Software Requirements Specification

for

International Village Management System, Release 1.0

Version 1.0 approved

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Process Impact

December 10, 2021

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Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
| Khanh Quynh | 10/18/21 | initial draft | 1.0 draft 1 |
| Khanh Quynh | 10/26/21 | baseline following changes after inspection | 1.0 draft 2 |
| Khanh Quynh | 12/08/21 | final | 1.0 approved |

# Introduction

## Purpose

This SRS describes the functional and nonfunctional requirements for software release 1.0 of the International Village Management System. This document is intended to be used by the members of the project team who will implement and verify the correct functioning of the system. Unless otherwise noted, all requirements specified here are committed for release 1.0.

## Document Conventions

No special typographical conventions are used in this SRS.

## Project Scope and Product Features

This document provides detailed software requirements specifications for the international village management system. The system owes user - friendly interface, obvious authentication, and some dominant features such as: book apartments and services, report incidents, carry out payment, generate revenue report, etc.….

## References

1. Wiegers, Karl. *Cafeteria Ordering System Vision and Scope Document*, www.processimpact.com/projects/COS/COS Vision and Scope.docx
2. Beatty, Joy. *Process Impact Intranet Development Standard, Version 1.3*, www.processimpact.com/corporate/standards/PI Intranet Development Standard.pdf
3. IEEE. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998.

# Overall Description

## User Classes and Characteristics

|  |  |
| --- | --- |
| Customer | A customer who wants to visit village, book apartments and other entertainment services of the village, report incidents, conduct payment before leaving. There are about 1000 potential customers per week, of which 700 are expected to use the IVMS. An estimated 70 percent of orders will be placed from home or by computers of by laptops |
| Receptionist | The Receptionists are responsible for welcoming guests, guiding guests to do all necessary procedures while in the village, arranging apartments for customers, receiving customer’s service registering forms and transfer it to other departments. |
| Accountant | The accountant is responsible for monitoring the entire daily revenue and expenditure in the international village from which to make statistical revenue reports and send to the Board of Directors on a daily, monthly, quarterly, and annual basis. |
| Manager | The Manager reviews revenue reports and manage all activities of the village |

## Operating Environment

OE-1: The IMVS shall operate correctly with the following operating system: Windows.

OE-2: The IMVS shall permit user access the IVMS when user has installed it already.

## Design and Implementation Constraints

CO-1: The system’s design, code, and maintenance documentation shall conform to the Process Impact Intranet Development Standard, Version 1.3 [2].

CO-2: The system shall use the MySQL database engine.

CO-3: All C# code shall conform to the C# convention.

## Assumptions and Dependencies

AS-1: The village is open from 6a.m to 12p.m in which employees are expected to be on site.

DE-1: The operation of the IVMS depends on responses being made from Bank System to complete payment process for customers.

# Functional Requirements

## List of Use cases and Actors

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Function** | **Receptionist** | **Customer** | **Account** | **Manager** |
| View an apartment’s information |  | x |  |  |
| Fill booking form |  | x |  |  |
| View requesting form | x |  |  |  |
| Check number of available apartments | x |  |  |  |
| Approve requesting form | x |  |  |  |
| Receive notification |  | x |  |  |
| View available services |  | x |  |  |
| Fill ordering form |  | x |  |  |
| View ordering form | x |  |  |  |
| Approve ordering form | x |  |  |  |
| Fill reporting form |  | x |  |  |
| View incidents | x |  |  |  |
| Handle incidents | x |  |  |  |
| Payment | x |  |  |  |
| Export bill | x |  |  |  |
| Update monetary exchanging rate | x |  |  |  |
| Request revenue reports |  |  |  | x |
| Get notification from directors |  |  | x |  |
| Send revenue reports |  |  | x |  |
| View history of booking |  | x |  |  |
| View bill |  | x |  |  |
| View list of bills |  | x |  |  |
| Sign up |  | x |  |  |
| Sign in | x | x | x | x |
| Sign out | x | x | x | x |
| Remember account | x | x | x | x |
| Account Change | x | x | x | x |
| Forgot password | x | x | x | x |

