# SDD-07

# SOFTWARE DESIGN DESCRIPTION

## PLACE RESERVATION: House Rent & Apartment

for:

Telkom University's students


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# CHANGE LIST

| Revision | Description |
|---|---|
| **A** | - Added reference SKPL<br>- Added table of figure and list of tables<br>- Added more query<br>- Fixed class identification in use case |
| **B** | |
| **C** | |
| **D** | |
| **E** | |
| **F** | |
| **G** | |

| INDEX | - | A | B | C | D | E | F | G |
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# Change Page List

| Page | Revision | Page | Revision |
|---|---|---|---|
| 10 | Added SKPL reference | | |
| 5-6 | Added table of figures and list of tables | | |
| 35-39 | Added more query | | |
| 13-26 | Fixed Class Identification | | |



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# 1. Preliminary

## *1.1 Purpose of Writing Document*

This document contains an explanation of the Design Description Software (DPPL) with object-oriented analysis for finding or renting a residence. The purpose of writing this document is to describe in detail about the software to be built. This document will be used as a reference in the development process software and evaluation at the end of software development.

Users of this document are the development team of the device software and stakeholders involved in this system. With the compilation This *DPPL* document, is expected to develop software more conceptualized and does not cause ambiguity at the time of its construction.

## *1.2 Document Coverage*

The software "Place reservation or renting a house and apartment" will developed in this paper discusses place reservation or renting a house and apartment using a website as a medium between the manager and students who will rent the place. So, it can be accessed through the platform from computers, tablets or smart phones that have been connected to the internet. This software is shown the students of Telkom University can easily find a rented house and apartment. The programming language used in building this software include language *HTML*, *Java, PHP, MySQL* programming.

## *1.3 Definitions and Abbreviations*

The following are some definitions, abbreviations, and acronyms that are contained in this document:

- DPPL: Stands for “Deskripsi Perancangan Perangkat Lunak” Documents that describe in detail regarding the design of software that will be built with based on SKPL document that have been made previously.
- SKPL: Stands for “Spesifikasi Kebutuhan Perangkat Lunak” or also called Software Requirements Specification (SRS) is a specification of the software to be developed.
- DBMS: A database management system is system software for creating and managing databases. A DBMS makes it possible for end users to create, read, update and delete data in a database.
- HTML: Hypertext Markup Language, a standardized system for tagging text files to achieve font, color, graphic, and hyperlink effects on World Wide Web pages.
- PHP: is a script language and interpreter that is freely available and used primarily on Linux Web servers. PHP, originally derived from Personal Home Page Tools, now stands for PHP: Hypertext Preprocessor, which the PHP FAQ describes as a "recursive acronym”.
- MySQL: is an Oracle-backed open source relational database management system (RDBMS) based on Structured Query Language (SQL)
- ERD: Stands for Entity Relationship Diagram. ERD is a model contains notations and symbols used to explain the relationship between data.
- PSPEC: The specification process explains the contents (what is done by the program code) of each process in the context diagram.
- Login: Login is a process to enter a system. Login in general using a username and password.
- Username: A username is an identity in the form of a series of words used for access an account.
- Password: A password is a password consisting of a series of letters and numbers, used to access an account.



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- Use Case Diagrams: Use Case Diagram is a diagram used to describe system functionality.
- Use Case Scenario: Use Case Scenario is a process that contains an explanation of the course of a system of.
- Class Diagram: Class Diagram is a diagram that contains attributes and methods to run a system.
- Flow Map: Flow map is a combination of map and flowchart which shows the flow data.

