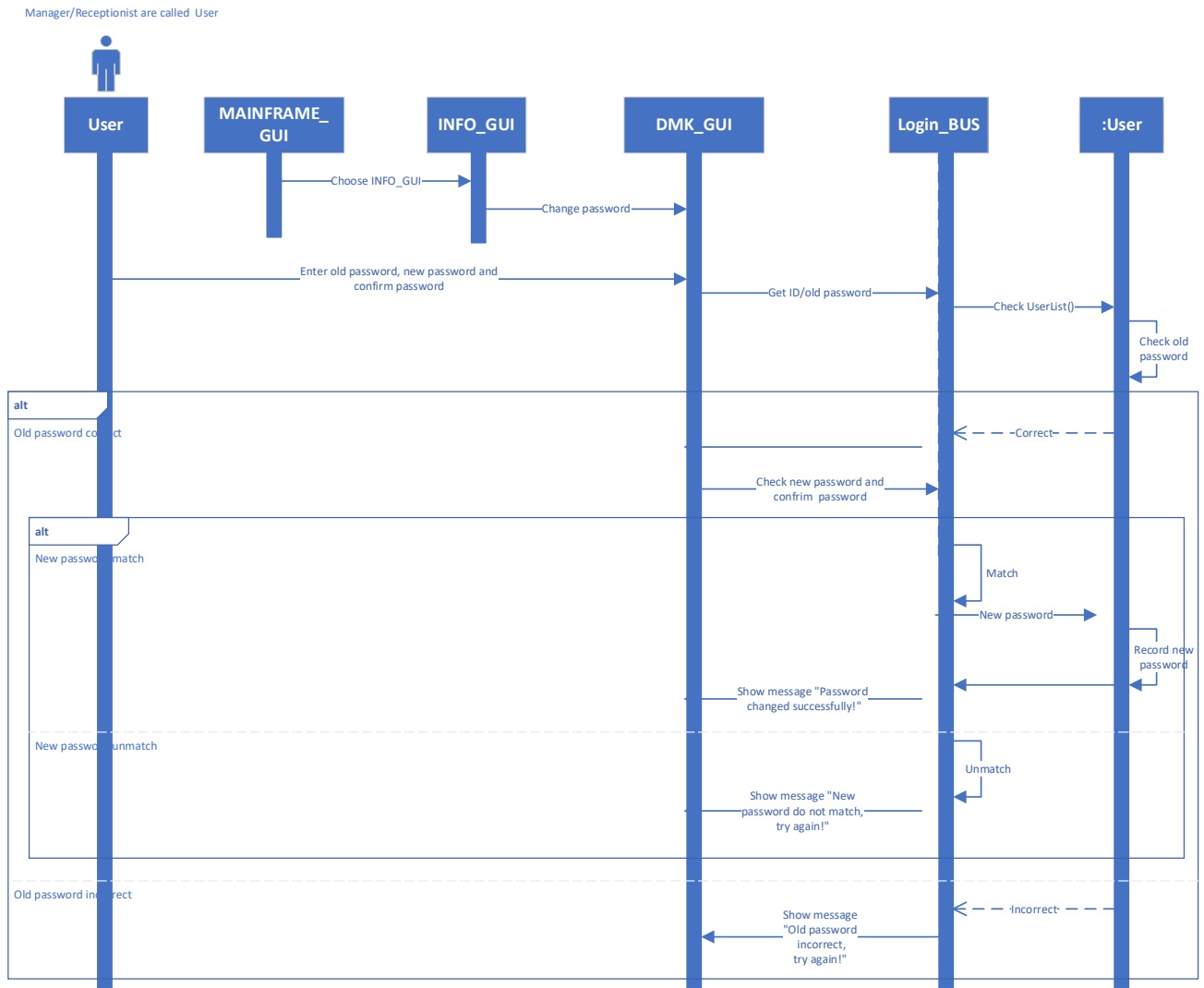
1.5.6 Sequence: Rental history
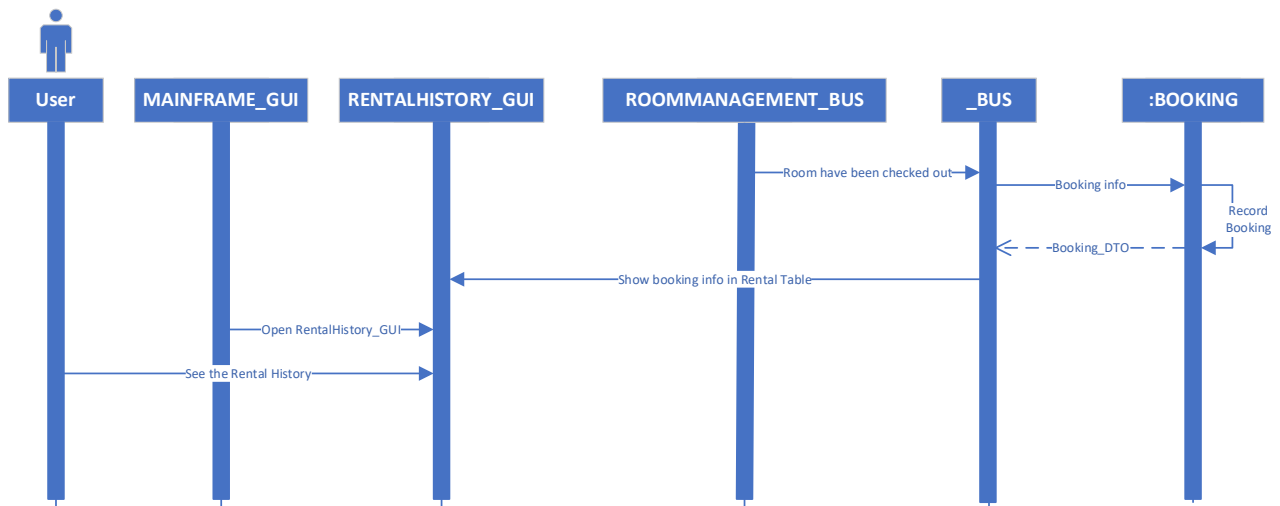