## Use Case Specification

Diagram

Description automatically generated

**Figure 1: Use case Diagram**

### View apartment’s information

|  |  |
| --- | --- |
| User Case ID | UC\_1.1 |
| Name | View apartment’s information |
| Goal | Have a better understanding about each type of apartment. |
| Actors | Customer |
| Pre-conditions | Must be connected to the network.  Access the international village management system. |
| Post-conditions | The system is still available for the next activity. |
| Main Flow | 1.Click “BOOK AN APARTMENT” button.  2.Display the menu of each type of apartment  3.Click “View Details” to view clearer information.  4.Click “Back” to get out the viewing mode. |
| Exception | N/A |
| Open Issues | N/A |

### Filling booking form

|  |  |
| --- | --- |
| User Case ID | UC\_1.2 |
| Name | Filling booking form |
| Goal | Fill necessary information and send form to receptionist |
| Actors | Customer |
| Pre-conditions | Must be connected to the network  Access the international village management system  Click “BOOK AN APARTMENT” button |
| Post-conditions | The system updates data in database  The system is still available for next booking |
| Main Flow | 1.Fill all compulsory information in booking form.  2.Click on “Book” button  3.Display “Are you sure information provided is correct?” message.  4.Choose “Yes” button.  5.Validate information and display “Success” message.  6.Click “Ok” to finish |
| Exception | 1A: if information is incorrect, show error message and ask to enter again.  3A: if you click “No”, the message will be closed. |
| Open Issues | N/A |

### View requesting form

|  |  |
| --- | --- |
| User Case ID | UC\_2.1 |
| Name | View Requesting Form |
| Goal | Want to view requesting form |
| Actors | Receptionist |
| Pre-conditions | Must be connected to the network  Access the international village management system  Click “APPROVE REQUESTS” button  Click “APARTMENT” button |
| Post-conditions | The system is still available for the next approving |
| Main Flow | 1.In “HANDLE REQUEST” card, click on “GO TO ACTIVITY” button, then click on “Apartment” button  2.Display “List of Apartment Requests”.  3.Click on “Show Details” to view requesting detail.  4.Display “Booking Detail” form. |
| Exception | 1A: if the role is not correct, user cannot see “HANDLE REQUEST” card and ask to log in again. |
| Open Issues | N/A |

### Check number of available apartments

|  |  |
| --- | --- |
| User Case ID | UC\_2.2 |
| Name | Check number of available apartments |
| Goal | Want to check number of existing apartments so that receptionists can give the decision to approve request |
| Actors | Receptionist |
| Pre-conditions | Must be connected to the network  Access the international village management system  User must show “Booking Detail” from |
| Post-conditions | The system is still available for the next activities |
| Main Flow | 1.Receptionist views this form  2. If the number of available apartments meets the requirements, the results will be shown in the “Status” column.  3. If enough, the result is “Enough”, if not enough, the result is “Not Enough”. |
| Exception | 1A: if you click X button, this form will be closed |
| Open Issues | N/A |

### Approve booking request

|  |  |
| --- | --- |
| User Case ID | UC\_2.3 |
| Name | Approve booking request |
| Goal | Approve customer’s requesting forms |
| Actors | Receptionist |
| Pre-conditions | Must be connected to the network  Access the international village management system  Open “Ordering Books Detail” from |
| Post-conditions | The system is still available for the next approving |
| Main Flow | 1.Click “Approve” button.  2.Validate Status. If all rows in which status is “enough”. Show message that notify about successful booking.  3. Click “Ok” to finish.  4. After form is closed, and this row is removed, notification is sent for customer |
| Exception | 1A: if user clicks on “Deny” button, this form is closed, and this row is removed. Send notification for customer  2A. If row in which status is “not enough”, Show message that notify about unsuccessful booking. You must choose “Deny” button or “X” button |
| Open Issues | N/A |