## *1.4 References*

This document is inspired from an application like Airbnb and Traveloka. The reference that is used in the making of this document is:

- Template “Deskripsi Perancangan Perangkat Lunak (DPPL), Informatics major, Telkom University.
- Modul Practicum APPL, IF LAB, School of Computing, Telkom University.
- Group 7 IF-42-INT (2020) SKPL PLACE RESERVATION: House Rent & Apartment

## *1.5 Systematic Discussion*

This DPPL document contains a description of place reservation or renting a house and apartment which will be developed based on SKPL document. In this DPPL document the details of software design so that it can be implemented. This document outline consists of four chapters with the following details:

1. Preliminary
   The introduction contains an explanation of the DPPL document includes the purpose of making this document, the scope of the problem completed by developed software, definitions and terms, references, and systematic discussion.
2. Description of Global Design
   The global design description contains the design of software that will be built include, environmental design implementation, architectural description, and component description.
3. Detailed Design
   The detailed design of this document contains the realization of use case, class detail design class diagram description, algorithm / query, statechart diagram, interface design, and the design of class persistence representation.
4. Frown Matrix
   Frowning matrix contains functional matters on the SKPL document.


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# 2 Description of Global Design

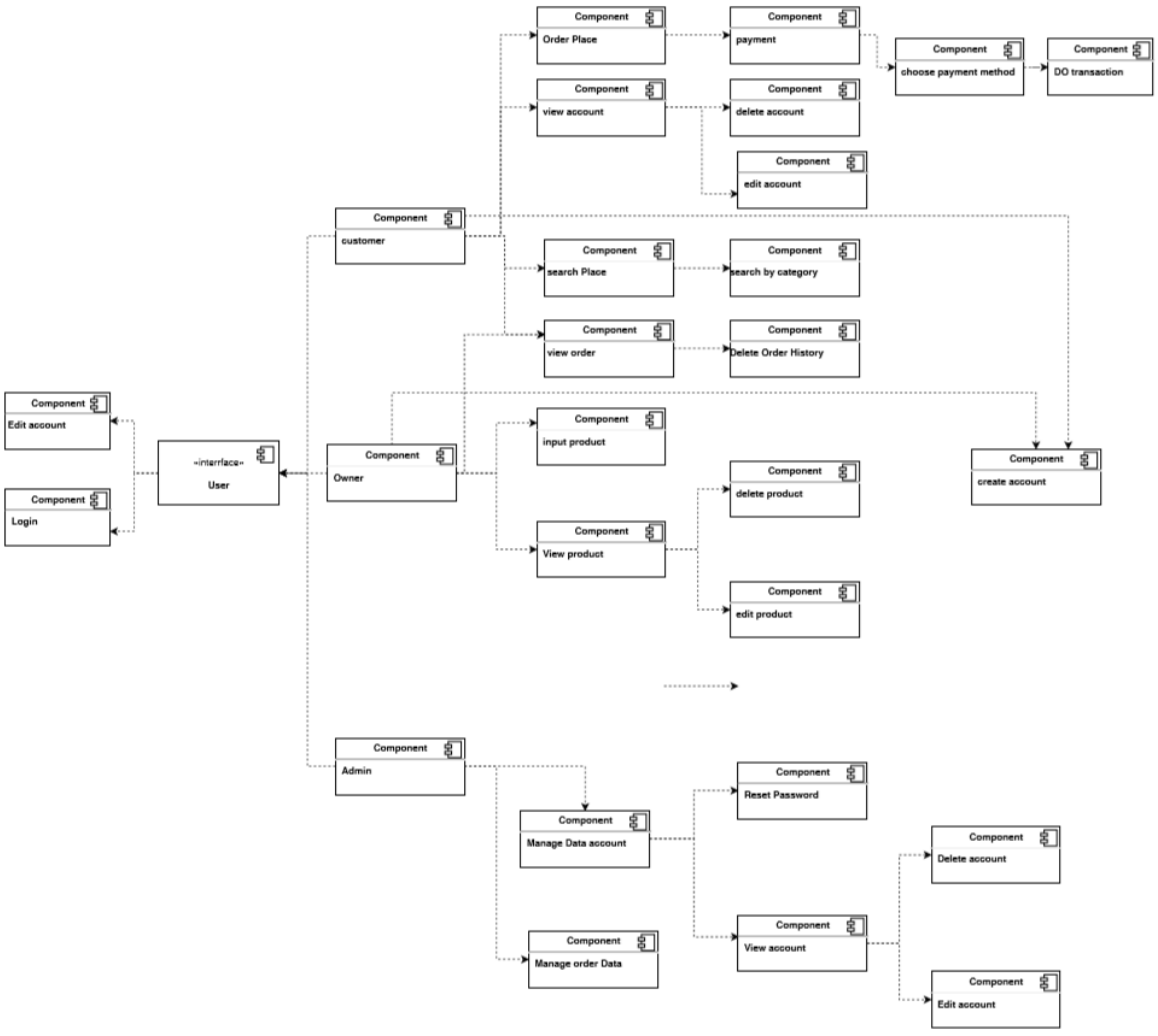
## 2.1 Implementation environment Design