1.6 Class Diagram
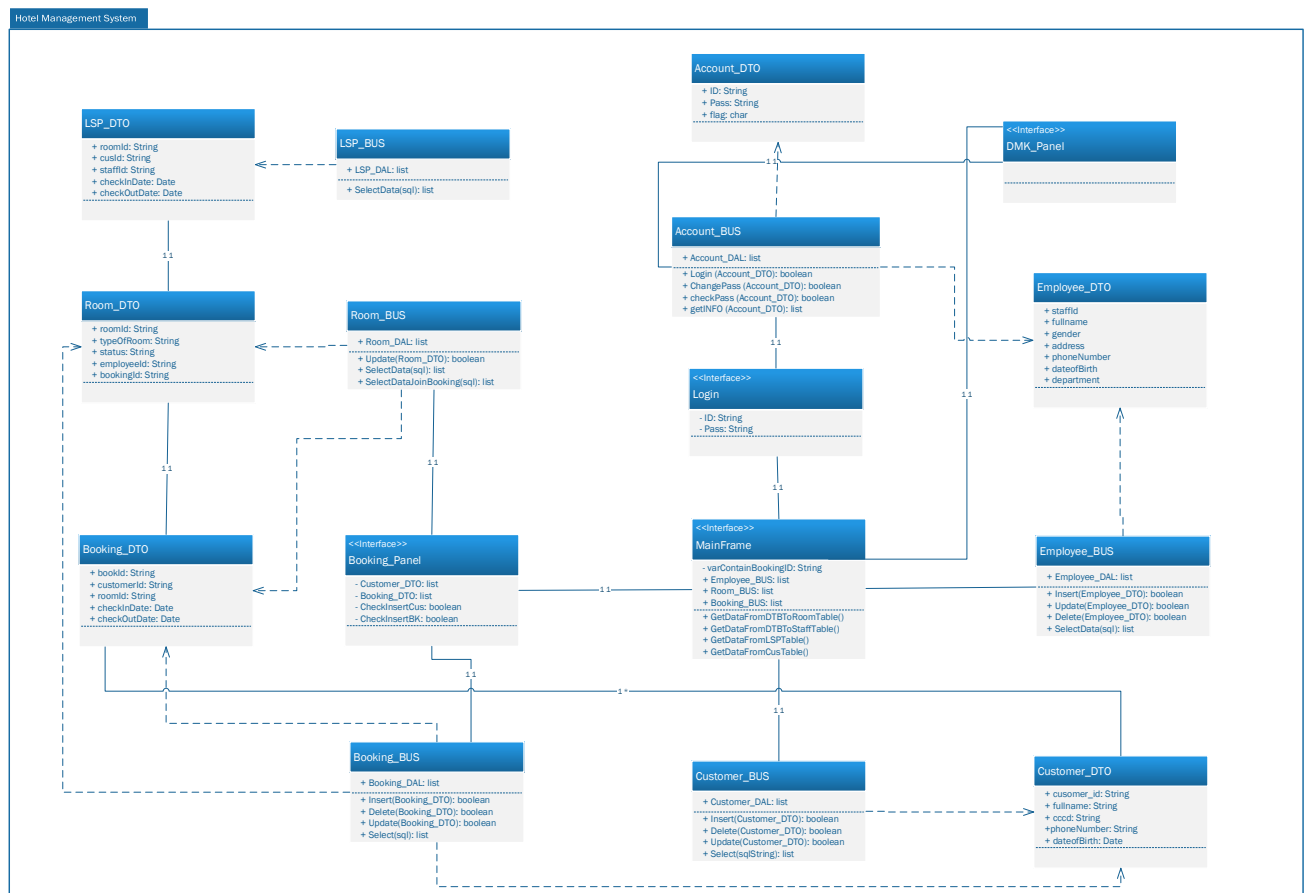
2 Design of data components