### Receive notification

|  |  |
| --- | --- |
| User Case ID | UC\_3.1 |
| Name | Receive Notification |
| Goal | Want to get notifications about the status of booking apartments, ordering services, and reporting incidents. |
| Actors | Customer |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next activities |
| Main Flow | 1.Click “NOTIFICATION” button.  2.Display “NOTIFICATION” from.  3.View notification and click “Delete” if needed.  4. If user clicks on “Delete” button, this notification will be removed |
| Exception |  |
| Open Issues | N/A |

### View available services

|  |  |
| --- | --- |
| User Case ID | UC\_4.1 |
| Name | View available services |
| Goal | Want to view all services that International Village serves |
| Actors | Customer |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next activities |
| Main Flow | 1.Click “BOOK SERVICES” button.  2.Display menu that contains all types of service  3.Click button “View detailed” in each type to view information clearly  4.Click button “Exit” to get out of viewing mode |
| Exception |  |
| Open Issues | N/A |

### Filling service ordering form

|  |  |
| --- | --- |
| User Case ID | UC\_4.2 |
| Name | Filling service ordering form |
| Goal | Fill necessary information and send form to receptionist |
| Actors | Customer |
| Pre-conditions | Must be connected to the network  Access the international village management system  Click “BOOK SERVICE” button |
| Post-conditions | The system updates data in database  The system is still available for next booking |
| Main Flow | 1.Fill all compulsory information in ordering form.  2.Display “Are you sure information provided is correct?” message.  3.Choose “Yes” button.  4.Validate to information. Display “Success” message.  5.Click “Ok” to finish |
| Exception | 1A: if information is incorrect, show error message and ask to enter again.  3A: if user clicks on “No” button, the message will be closed. |
| Open Issues | N/A |

### View ordering form

|  |  |
| --- | --- |
| User Case ID | UC\_5.1 |
| Name | View Ordering Form |
| Goal | Want to view service ordering form |
| Actors | Receptionist |
| Pre-conditions | Must be connected to the network  Access the international village management system  Click “APPROVE REQUESTS” button  Click “SERVICE” button |
| Post-conditions | The system is still available for the next approving |
| Main Flow | 1.Click “APPROVE REQUEST” button 🡪 “SERVICE” button  2.Display “List of requests” and select request in the order set.  3.Double click a specific row that you want to view requesting detail.  4.Display “Ordering Detail” form. |
| Exception | 1A: if the role is not correct, user cannot see “APPROVE REQUEST” button and ask to log in again. |
| Open Issues | N/A |

### Approve booking request

|  |  |
| --- | --- |
| User Case ID | UC\_5.3 |
| Name | Approve ordering request |
| Goal | Want to approve customer’s service ordering forms |
| Actors | Receptionist |
| Pre-conditions | Must be connected to the network  Access the international village management system  Open “Ordering Detail” from |
| Post-conditions | The system is still available for the next approving |
| Main Flow | 1.Click “Approve” button.  2.Validate Status. If all rows in which status is “enough”. Show message that notify about successful booking.  3.Click “Ok” to finish.  4.After form is closed, and this row is removed, notification is sent for Agency |
| Exception | 1A: if click “Deny” button, this form is closed, and this row is removed. Send notification for customer  2A. If row in which status is “not enough”, Show message that notify about unsuccessful booking. You must choose “Deny” button or “X” button |
| Open Issues | N/A |

### Report incident

|  |  |
| --- | --- |
| User Case ID | UC\_6.1 |
| Name | Report incidents |
| Goal | Want to notify about incidents that happened during time customers stay at International Village. |
| Actors | Customer |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next reporting |
| Main Flow | 1.Click “INCIDENT” button.  2.Display “INCIDENT” from.  3.Fill all compulsory information in the form  4.Click button “SEND” to send this report to receptionist.  5. If form is validated, there will be a message that notify about successful sending |
| Exception | 3A: if information is not correct, show error message and ask to enter again |
| Open Issues | N/A |

