VIETNAM GENERAL CONFEDERATION OF LABOUR

**TON DUC THANG UNIVERSITY**

**FACULTY OF INFORMATION TECHNOLOGY**



**FINAL REPORT SOFTWARE ENGINEERING**

**Hotel Management**

*Instructor:* **DANG MINH THANG**

*Performers:* **Ta Trung Hieu – 518H0502**

**Nguyen Thi Lan Anh – 518H0470**

**Tran Thi Hong Tuyet Ngan – 518H0226**

Course  **: 22**

**HO CHI MINH CITY, 2020**

VIETNAM GENERAL CONFEDERATION OF LABOUR

**TON DUC THANG UNIVERSITY**

**FACULTY OF INFORMATION TECHNOLOGY**



**FINAL REPORT SOFTWARE ENGINEERING**

**Hotel Management**

*Instructor:* **DANG MINH THANG**

*Performers:* **Ta Trung Hieu – 518H0502**

**Nguyen Thi Lan Anh – 518H0470**

**Tran Thi Hong Tuyet Ngan – 518H0226**

Course  **: 22**

**HO CHI MINH CITY, 2020**

THANK YOU

Thank you, Mr. Dang Minh Thang, for guiding us to make this report.

**THIS PROJECT IS COMPLETED AT TON DUC THANG UNIVERSITY**

I hereby guarantee that this is a product of our project and under the guidance of teacher Dang Minh Thang. The research contents and results in this topic are truthful and have not been published in any form before. The data in the tables for analysis, comments and evaluation collected by the author from different sources are clearly stated in the references.

In addition, the project also uses a number of comments, reviews as well as data of other authors, and other organizations and organizations have cited and noted origin.

**If I detect any fraud I take full responsibility for the content of my project.** Ton Duc Thang University is not related to copyright or copyright infringement caused by me in the implementation process (if any).

*Ho Chi Minh City, day month year*

*Author*

*(Sign and write full name)*

*Tạ Trung Hiếu*

*Trần Thị Hồng Tuyết Ngân*

*Nguyễn Thị Lan Anh*

TEACHER'S CONFIRMATION AND EVALUATION SECTION

**Instructor's confirmation section**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Ho Chi Minh City, day month year

(Sign and write full name)

**The teacher evaluation section**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Ho Chi Minh City, day month year

(Sign and write full name)

SUMMARY

A hotel that wants to perform well requires good management and synchronization. In this report we will describe in detail the process to create web application for hotel management.

TABLE OF CONTENTS

[THANK YOU i](#_Toc58669127)

[TEACHER'S CONFIRMATION AND EVALUATION SECTION iv](#_Toc58669128)

[SUMMARY v](#_Toc58669129)

[TABLE OF CONTENTS 1](#_Toc58669130)

[CHAPTER 1 – REQUIREMENTS ENGINEERING 3](#_Toc58669131)

[1.1 Project Overview 3](#_Toc58669132)

[1.2 Analyze customer requirements 3](#_Toc58669133)

[1.3 Interview and collect form 4](#_Toc58669134)

[CHAPTER 2. SYSTEM DIAGRAM DESIGN 7](#_Toc58669135)

[2.1 Use case diagrams 7](#_Toc58669136)

[2.2 Class diagrams 8](#_Toc58669137)

[2.3 Activity diagrams 8](#_Toc58669138)

[2.4 Sequence diagrams 9](#_Toc58669139)

[CHAPTER 3. DATABASE DESIGN 11](#_Toc58669140)

[3.1 Entity Relationship Diagram (ERD) 11](#_Toc58669141)

[3.2 Relational Model 12](#_Toc58669142)

[CHAPTER 4. SOFTWARE IMPLEMENTATION 13](#_Toc58669143)

[4.1 UI Design 13](#_Toc58669144)

[4.2 Coding Convention 13](#_Toc58669145)

[CHAPTER 5. APPLICATION DEVELOPMENT TOOLS 15](#_Toc58669146)

[5.1 Implement Test Cases and Unit Test 15](#_Toc58669147)

[5.1.1 Writing Test Cases 15](#_Toc58669148)

[5.1.2 Unit Test 15](#_Toc58669149)

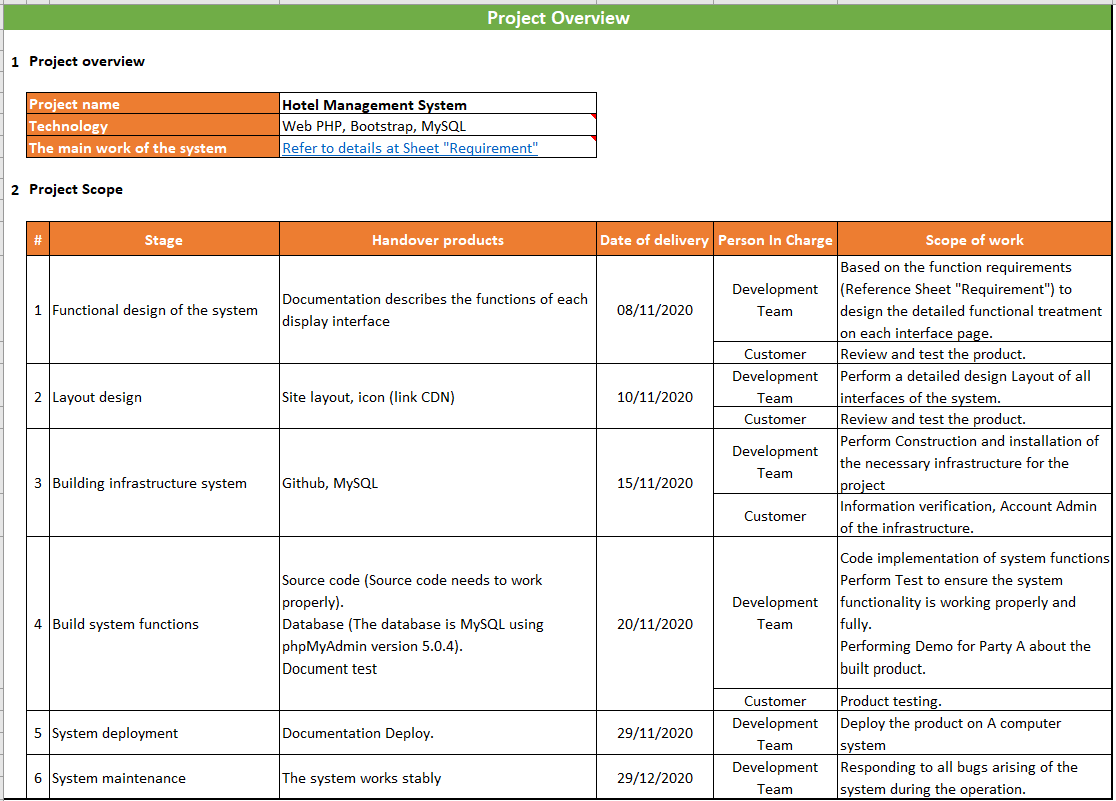
[5.2 Git and Github 16](#_Toc58669150)

[SELF ASSESSMENT 18](#_Toc58669151)