2.1 Entity Relationship diagram
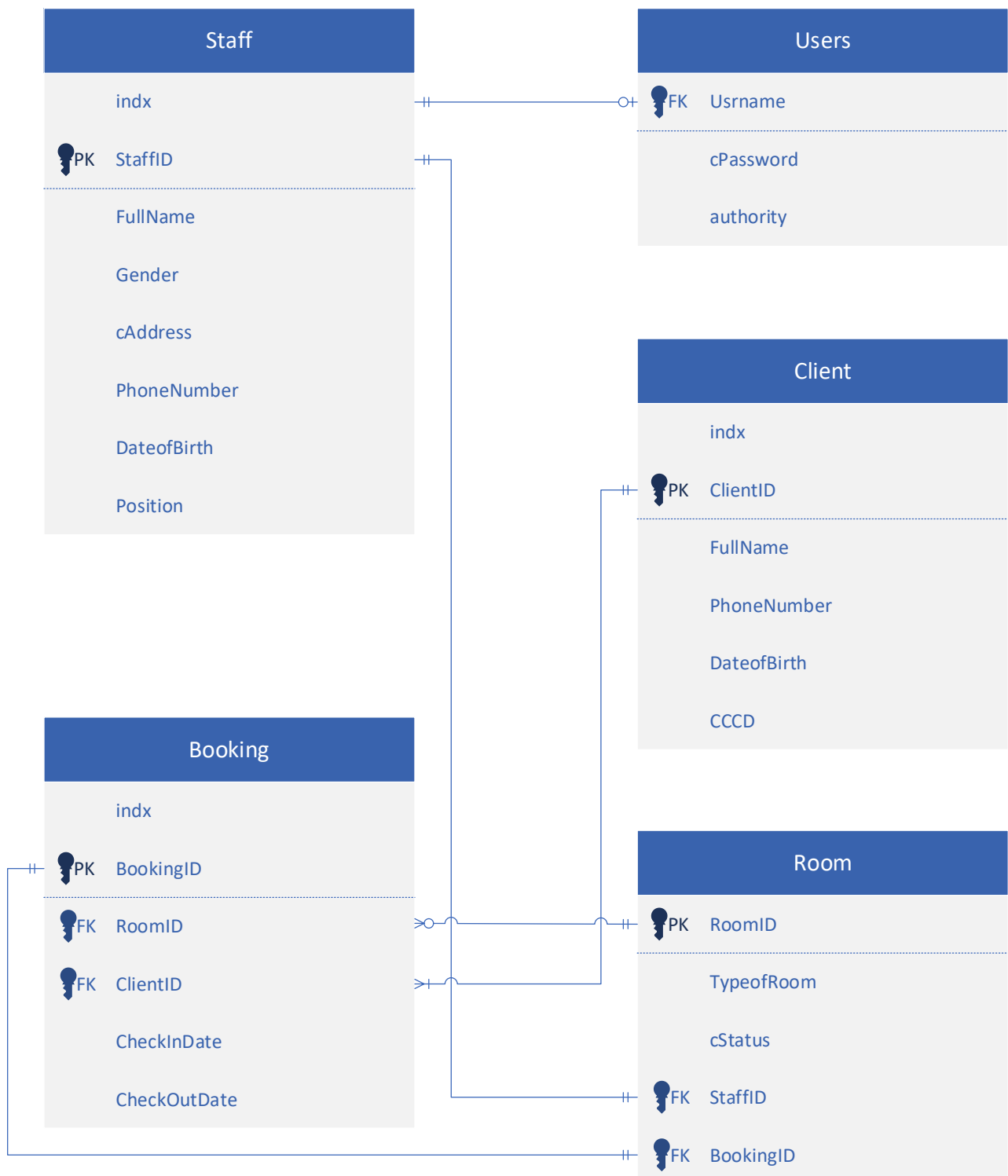