*This system is implemented using:*

- *Operation System: windows 7,8, and 10.*
- *DBMS : mySQL.*
- *Development tool: PHP my Admin, mySQL, CodeIgniter.*
- *Programming language: PHP, JavaScript.*
- *Browser: Google chrome, Mozilla Firefox, safari.*

## 2.2 Architectural Description

*Fig. 1 Architecural Description*







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## 2.3 Component Description

*Table 1 Component Description*

| No | Component Name | Description |
|---|---|---|
| 1 | Create account | For Customer to do registration/create an account |
| 2 | Login | For Customer to login into the Customer's home page |
| 3 | Search place | For Customer to find the place there are looking for |
| 4 | Search by category | For Customer to find place by category |
| 5 | Delete Order History | For Customer to remove the history of the order |
| 6 | Order Place | For Customer to order a place |
| 7 | View Order | For Customer to view the order thir order detail |
| 8 | View Account | For Customer the view account detail |
| 9 | Edit account | For Customer to edit the data of their account |
| 10 | Delete account | For Customer to Remove their own account |
| 11 | Payment | For Customer to do the payment |
| 12 | Chose payment | For Customer to choose the payment method |
| 13 | Do transaction | For Customet to do the transaction base on payment method |
| 14 | Create account | For Owner to do registration/create an account |
| 15 | Login | For Owner to Login into Owner Homepage |
| 16 | Input product | For Owner to input the Data of the product to insert into database. |
| 17 | View product | For Owner to view the product that have been input to database |
| 18 | Edit Product | For Owner to edit the data of the product. |
| 19 | Delete Product | For Owner to Delete the product. |
| 20 | View order | For Owner to view the order detail |
| 21 | Delete order History | For Owner Delete the history of the order |
| 22 | View account | For Owner to view their own registered account |
| 23 | Edit account | For Owner to edit their own registered account |
| 24 | Delete account | For Owner to delete their own registered account |
| 25 | Login | For Admin to Login into the Admin's Homepage |
| 26 | Manage data account | For Admin to manage the data account of the user |
| 27 | Manage Order data | For Admin to manage order data |
| 28 | View account | For Admin to view all the account of the user |
| 29 | Delete account | For Admin to delete selected account of the user |
| 30 | Edit account | For Admin to edit the account of the users |
| 31 | Reset Password | For Admin to Edit The password |
| 32 | Manage order data | For Admin to manage data of the order |