### View incident reporting form

|  |  |
| --- | --- |
| User Case ID | UC\_6.2 |
| Name | Report incidents |
| Goal | Want to view incident reports that happened during time customers stay at International Village. |
| Actors | Receptionist |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next activities |
| Main Flow | 1.Click “INCIDENT” button.  2.Display menu that contains reports related to customer’s incidents.  3.Click each card to view information clearer  4.Click button “SEEN” to confirm about receiving this report.  5. The report is closed. |
| Exception |  |
| Open Issues | N/A |

### Handle incidents

|  |  |
| --- | --- |
| User Case ID | UC\_6.3 |
| Name | Handle incidents |
| Goal | Want to handle incidents that happened during time customers stay at International Village. |
| Actors | Receptionist |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next handling |
| Main Flow | 1.Click “INCIDENT” button.  2.Display menu that contains reports related to customer’s incidents.  3.Click button “Confirm” in each card to update status of handling incidents.  4.The card is removed from menu |
| Exception |  |
| Open Issues | N/A |

### Payment

|  |  |
| --- | --- |
| User Case ID | UC\_7.1 |
| Name | Payment |
| Goal | Want to pay money |
| Actors | Customer |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next booking |
| Main Flow | 1.Click “Payment” button to display” Payment” form  2.Enter compulsory customer information  3.Click on “Next” button  4.Choose payment approach  5.Click on “Payment” button  6.Show message that notify the success in payment |
| Exception | 2A: if information is incorrect, show error message and ask to enter again |
| Open Issues | N/A |

### Export Bill

|  |  |
| --- | --- |
| User Case ID | UC\_7.2 |
| Name | Export Bill |
| Goal | Want to export bill for customers and complete check-out produce |
| Actors | Receptionist |
| Pre-conditions | Must be connected to the network  Access the international village management system  Customers must complete paying money |
| Post-conditions | The system is still available for the next booking |
| Main Flow | 1.Click on “Export Bill” button  2.Show message that notify of exporting bill successfully. |
| Exception |  |
| Open Issues | N/A |

### Update monetary exchanging rate

|  |  |
| --- | --- |
| User Case ID | UC\_8.1 |
| Name | Update monetary exchanging rate |
| Goal | Want to carry out payment for customers |
| Actors | Receptionist |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next updating |
| Main Flow | 1.Click “Exchange Rate” button.  2.Display table of exchanging rate.  3.Update data in this table on a daily basic.  4.Click button “Save” to save data. |
| Exception |  |
| Open Issues | N/A |

### Request revenue reports

|  |  |
| --- | --- |
| User Case ID | UC\_9.1 |
| Name | Request revenue reports |
| Goal | Want to view revenue reports to review business situation |
| Actors | Director |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next requesting |
| Main Flow | 1.Click “REVENUE REPORT” button.  2.Click button “REQUEST” to display “REQUEST” form  3.Fill in compulsory information  4.Click button “Send” to finish requesting process |
| Exception | 3A: if information is incorrect, show error message and ask to enter again |
| Open Issues | N/A |

### Receive notification from directors

|  |  |
| --- | --- |
| User Case ID | UC\_9.2 |
| Name | Receive Notification |
| Goal | Want to get notifications about requesting revenue reports |
| Actors | Accountant |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next activities |
| Main Flow | 1.Click “REVENUE REPORT” button.  2.Click button “NOTIFICATION” to display “NOTIFICATION” form.  3.View notification and click “Delete” if needed.  4.if click on “Delete” button, this notification will be removed |
| Exception |  |
| Open Issues | N/A |