2.2 Database diagram
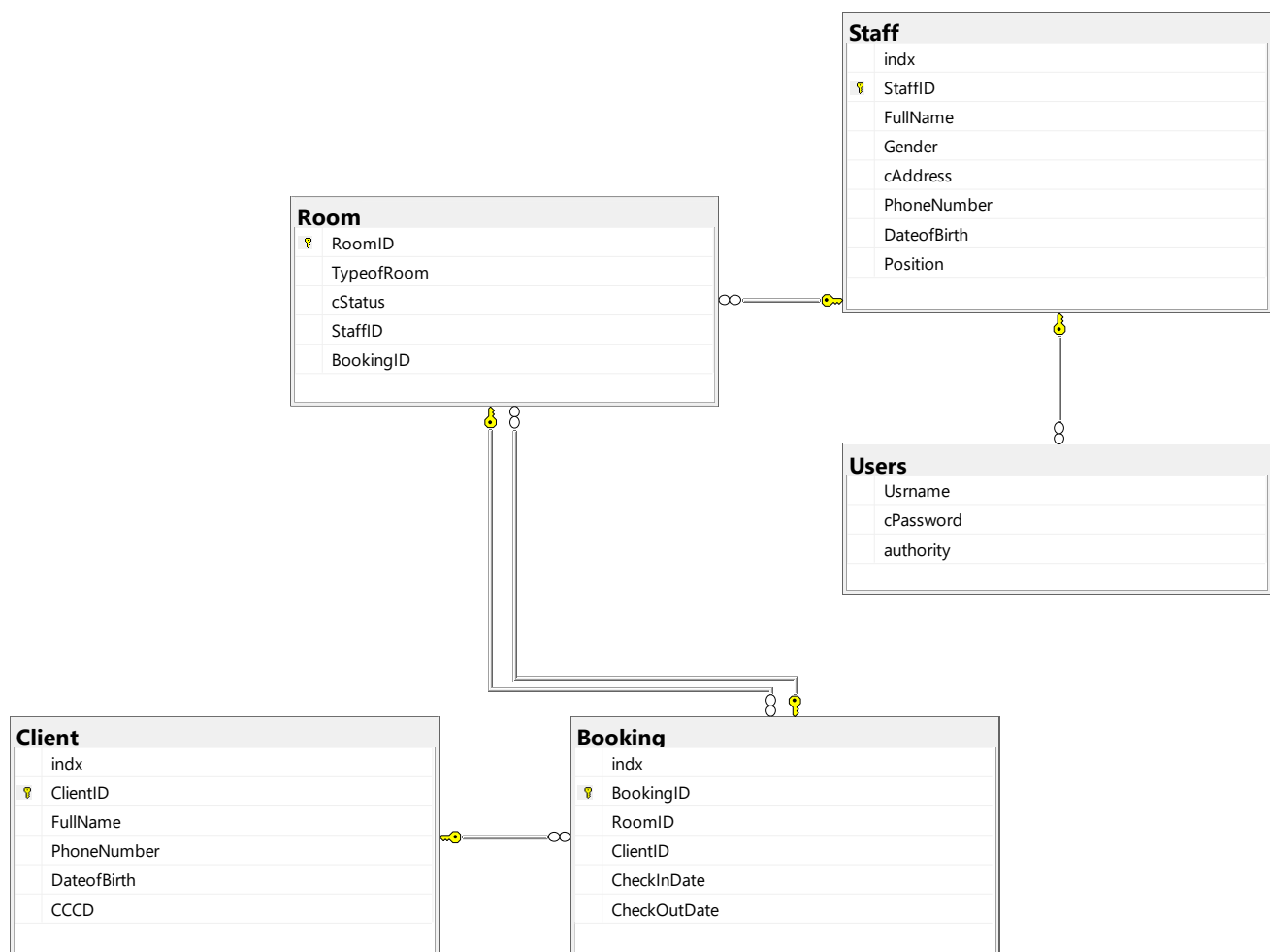
2.3 Data organization