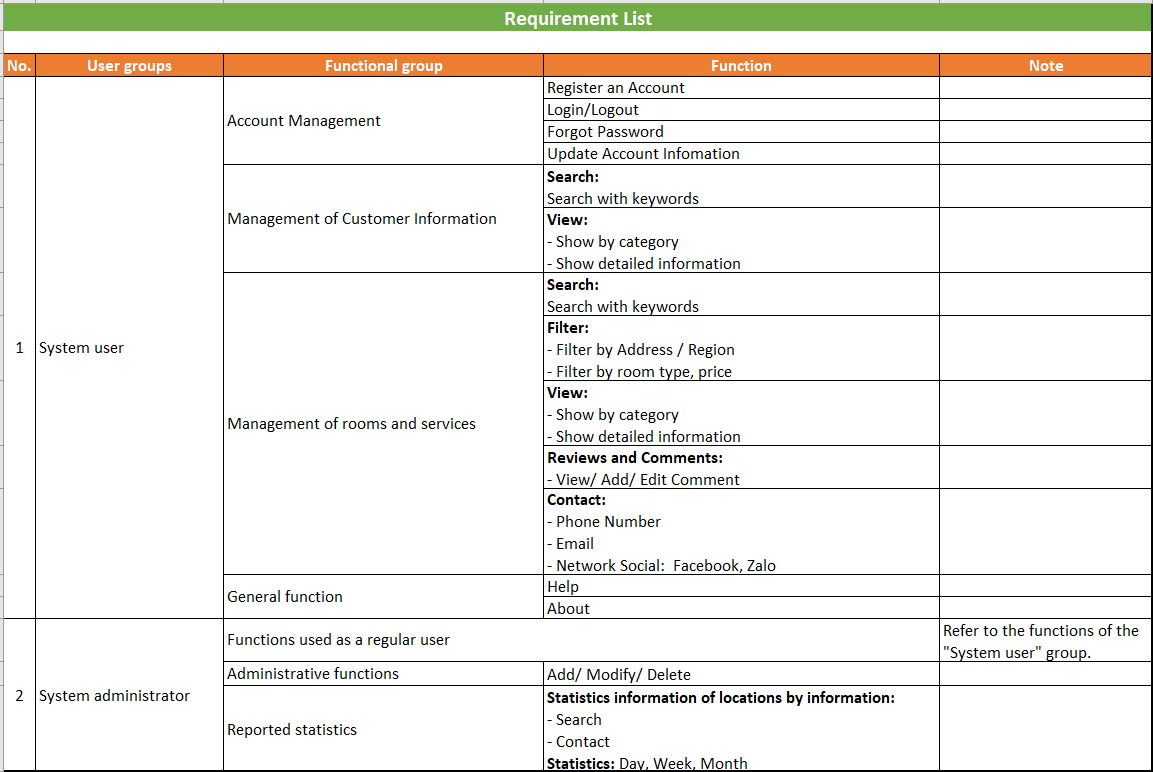
[REFERENCES 20](#_Toc58669152)

CHAPTER 1 – REQUIREMENTS ENGINEERING

1.1 Project Overview



1.2 Analyze customer requirements



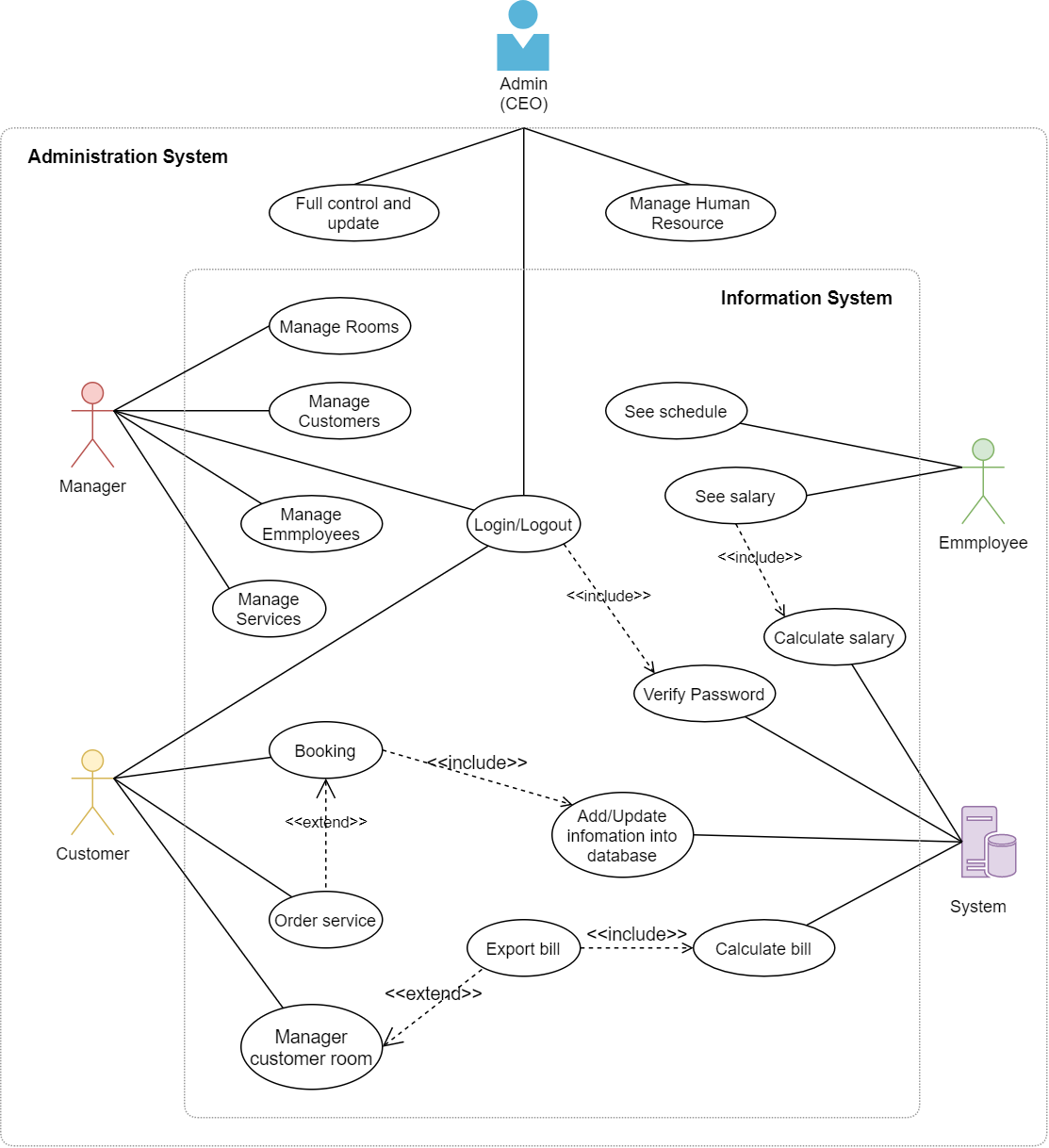
1.3 Interview and collect form

* Tool: Google Meet
* Record Metting: Yes
* Language: English
* Interpreters: No
* Share Document: Microsoft Office + One Drive

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Section/ Screen** | **Questions/Offers** | **Answer** |
| 1 | Form Login | ***Question:*** Here I see no mention of permission for the user to log in. What positions and permissions are included?  ***Offer:*** Here, there are 2 main positions that are customers and administrators. Both have the right to login and customers can create their own accounts. | We totally agree. |
| 2 | Home page interface | ***Question:*** Is there a need to display the interface according to the authorization? Tools include people who have not created an account, customers have created an account and a manager.?  ***Offer:*** If the object is a customer who has not created an account and manager, the button booked and user control will be hidden, and the login button will be displayed. | We totally agree. |
| 3 | Room view (detail) interface | ***Offer:*** Here shows the details of the room, room status, and a reservation button that is displayed if the room is available. | We totally agree. |
| 4 | Room management interface | ***Offer:*** Display information list of rooms in the branch under management in the form of a table, the account manager has the right to create, delete, and edit room information. | We totally agree. |
| 5 | Customer management interface | ***Offer:***. Display list of customers information in table form, manager account has the right to create, delete, and edit customer information. | We totally agree. |
| 6 | Booking management interface | ***Offer:*** Here we will display a list of booking and the total cost to be paid for each booking, the total payment will be updated automatically with the service fee and with a confirmation status of payment. The person who performs the payment confirmation is the hotel staff that logs into the manager account. | We totally agree. |
| 7 | Infomation & Help interface | ***Offer:*** Displays help and contact information in the form of a JavaScript modal plugin | We totally agree. |