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# 3 Detailed Design

## 3.1 Realization of Use Case

### 3.1.1 Use Case Create Account

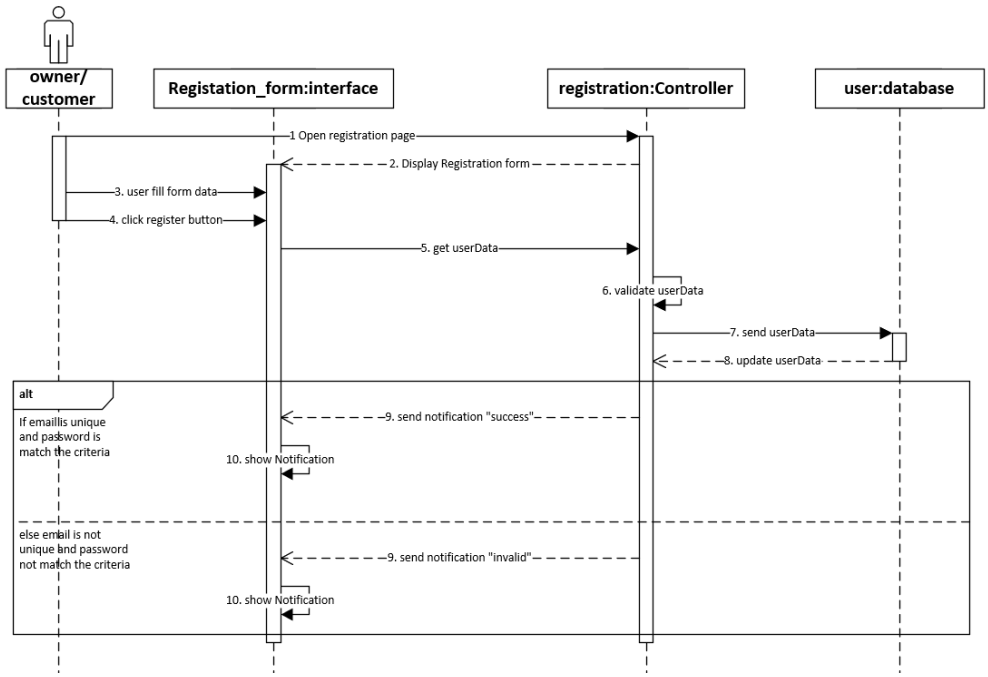
#### 3.1.1.1 Class Identification

*Table 2 Create Account Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *Customer* | *Actor* |
| *2.* | *Owner* | *Actor* |
| *3.* | *Registration_form:Interface* | *Interface* |
| *4.* | *Registration:controller* | *Controller* |
| *5.* | *User:database* | *Database* |