### Send revenue report

|  |  |
| --- | --- |
| User Case ID | UC\_9.3 |
| Name | Send revenue report |
| Goal | Want to send revenue report for director according to accurate period |
| Actors | Accountant |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next activities |
| Main Flow | 1.Click “REVENUE REPORT” button.  2.Click button “GENERATE” to display “GENERATE” from.  3.Generate report |
| Exception |  |
| Open Issues | N/A |

### View booking history

|  |  |
| --- | --- |
| User Case ID | UC\_10.1 |
| Name | View booking history |
| Goal | Want to view history of booking |
| Actors | Customer |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next operation |
| Main Flow | 1.Click “MY BOOKING” button.  2.Display a list of booking items.  3.View information about booking history.  4.Display form contains information of booking in more detail |
| Exception |  |
| Open Issues | N/A |

### View bill

|  |  |
| --- | --- |
| User Case ID | UC\_10.2 |
| Name | View bill |
| Goal | Want to view information of bill |
| Actors | Customer |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next operation |
| Main Flow | 1.Click “MY BILL” button.  2.Display “BILL” from.  3.View information about bill.  4.Display form contains information of bill in more detail. |
| Exception |  |
| Open Issues | N/A |

### View list of bills

|  |  |
| --- | --- |
| User Case ID | UC\_10.3 |
| Name | View list of bills |
| Goal | Want to make revenue report based on customer’s bills |
| Actors | Accountant |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next operation |
| Main Flow | 1.Click “BILL” button.  2.Display “BILL” from that contains customer’s bills  3.Choose each bill to view information clearer.  4.Display form contains information of bill in more detail.  5.Click button “X” to get out from viewing mode. |
| Exception |  |
| Open Issues | N/A |

### Sign up

|  |  |
| --- | --- |
| User Case ID | UC\_11.1 |
| Name | Sign up |
| Goal | Sign up |
| Actors | Customer |
| Pre-conditions | Must be connected to the network |
| Post-conditions | The system is still available for the next operation |
| Main Flow | 1.Open the application.  2.Display “Sign in” form  3.Click on “Create an account”  4.Display “Sign up” form  5.Fill compulsory information  6.Click button “Sign up” |
| Exception | 5A: if information in invalid, show error message and ask to enter again |
| Open Issues | N/A |

### Sign in

|  |  |
| --- | --- |
| User Case ID | UC\_11.2 |
| Name | Sign in |
| Goal | Sign in |
| Actors | Customer, Receptionist, Accountant, Director |
| Pre-conditions | Must be connected to the network |
| Post-conditions | The system is still available for the next operation |
| Main Flow | 1.Open system.  2.Display “Login” form  3.Enter username and password then click “Login”  4.Validate Information, display “Menu” from |
| Exception | 3A: if account in invalid, show error message and ask to login again |
| Open Issues | N/A |

### Sign out

|  |  |
| --- | --- |
| User Case ID | UC\_11.3 |
| Name | Sign out |
| Goal | Sign out |
| Actors | Customer, Receptionist, Accountant, Director |
| Pre-conditions | Must be connected to the network  Login success |
| Post-conditions | The system is still available for the next signing in |
| Main Flow | 1.Click “Sign out”.  2.Display “Login” form |
| Exception |  |
| Open Issues | N/A |

### Remember account

|  |  |
| --- | --- |
| User Case ID | UC\_12.1 |
| Name | Remember Account |
| Goal | Remember Account |
| Actors | Customer, Receptionist, Accountant, Director |
| Pre-conditions | Must be connected to the network |
| Post-conditions |  |
| Main Flow | 1.Click “Remember” checkbox.  2.Save Account if login success and automatically fill account when login next time |
| Exception |  |
| Open Issues | N/A |