CHAPTER 2. SYSTEM DIAGRAM DESIGN

2.1 Use case diagrams

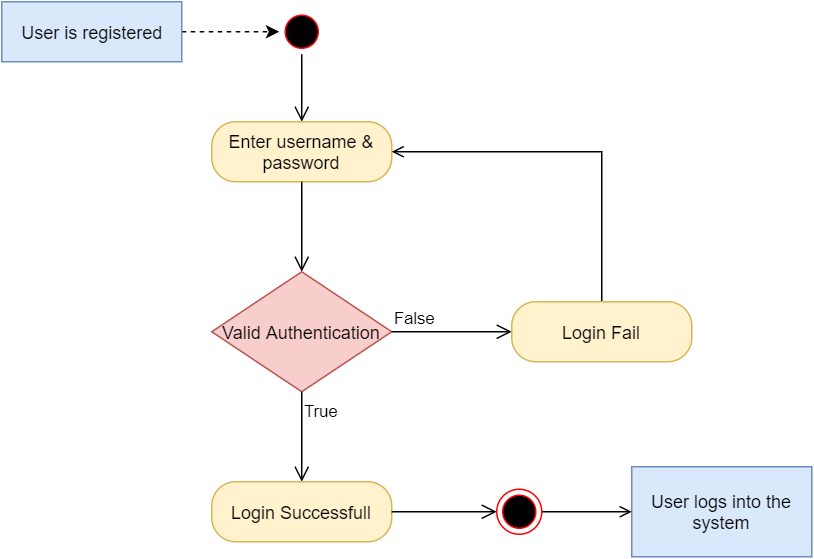


*Hotel Management System UseCase*

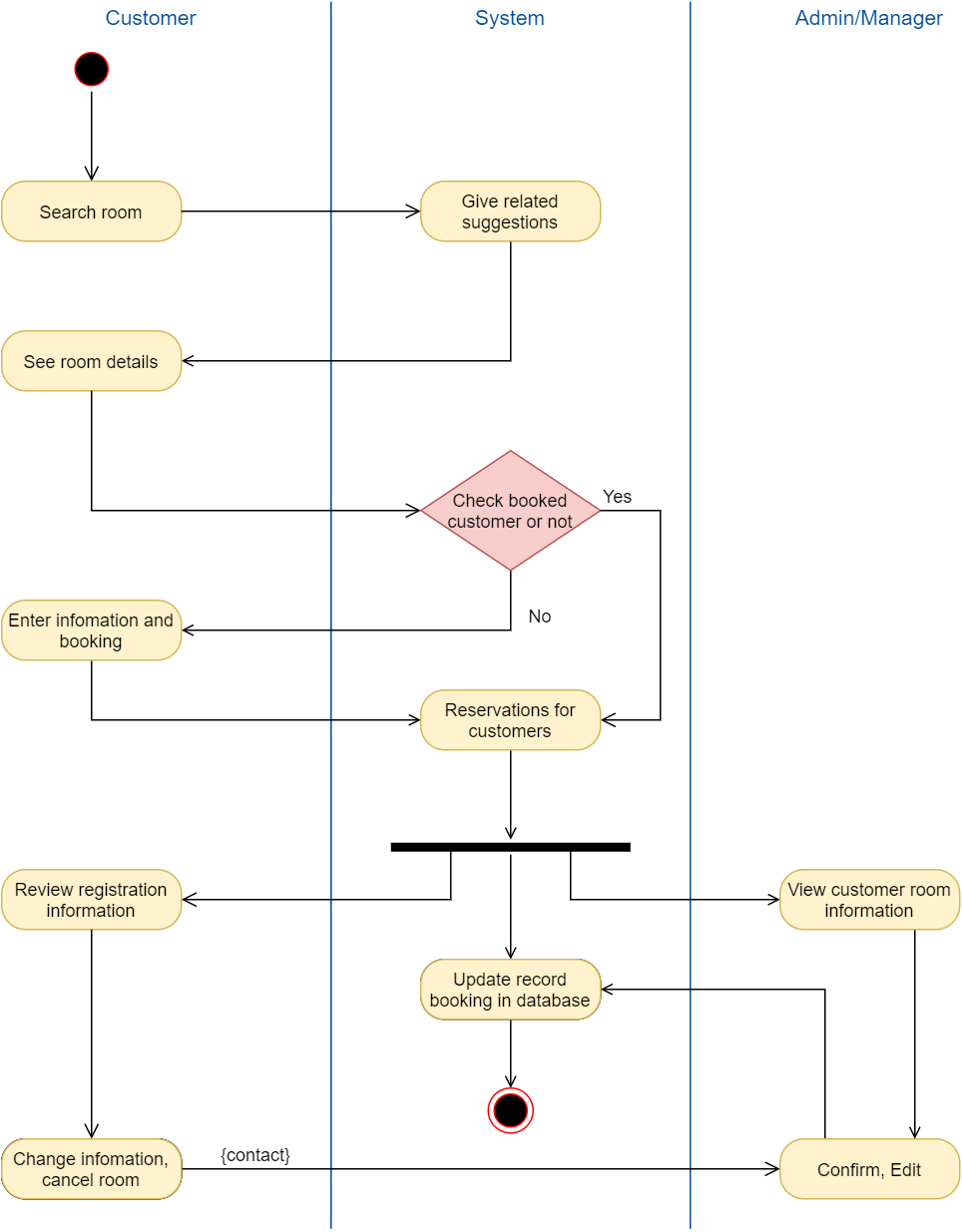
|  |  |
| --- | --- |
| Use Case Specification | |
| Use Case Name: | Hotel Management System UseCase |
| Actor(s): | Admin, Manager, Customer, Emmployee, System |
| Summary Description: | Describe management activities (with decentralization) in the hotel |
| Priority: | Must Have |
| Status: | Hight Level of details |
| Non-Functional Requirements: | - Automatically update database  - Check log in / sign up information |
|  |  |