Staff (indx, <u>StaffID</u>, Fullname, Gender, cAddress, PhoneNumber, Dateofbirth, Position)

Client (indx, <u>ClientID</u>, Fullname, PhoneNumber, DateofBirth, CCCD)

Room (<u>RoomID</u>, TypeofRoom, cStatus, <u>StaffID</u>)

Booking (indx, <u>BookingID, RoomID, ClientID</u>, CheckInDate, CheckOutDate)

Users (<u>Usrname</u>, cPassword, authority)

2.4 Data modeling

2.4.1 DBO.Staff

S. No	Attribute	Data type	Constraint	Description
1	Indx	Int		Order number
2	StaffID	Varchar (7)	Primary key	Staff Identification
3	Fullname	Nvarchar (50)	Not null	Full name
4	Gender	Varchar (5)	Check	Gender
5	cAddress	Varchar (50)		Address
6	PhoneNumber	Varchar (20)	Not null, Unique	Phone Number
7	DateofBirth	Datetime		Date of birth
8	Position	Varchar (20)	Not null	Position

2.4.2 DBO.Client

S. No	Attribute	Data type	Constraint	Description
1	Indx	Int		Order number
2	ClientID	Varchar (7)	Primary key	Client Identification
3	Fullname	Nvarchar (50)	Not null	Full name
4	PhoneNumber	Varchar (20)	Unique	Phone Number
5	DateofBirth	Datetime		Date of birth
6	CCCD	Varchar (20)	Unique	Identification card