### Edit account information

|  |  |
| --- | --- |
| User Case ID | UC\_13.1 |
| Name | Edit account information |
| Goal | Want to edit account information |
| Actors | Customer, Receptionist, Accountant, Director |
| Pre-conditions | Must be connected to the network  Access the international village management system |
| Post-conditions | The system is still available for the next signing in |
| Main Flow | 1.Click “Account Change”.  2.Display “Change Information” form  3.Fill information into text box then click “Save change”.  4.Validate information and save new Account. Show “Success” message |
| Exception | 4A: if information is not correct, show error message |
| Open Issues | N/A |

### Forgot password

|  |  |
| --- | --- |
| User Case ID | UC\_13.2 |
| Name | Get Account by Email |
| Goal | Want to get password through email |
| Actors | Customer, Receptionist, Accountant, Director |
| Pre-conditions | Must be connected to the network |
| Post-conditions |  |
| Main Flow | 1.Click “Forgot account” in Login form.  2.Display “Get Account by Email” form  3.Enter email that you want to get Account  4.Send password to this email |
| Exception |  |
| Open Issues | N/A |

# Non-Functional Requirements

## Usability

USE-1: The IVMS shall allow a customer to submit its payment for the booked apartments and services with a single interaction.

USE-2: 95% of new users shall be able to successfully book an apartment without errors on their first try.

## Availability

AVL-1: The IVMS shall be available at least 98% of the time between 8:00 A.M. and 5:00 P.M local time and at least 90% of the time between 5:00 P.M and midnight local time, excluding scheduled maintenance windows.

## Performance

PER-1: The system shall accommodate a total of 400 users and a maximum of 100 concurrent users during the peak usage time window of 9:00 A.M. to 15:00 A.M. local time.

PER-2: The IVMS allow users to download their report completely within 2 seconds from the time the user requests.

PER-3: The system shall display confirmation messages to users within average of 3 seconds and a maximum of 6 seconds after the user submits information to the system.

## Security

SEC-1: Users shall be required to log in to the IVMS for all operations.

SEC-2: Only authorized staffs shall be permitted to work with security data.

SEC-3: The system shall permit customers to view information of their booking.

## Supportability

SUP-1: C # coding convention which demonstrate detailed about naming convention, code formats, language usage.

## Design Constraints

DES-1: The software language is C#.

DES-2: The system is built based on the waterfall model.

DES-3: Use Microsoft Reporting Services to create some reports that demonstrate more detailed about ordering figuration.

DES-4: Microsoft SQL server is used to build data. Database is stored online by smarterasp.net.

DES- 5: Use redpoint that is available in Visual Studio and the syntax “try-catch” in order to fix bugs.

## Interfaces

* User Interfaces

UI-1: The IVMS screen displays shall conform to the Process Impact Internet Application User Interface Standard, Version 2.0 [3].

UI-2: All elements are built according to the principles of elementary logic.

UI-3: The buttons are labelled clearly to avoid users’ misunderstanding.

UI-4: The IVMS shall have instructions that will guide users to get right actions.

* Software Interfaces

SI-1: Accountant

The IVMS shall communicate with Accountant through a programmatic interface for the following operations:

SI-1.1: When the IVMS notifies director needs revenue reports, accountant will receive notification about this requisition.

SI-1.2: Accountant generate revenue report and send to director

SI-2: Receptionist

The IVMS shall communicate with Receptionist through a programmatic interface for the following operations:

SI-2.1: The IVMS shall transmit the information of booking requests to the receptionist through a programmatic interface.

SI-2.2: The IVMS shall check whether the quantity of available apartments that is enough to provide.

SI-2.3: When receptionist approve book request, the booking detail will be saved into the IVMS.

SI-3: Director

The IVMS shall communicate with Director through a programmatic interface for the following operations:

SI-3.1: To allow director to request revenue reports from accountant.

SI-3.2: To allow director to view revenue reports.

SI-4: Customer

The IMVS shall communicate with the receptionist through a programmatic interface for the following operations:

SI-4.1: To allow customer to booking request from the IMVS, including viewing each type of apartments and fill booking form.