2.2 Class diagrams

2.3 **Activity diagrams**

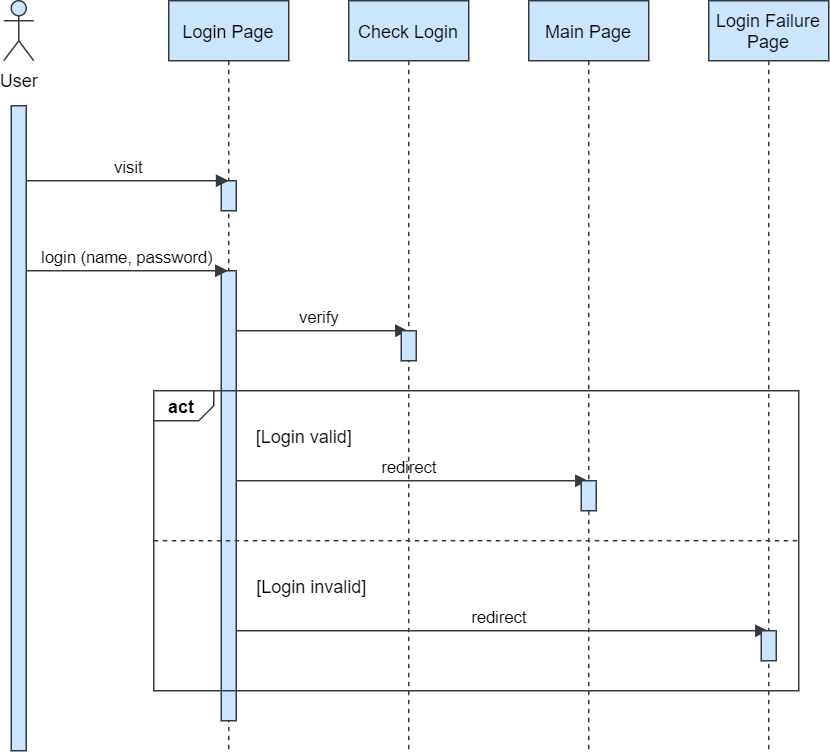


*Login Activity*



*Booking Activity*

2.4 Sequence diagrams

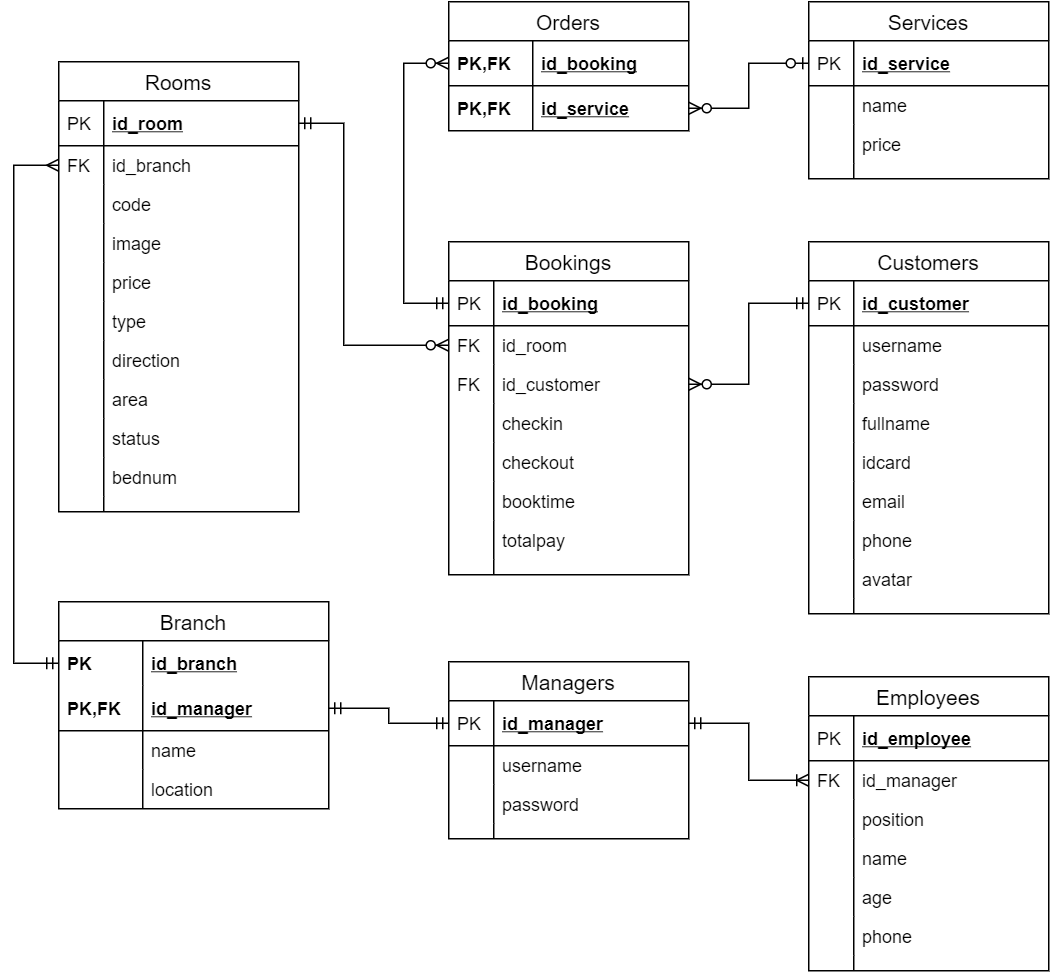


*Sequence Diagram for User Login*

CHAPTER 3. DATABASE DESIGN

3.1 Entity Relationship Diagram (ERD)

Crow’s foot notation uses some unique shapes and symbols to represent the elements in a database. So we use them in ERD, which is a popular model in companies today.

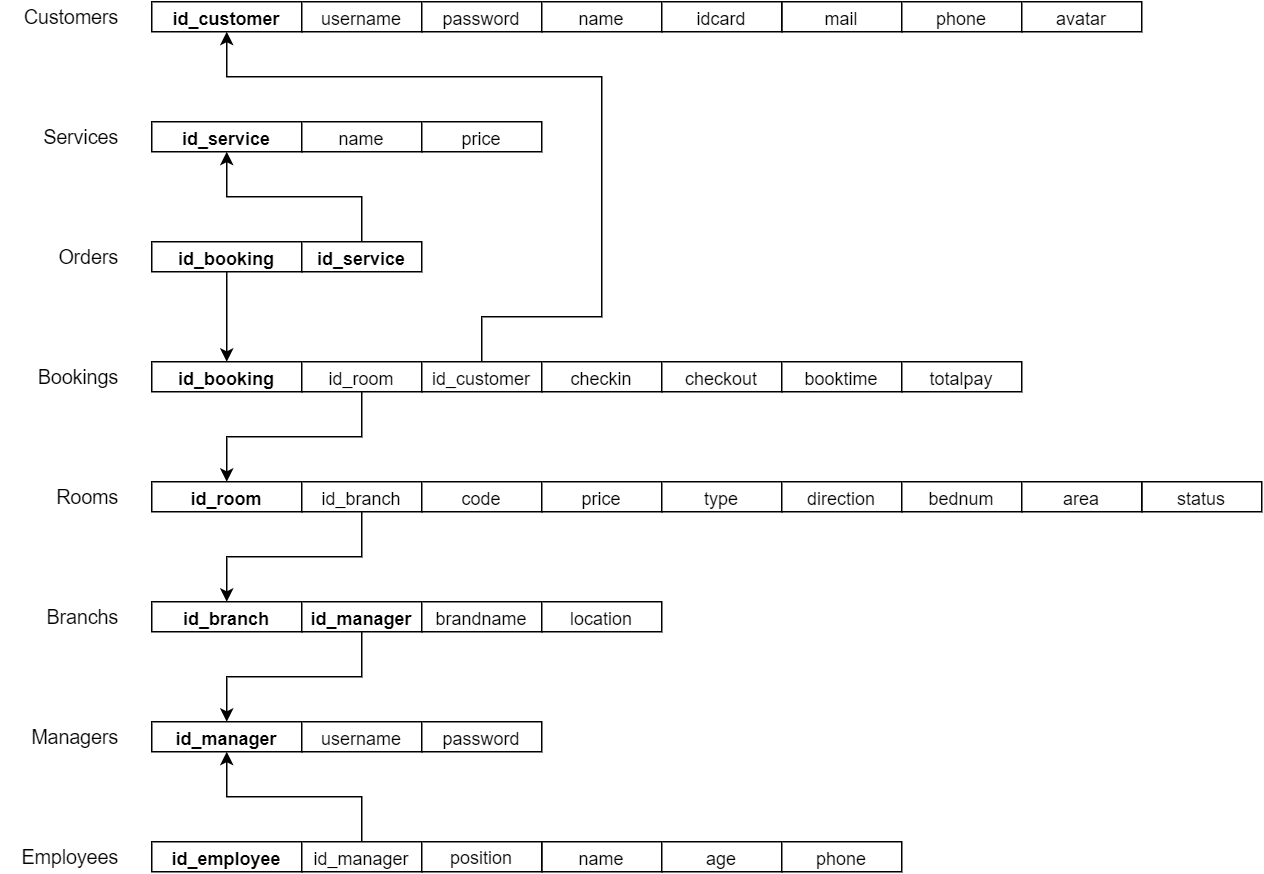


*Hotel Management system ERD*

Description - A hotel chain under the administration of Admin includes the following entities:

* Each hotel branch has multiple rooms and is under the management of a single manager.
* Each room in the hotel has 0 or more bookings
* Each customer can book more than one room
* Customers can order more 0 or more services when booking
* Each manager manages only 1 branch
* Each employee is under the sole management of one manager