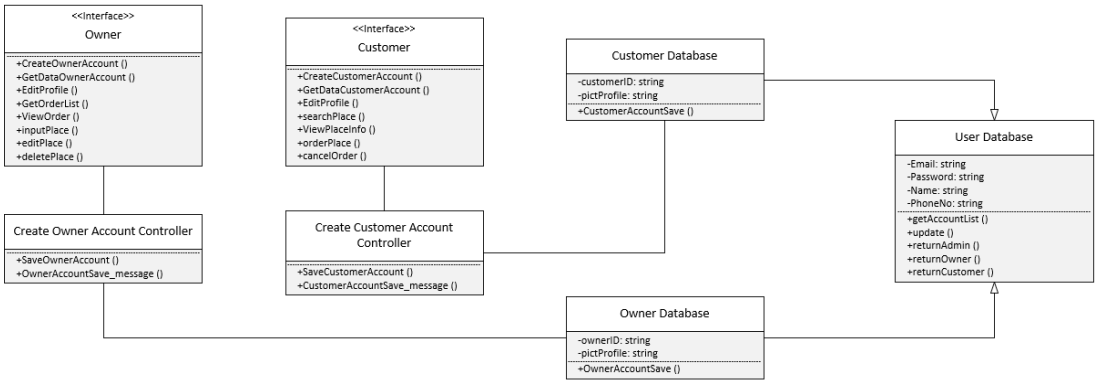
#### 3.1.1.2 Sequence Diagram

*Fig. 2 Create Account Sequence Diagram*




#### 3.1.1.3 Class Diagram

*Fig. 3 Create Account Class Diagram*







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### 3.1.2 Use Case Login

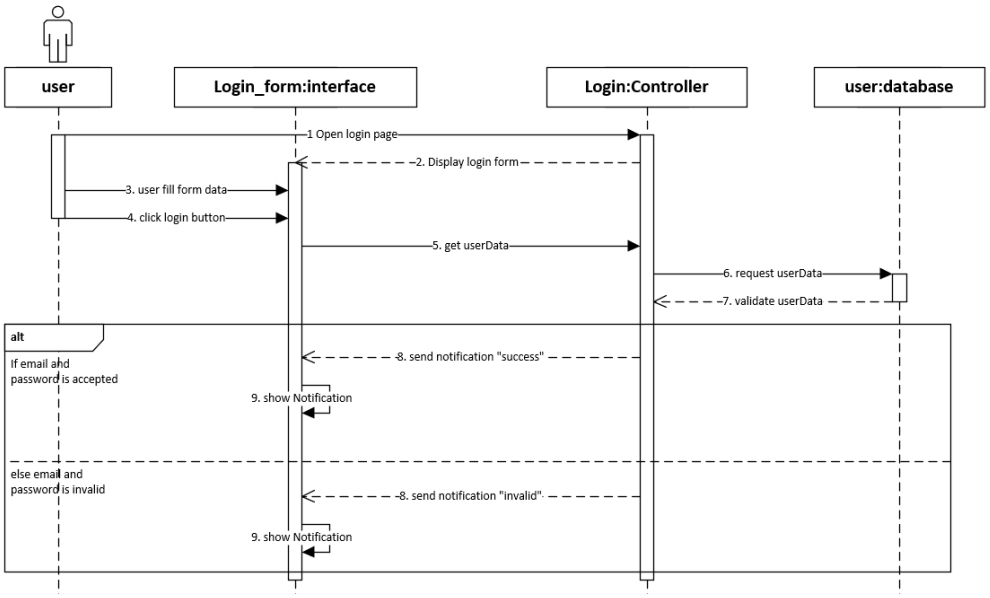
#### 3.1.2.1 Class Identification

*Table 3 Login Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *User* | *Actor* |
| *2.* | *Login_form:interface* | *Interface* |
| *3.* | *Login:controller* | *controller* |
| *4.* | *User:database* | *Database* |

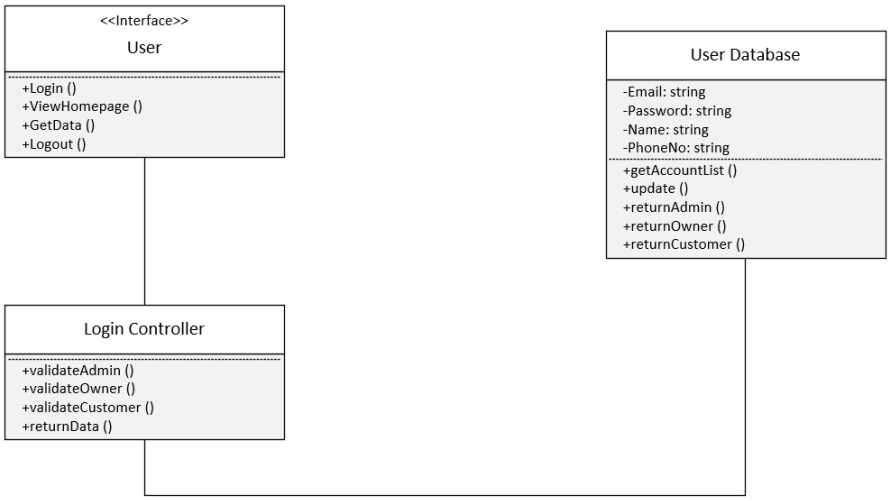
#### 3.1.2.2 Sequence Diagram

*Fig. 4 Login Sequence Diagram*




#### 3.1.2.3 Class Diagram

*Fig. 5 Login Class Diagram*



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### 3.1.3 Use Case Edit Profile