2.4.3 DBO.Room

S. No	Attribute	Data type	Constraint	Description
1	RoomID	Varchar (5)	Primary key	Room Identification
2	TypeofRoom	Varchar (20)		Type of room
3	cStatus	Varchar (20)		Room status
4	StaffID	Varchar (7)	Foreign key	Staff Identification

S. No	Attribute	Data type	Constraint	Description
5	BookingID	Varchar(7)	Foreign key	Booking Identification

2.4.4 DBO.Booking

S. No	Attribute	Data type	Constraint	Description
1	Indx	Int		Order number
2	BookingID	Varchar (7)	Primary key	Booking Identification
3	RoomID	Varchar (5)	Foreign key	Room Identification
4	ClientID	Varchar (7)	Foreign key	Client Identification
5	CheckInDate	Datetime	Check, Default	Check-in date
6	CheckOutDate	Datetime	Check, Default	Check-out date

2.4.5 DBO.Users

S. No	Attribute	Data type	Constraint	Description
1	Usrname	Varchar (7)	Foreign key	Username
2	cPassword	Varchar (10)		Password
3	Authority	Char (1)	Check	Authority
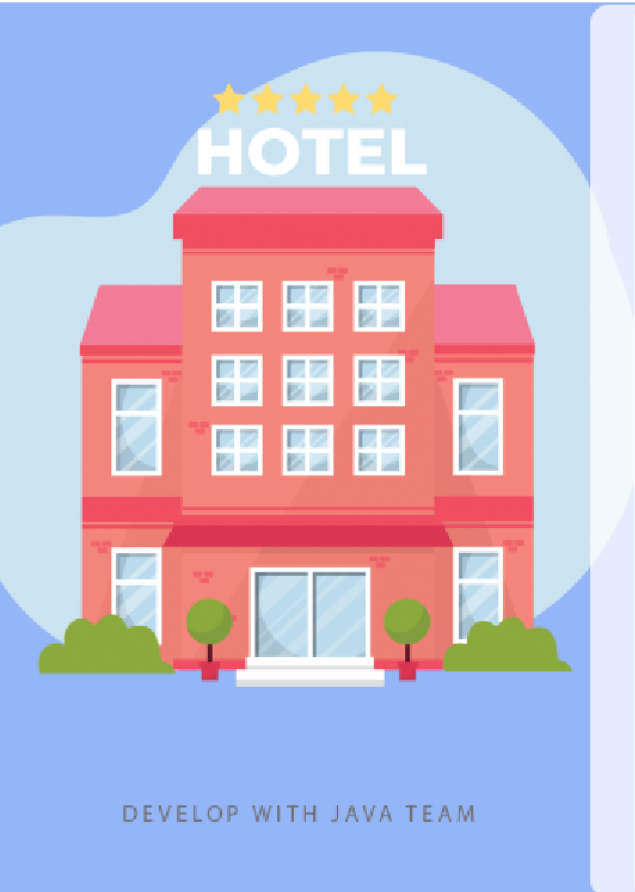
3 Design interface components