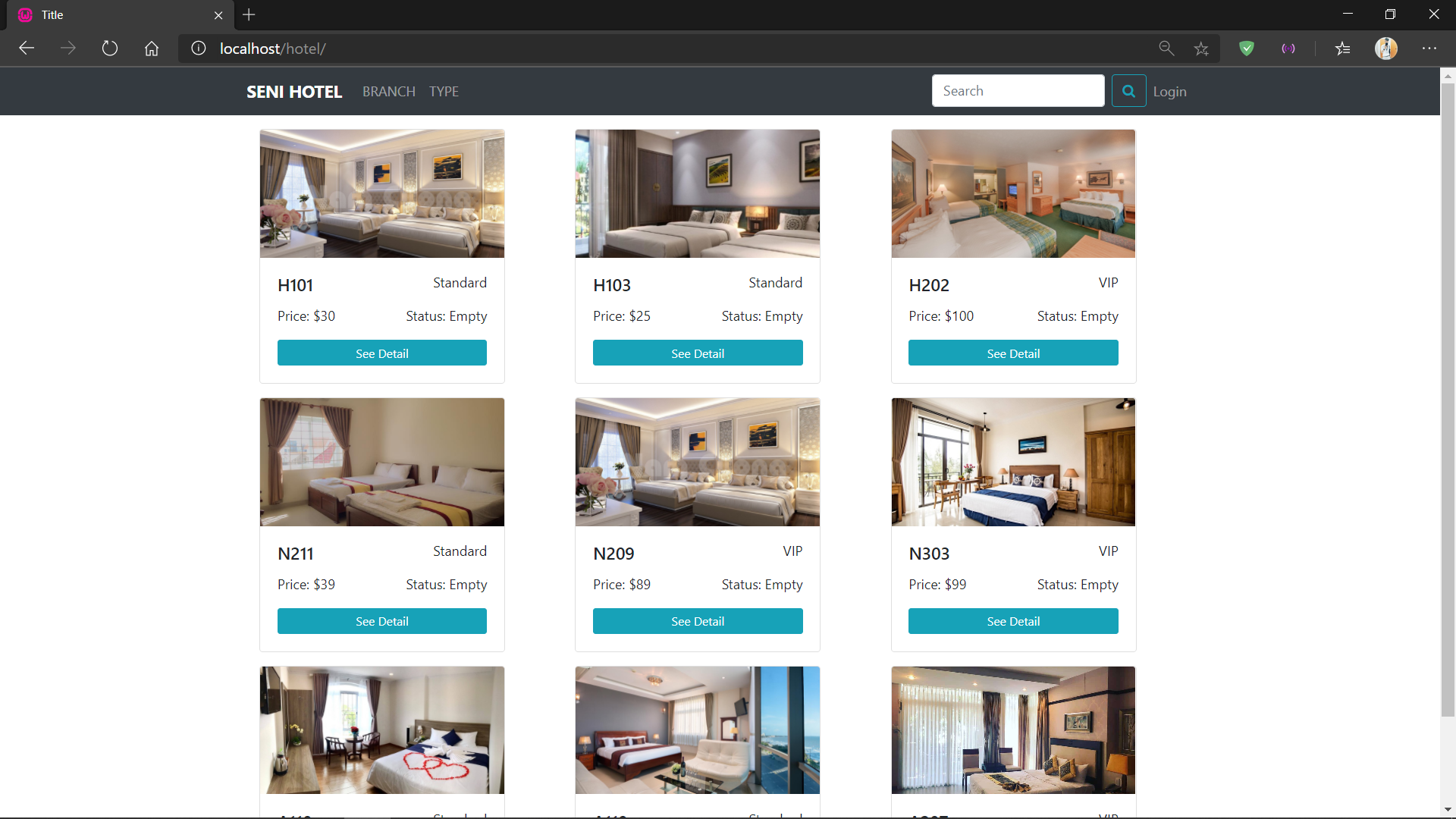
3.2 Relational Model



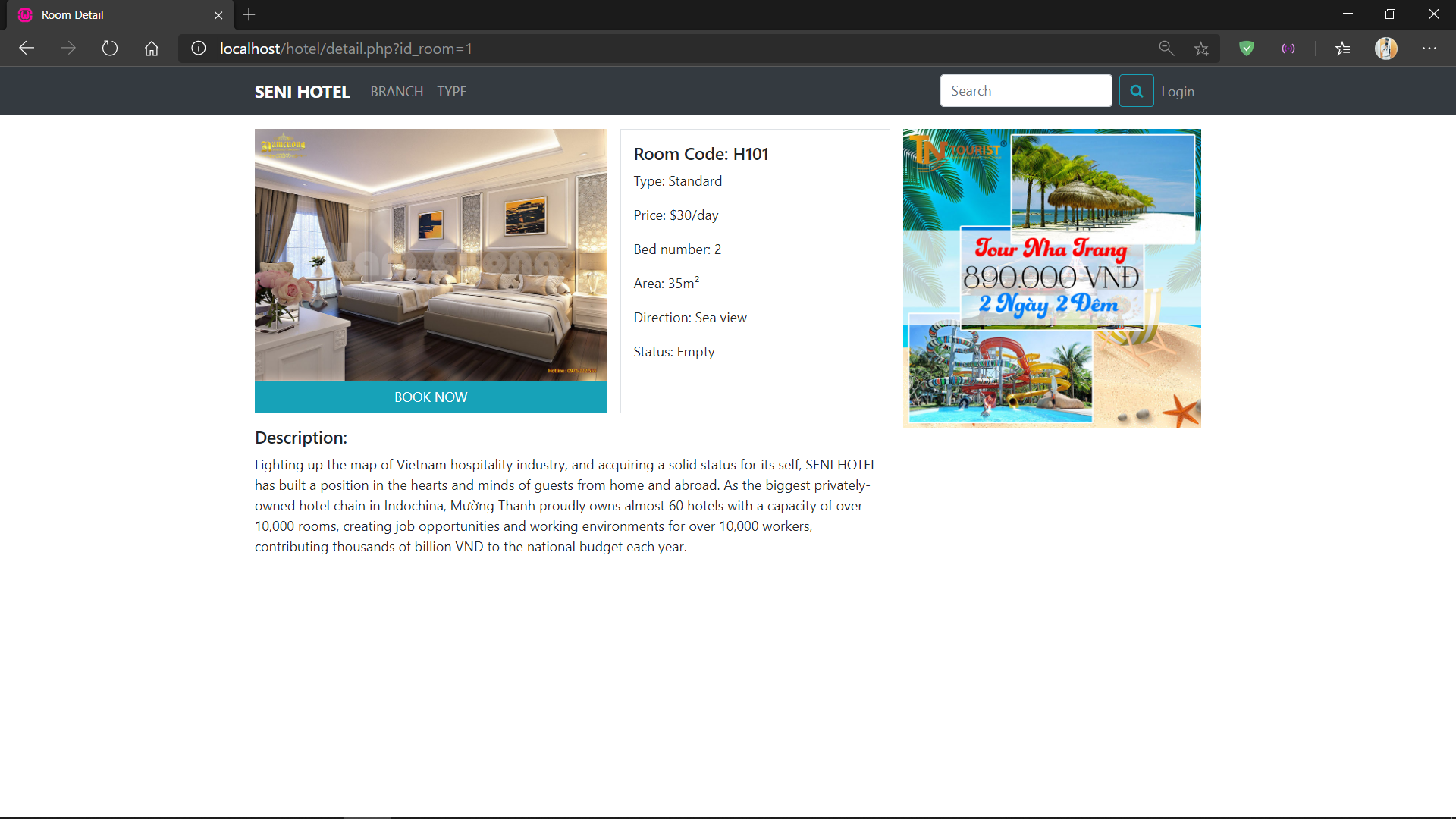
*Hotel Management system Relation model*