SI-4.2: To allow customer to order services by viewing each type of services and fill ordering form.

SI-4.3: When the IVMS notifies customer that its booking request is approved, customer will receive notification about this approvement.

SI-4.4: To allow customer to submit a check-out request.

SI-4.5: To allow customer to pay money.

* Hardware Interfaces

No hardware interfaces have been identified.

* Communications Interfaces

CI-1: The IMVS shall send an email (based on user account settings) to the users to recover their account by providing password again.

CI-2: The IMVS shall send a text message to the users to report any problems with the book order or delivery.

## Licensing Requirements

LIC-1: The possible ways customers will purchase licenses to our software:

LIC-1.1: An online store with a credit card and automated license delivery.

LIC-1.2: An offline purchase by another method and manual license delivery.

LIC-2: Types of licenses and restrictions must be applied for our application:

LIC-2.1: Evaluation (also known as trial, demo, or shareware)

LIC-2.1: Periodic (also known as lease or subscription)

LIC-3: For each type of license, the license will expire as follow:

LIC-3.1: Evaluation licenses should expire after 10 uses.

LIC-3.2: Subscriptions may be purchased, which last 90 days. After 90 days, a subscription renewal may be purchased to extend the license subscription an additional 90 days.

LIC-4: The possible ways customers should be able to activate/deactivate licenses:

LIC-4.1: Internet connectivity will be required on the system being activated.

LIC-4.2: If Internet connectivity is not available on the system being activated, is it practical to use another system which has Internet access to activate the target system. (This is possible to do by transferring files via USB drive.)

LIC-4.3: If Internet connectivity is not available, users are able to activate offline. The deployment team will install/uninstall the system in place.

## Legal, Copyright, and Other Notices

CPR-1: The system will be registered for software protection the source code of the software according to the type of computer program at Copyright office of the Department of Culture, Sport and Tourism.