3.1 Interface design

S. No	Interface
1	Login
2	Hotel management
3	Change password
4	Booking

3.2 Interface description

3.2.1   Login

3.2.2 Hotel Management
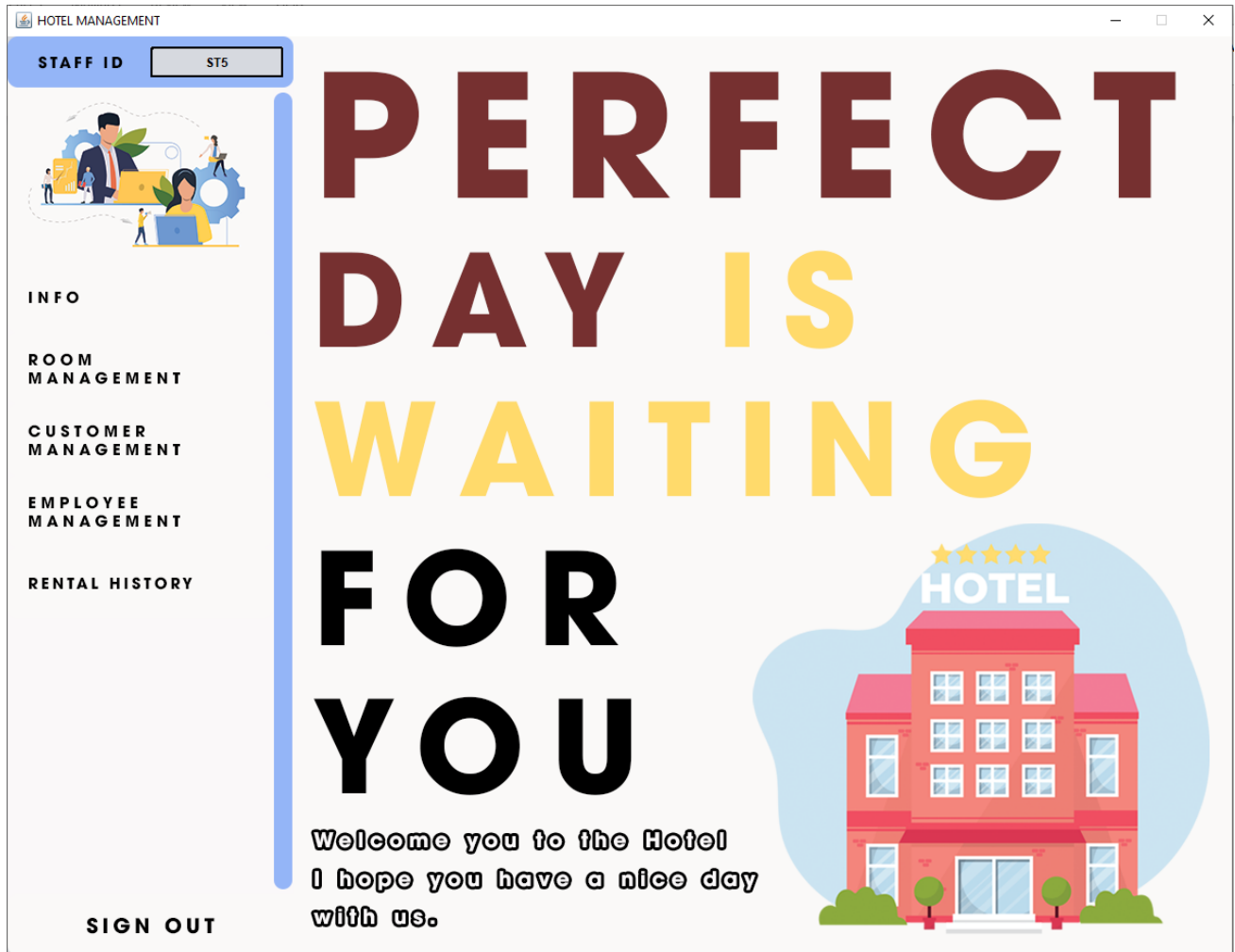
3.2.3 The Info tab in Hotel Management

3.2.4 Change Password form

3.2.5   The Room management tab in the Hotel management

3.2.6   The Customer management tab in Hotel Management

3.2.7 The Employee management tab in the Hotel management

3.2.8 The Rental history tab in the Hotel management

STAFF ID ST5

INFO

ROOM MANAGEMENT

CUSTOMER MANAGEMENT

EMPLOYEE MANAGEMENT

RENTAL HISTORY

SIGN OUT

RENTAL HISTORY

Search here

Room ID	Customer ID	Staff ID	Check In Date	Check Out Date
P003	CI29		1900-01-01	1900-01-01
P003	CI30		1900-01-01	1900-01-01
P003	CI31		1900-01-01	1900-01-01
P003	CI32		1900-01-01	2021-06-25
P004	CI33	ST2	2021-06-25	2021-06-26
P007	CI1	ST2	1900-01-01	1900-01-01
P007	CI1	ST2	1900-01-01	1900-01-01
P007	CI37	ST2	1900-01-01	1900-01-01
P004	CI3	ST2		
P003	CI26		1900-01-01	1900-01-01
P003	CI27		1900-01-01	1900-01-01
P003	CI28		1900-01-01	1900-01-01