CHAPTER 4. SOFTWARE IMPLEMENTATION

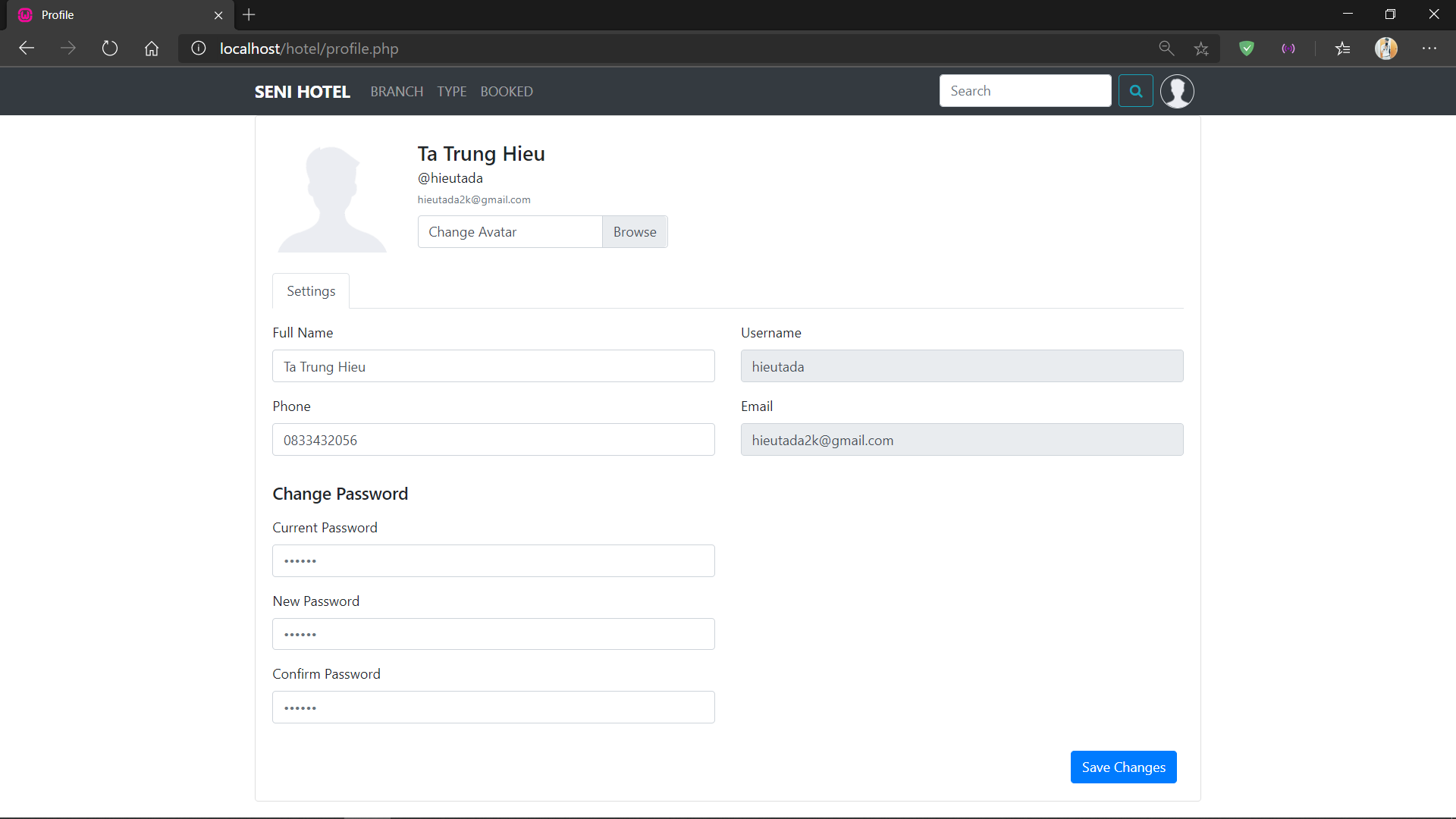
4.1 UI Design



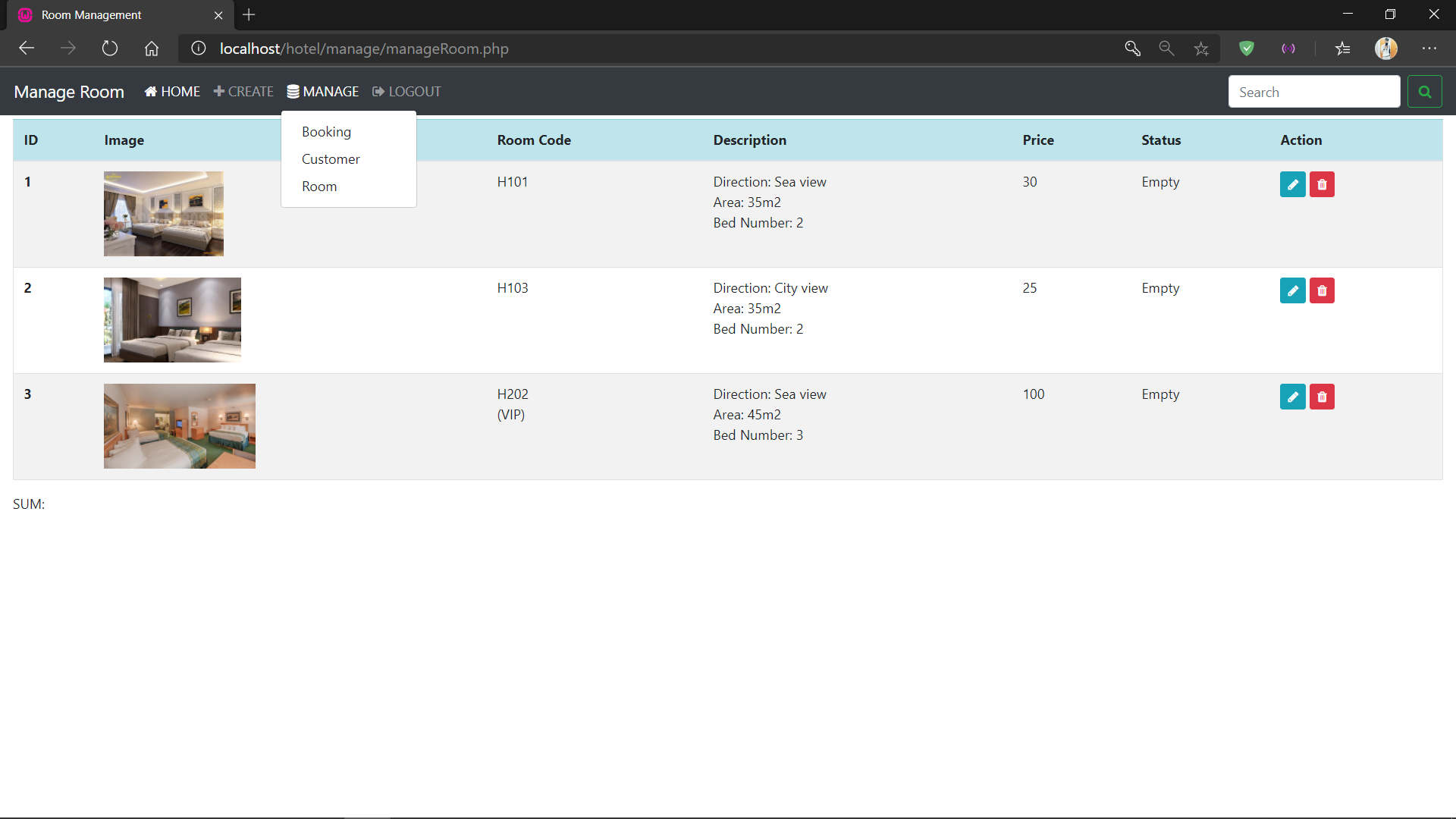
*Home page*



*View room and reservation details*



*View profile and edit page*



*Management pages*

4.2 Features

|  |  |
| --- | --- |
| Account | Login: customer/manager  Sigup Account: customer  Logout: customer/manager  Forgot password: customer |
| Manage  (customer) | Manage Room: add/ edit/ remove room  Manage Customer: create/ edit/ remove customer  Mange Booking: create/ edit/ remove/ print bill booked |
| Infomation | Show Infomation of Hotel  Show Infomation of User |

4.3 Coding Convention

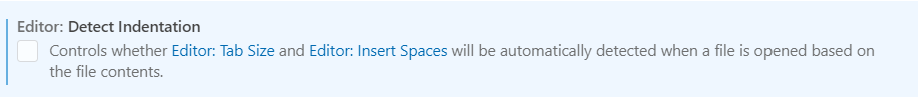
Coding conventions is a set of general principles when programming to make the code easy to read, understand, and therefore easier to manage and maintain.

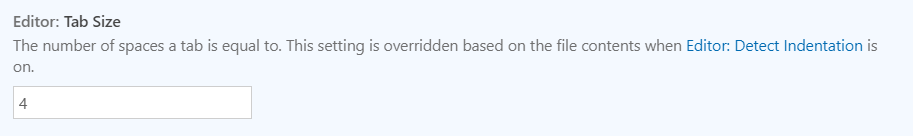
While programming we adhere to the following naming rules:

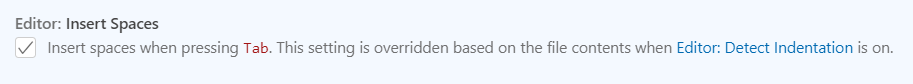
|  |  |  |
| --- | --- | --- |
|  | Syntax | Example |
| Funcition name | camelCase | displayCustomer() |
| Variable name | snake\_case | id\_user |

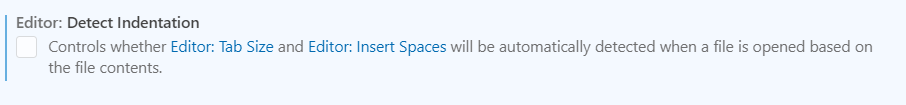
Along with some standard PSR-2 rules are referenced below:

* Use 4 spaces for indentation (Setup in Visual Studio Code):