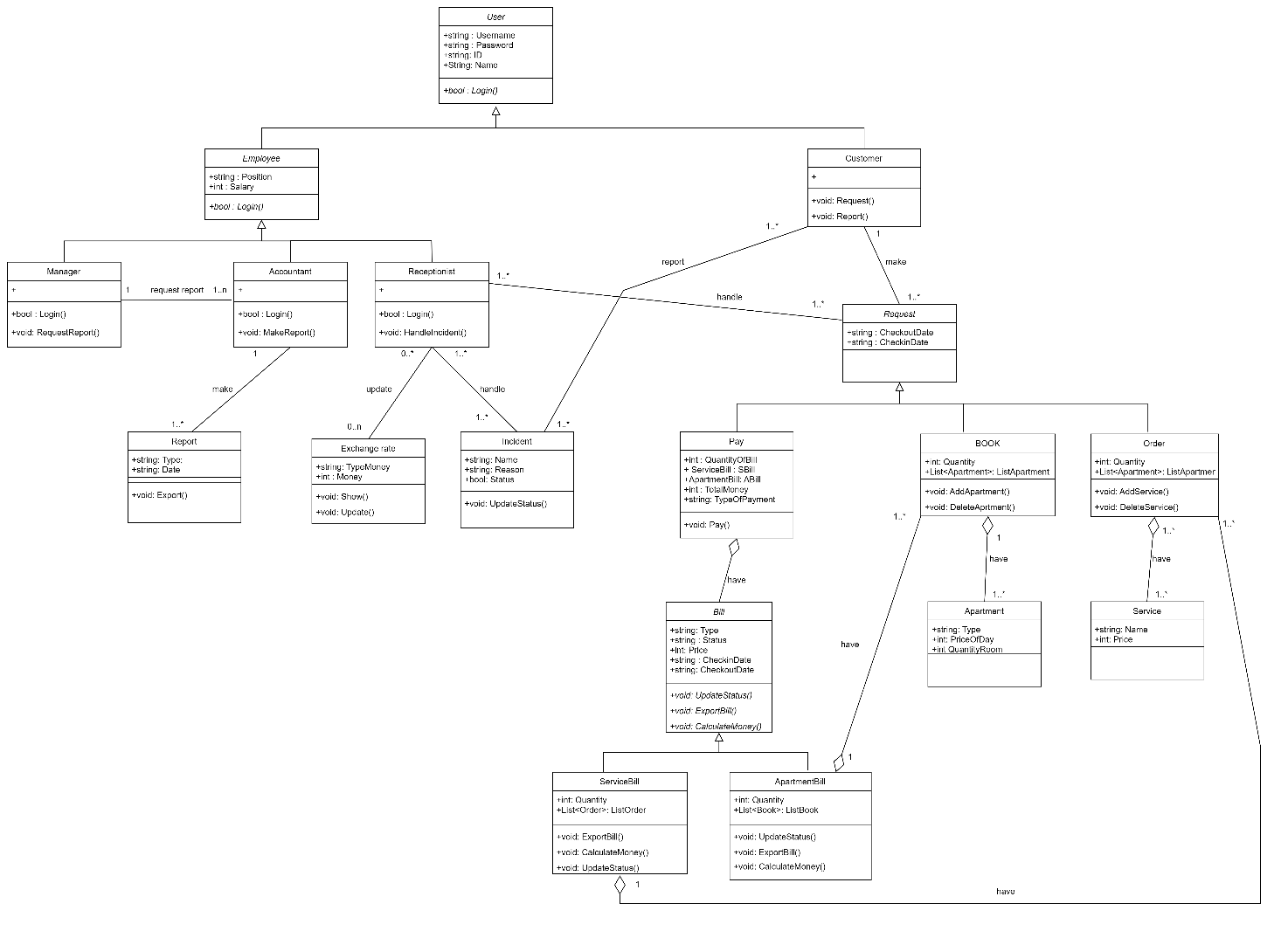
CPR-2: The system will be registered for trademark protection for the name and logo image of the software at Intellectual Property Office of the Department of Science and Technology.

CRP-3: Only users who own the accounts provided officially have right to access our system. After a certain time, these accounts will be revoked. If users have demand on using the system continuously, they have to pay money for extending capable time.

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# Appendix A: Class Diagram

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**Figure 2: Class Diagram**

# Appendix B: State Diagram

# A picture containing text, sky, map, indoor Description automatically generatedDiagram Description automatically generatedAppendix C: Sequence Diagram

**Figure 3: State Diagram for Receptionist**

**Figure 4: State Diagram for Customer**

Diagram

Description automatically generated

**Figure 5: Sequence Diagram - Book apartments**

Diagram

Description automatically generated

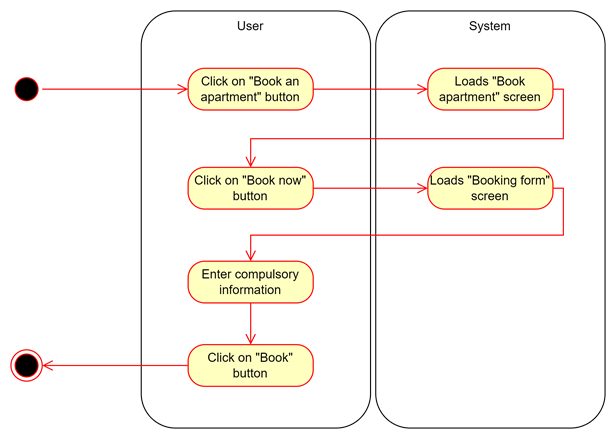
# Appendix D: Activity Diagram

**Figure 6: Sequence Diagram - Login**

Diagram

Description automatically generated

**Figure 7: Activity Diagram - View apartment information**



**Figure 8: Activity Diagram - Book an apartment**