Chapter 4: Testing

1 Test Case 1

Hotel Management System	Test Case
Test Case name: TC1	Test Designed by: Phan Phạm Quỳnh Hoa
Test Priority (Low/Medium/High): Medium	Test Designed date: 05/6/2021
Module Name: Login screen	Test Executed by: Phan Phạm Quỳnh Hoa
Test Title: Check login function	Test Executed date: 05/6/2021
Description: User verification	

Pre-conditions: valid username and password
Dependencies

S. No	Steps	Data	Expected result	Actual result	Status
1	Direct login		Possible to login	Possible to login	Succeeded
2	Enter username	ST5	Authenticated	Authenticated	Succeeded
3	Enter password	12345678	Authenticated	Authenticated	Succeeded
4	Click on Sign-in		Main screen is displayed.	Main screen is displayed.	Succeeded

Decision Base Table for Login screen

Conditions	Rule 1	Rule 2	Rule 3	Rule 4
Username	F	T	F	T
Password	F	F	T	T
Output	E	E	E	H

Legend:

- T – Correct username/password
- F – Wrong username/password
- E – Error message is displayed
- H – Home screen is displayed

2 Test Case 2

Hotel Management System	Test Case
Test Case name: TC2	Test Designed by: Phan Phạm Quỳnh Hoa
Test Priority (Low/Medium/High): Medium	Test Designed date: 05/6/2021
Module Name: DMK screen	Test Executed by: Phan Phạm Quỳnh Hoa
Test Title: Check change password function	Test Executed date: 05/6/2021
Description: Change password	

Pre-conditions: Valid old password, new password and confirmation password match
Dependencies

S. No	Steps	Data	Expected result	Actual result	Status
1	Enter old password	12345678	Valid old password	Valid old password	Possible to change
2	Enter new password	123123			Possible to change
3	Enter confirm password	123123	New password and confirmation password match	New password and confirmation password match	Possible to change

4	Press enter		Show message " Your password has been changed"	Show message " Your password has been changed"	Succeeded

Chapter 5: Summary – evaluation

1 Summary

The mission of the project is to facilitate easy management and administration of a hotel with capabilities to do Booking of the rooms, creating of a new client, etc. The system lets the user know which all rooms are available for occupancy at any point of time. This makes the booking considerably faster, and thus helps the hotel in better management and reduces a lot of paperwork as well as manpower.

This project is designed to meet the requirement of Offline Hotel Management. Overall, the project taught us the essential skills like:

- Using system analysis and design teachniques like data flow diagram in designing the system.
- Understanding the database handling and query processing.

2 Limitations

Due to the limited time to implement the project, the development of the "Hotel management system" also faced some limitations:

- Automatic payments not yet available
- No online access system yet.
- Utmost care and back-up procedures must be established to ensure 100% successful implementation of the computerized hotel system.

3 Future & Scope

- This project can be used in the hotel after adding some more useful modules in the project for which hotel are providing services.
- Advancement of payment capacities for the system.

- Moreover, we can make this application as online so that we can reserve the tables and do the online payment. So as the demand increase we can add these modules as a future scope.

Appendix

- Sample Interview Plan in the slide of chapter 2

- Documents related to the operations of the above objects: (process, form, form, report, …)
- Slide lecture on Information System Design Analysis - University of Information Technology – National University of Ho Chi Minh City