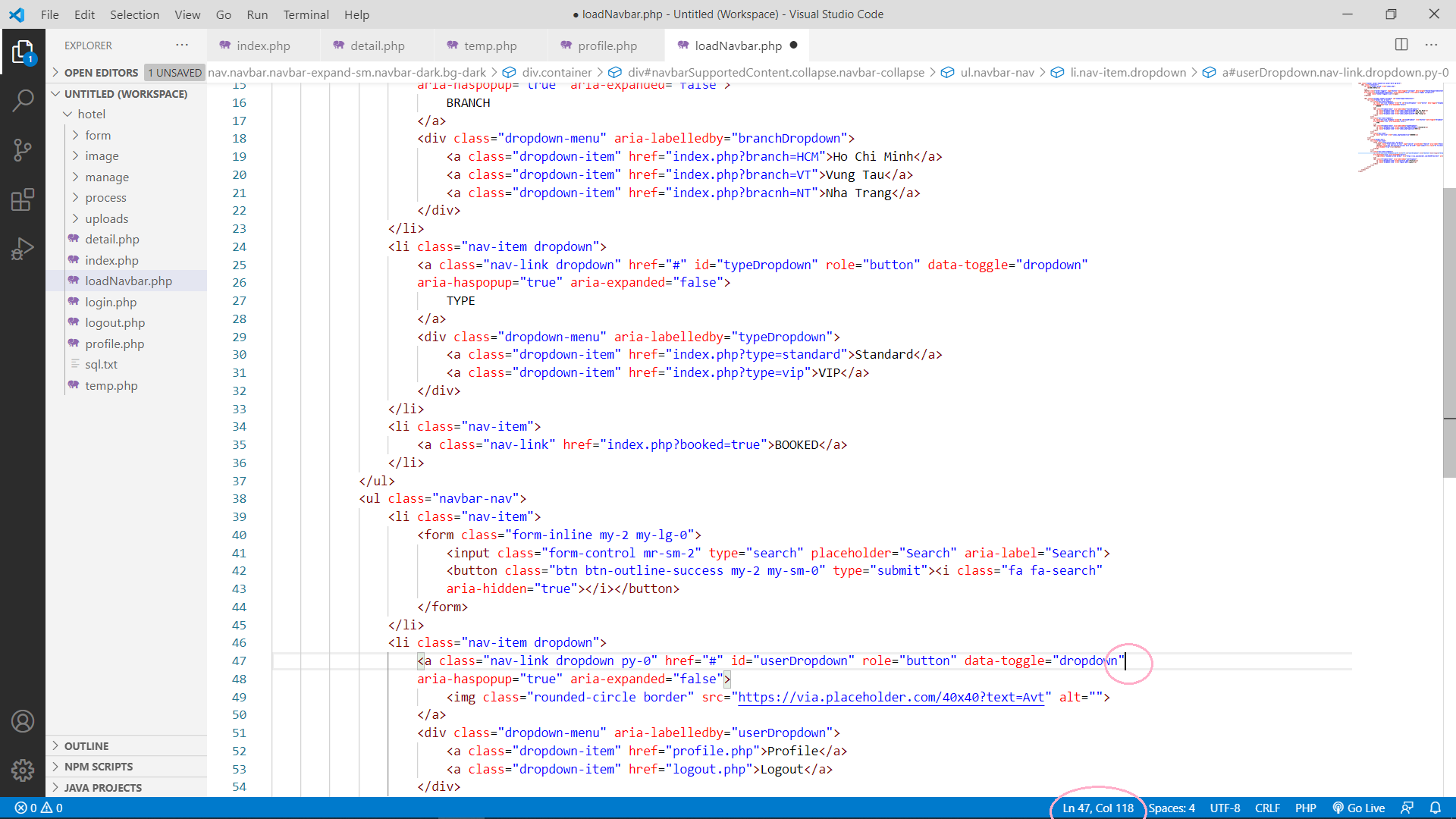








* On a line with no more than 120 characters, there must be no space at the end of the line (except for link and script tags):



* Must use single quotes ‘to declare strings without variables. If the string contains‘, then use quotes to wrap them.
* Use accents. To concatenate strings, pay attention before and after the dot. There must be a space. If the string is too long, split it into multiple lines and a period is placed at the beginning of the line with an equal sign.

Example:

                echo "Direction: " . $row['direction'] . "<br>";

                echo "Area: " . $row['area'] . "m2<br>";

                echo "Bed Number: " . $row['bednum'];

* The parameters passed to the function must have a space after the comma

Example:

$stmt = mysqli\_prepare($conn, $sql);

$stmt->bind\_param("sssssss", $username, $password, $fullname,

$idcard, $email, $phone, $target\_file);

CHAPTER 5. APPLICATION DEVELOPMENT TOOLS

5.1 Implement Test Cases and Unit Test

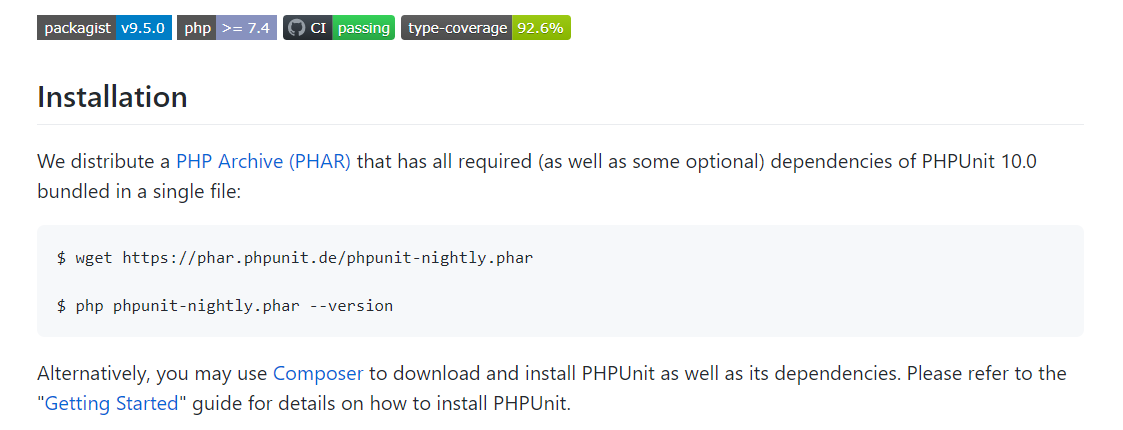
5.1.1 Writing Test Cases

Test Case for login page:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Description | Expected Output | Actual Output | Status |
| 1 | Username and Password are blank | “Please enter Username and Password” error message should be display | message displayed | pass |
| 2 | Username is blank | “Please enter Username” error message should be display | message displayed | pass |
| 3 | Password is blank | “Please enter Password” error message should be display | message displayed | pass |
| 4 | Wrong Username | “Username does not exist” error message should be display | message displayed | pass |
| 5 | Wrong Password | “Password is incorrect. Please enter corect Password” error message should be display | message displayed | pass |
| 6 | Correct Username and Password | Redirect to home page | home page displayed | pass |
| ... | ... | ... | ... |  |

5.1.2 Unit Test

PHPUnit is a unit testing framework for the PHP programming language. It is an instance of the xUnit architecture for unit testing frameworks that originated with SUnit and became popular with JUnit. PHPUnit was created by Sebastian Bergmann and its development is hosted on GitHub (<https://github.com/sebastianbergmann/phpunit>).

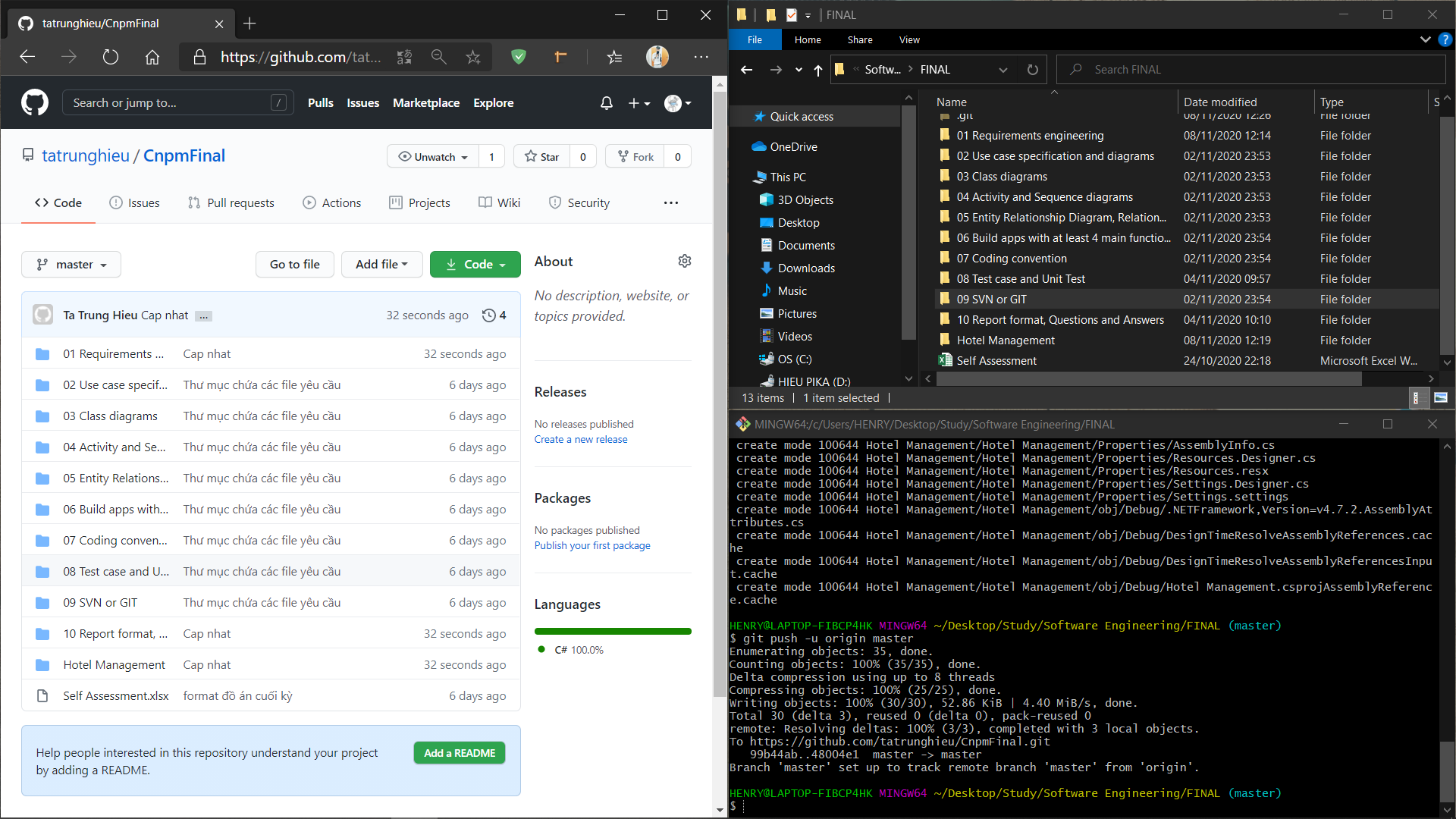


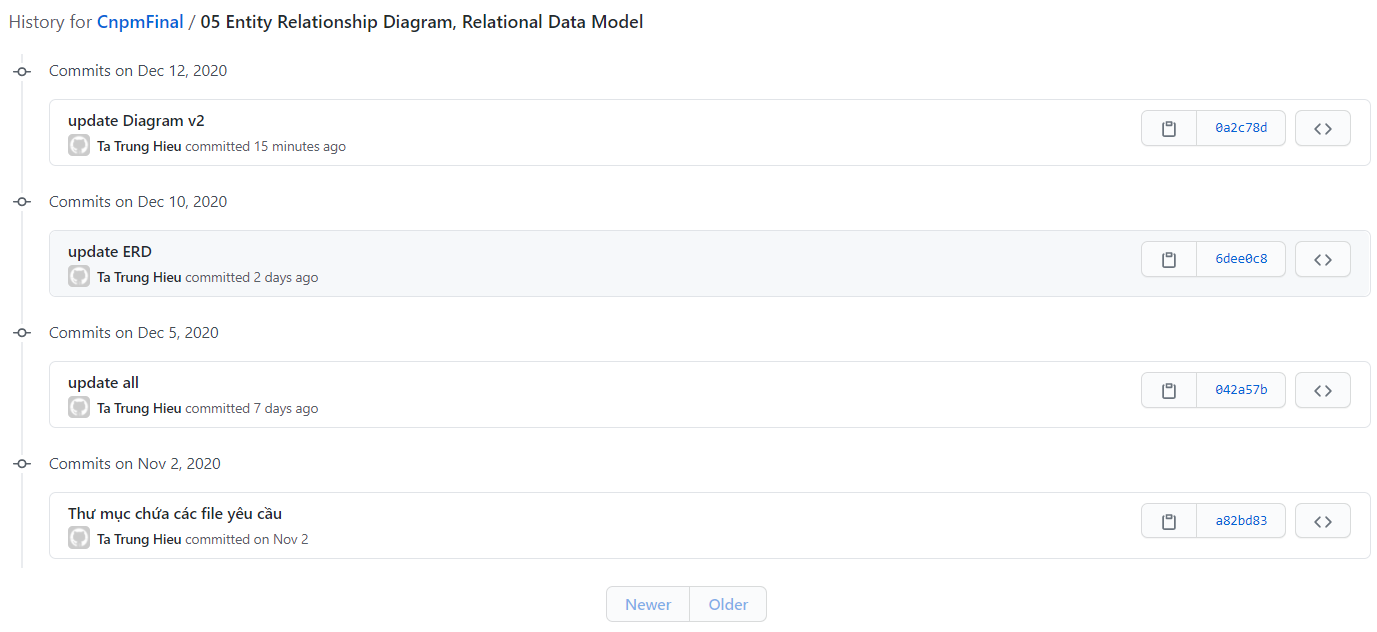
*Requirements and instructions to install PHPUnit*

5.2 Git and Github

Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

GitHub is built for collaboration. Set up an organization to improve the way your team works together, and get access to more features.





SELF ASSESSMENT

*(Vietnamese)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Nội dung tiêu chí** | **Điểm /10** | **Thang đánh giá** | | | **Điểm quy đổi** | **Ghi chú**  *(Tiêu chí đạt được trong file Rubric)* |
| **0 điểm** | **½ tổng điểm** | **Trọn điểm** |
| **Requirements**  **Engineering**  Phân tích yêucầu kháchhàng, phỏngvấn, thu thậpbiểu mẫu, liệtkê những yêucầu chức năngvà yêu cầu phichức năng | **1.0** |  |  | x | 1 | Nội dung rõ ràng, đầy đủ. |
| **Use case specification and diagrams** | **1.0** |  |  |  |  |  |
| Use case diagrams | 0.5 |  |  | x | 0.5 | Vẽ đúng, đầy đủ các use case và các mối quan hệ trong use case. |
| Đặc tả use case | 0.5 |  | x |  | 0.25 | Có lập bảng đặc tả use case nhưng còn thiếu, sai sót. |
| **Class diagrams** | **1.0** |  | x |  | 0.5 | Có vẽ class diagrams nhưng còn thiếu hoặc sai  sót (không nghiêm trọng). |
| **Activity and sequence diagrams** | **1.0** |  |  |  |  |  |
| Activity diagrams (chỉ chọn vài cái chính) | 0.5 |  |  | x | 0.5 | Vẽ đúng các activity diagrams. |
| Sequence diagrams (chỉ chọn vài cái chính) | 0.5 |  | x |  | 0.25 | Có vẽ sequence diagrams nhưng còn thiếu hoặc sai |
| EntityRelationshipDiagram,RelationalData Model | **1.0** |  |  | x | 1 | Thiết kế đúng đủ ERD, Relational Data Model và mô tả đầy đủ các bảng  trong CSDL |
| Xây dựngứng dụng cóít nhất 4 chứcnăng chính | **2.0** |  |  | x | 2 | Xây dựng ứng dụng hoạt động ổn định, đầy đủ chức năng |
| CodingConvention | **0.5** |  | x |  | 0.25 | Thực hiện coding convention nhưng không đầy đủ |
| Test case,Unit test | **0.5** |  | x |  | 0.25 | Có viết test case hoặc unit test nhưng còn nhiều thiếu sót. |
| SVN/GIT | **1.0** |  | x |  | 0.5 | Có sử dụng SVN/GIT nhưng mang tính đối phó, không thường xuyên |
| Hình thứcbáo cáo, trảlời vấn đáp | **1.0** |  |  | x | 1 | Báo cáo trình bày gọn gàng, chặt chẽ. Trả lời vấn đáp tốt. |
| **Tổng** | **10** |  | | | 8 |  |

REFERENCES

1. Coding Conventions và các chuẩn viết code trong PHP

<https://viblo.asia/p/coding-conventions-va-cac-chuan-viet-code-trong-php-naQZRbrGZvx> *(December 4, 2020)*

1. What is Use Case Specification?

<https://www.visual-paradigm.com/guide/use-case/what-is-use-case-specification/> *(December 12, 2020)*