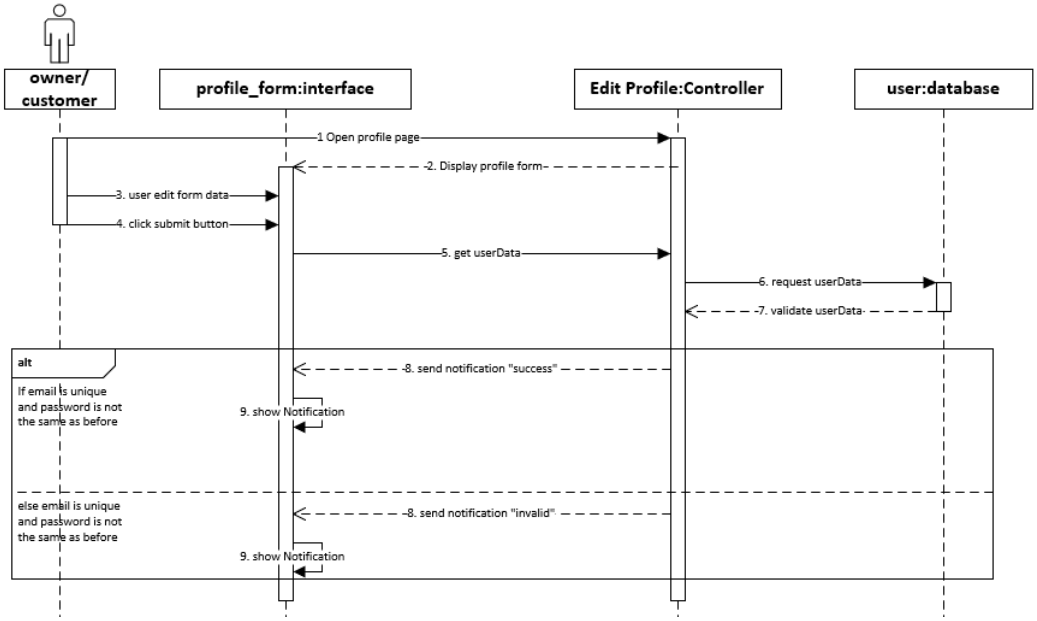
#### 3.1.3.1 Class Identification

*Table 4 Edit Profile Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *Customer* | *Actor* |
| *2.* | *Owner* | *Actor* |
| *3.* | *Profile_form* | *Interface* |
| *4.* | *profile* | *controller* |
| *5.* | *account* | *Database* |

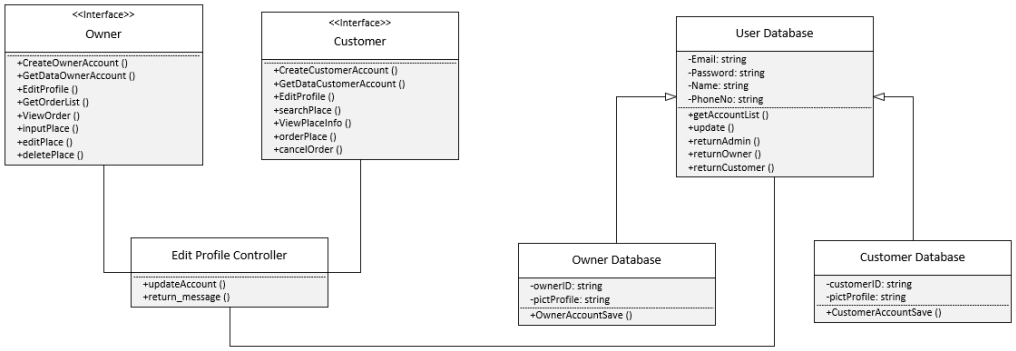
#### 3.1.3.2 Sequence Diagram

*Fig. 6 Edit Profile Sequence Diagram*




#### 3.1.3.3 Class Diagram

*Fig. 7 Edit Profile Class Diagram*



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### 3.1.4 Use Case Search Place

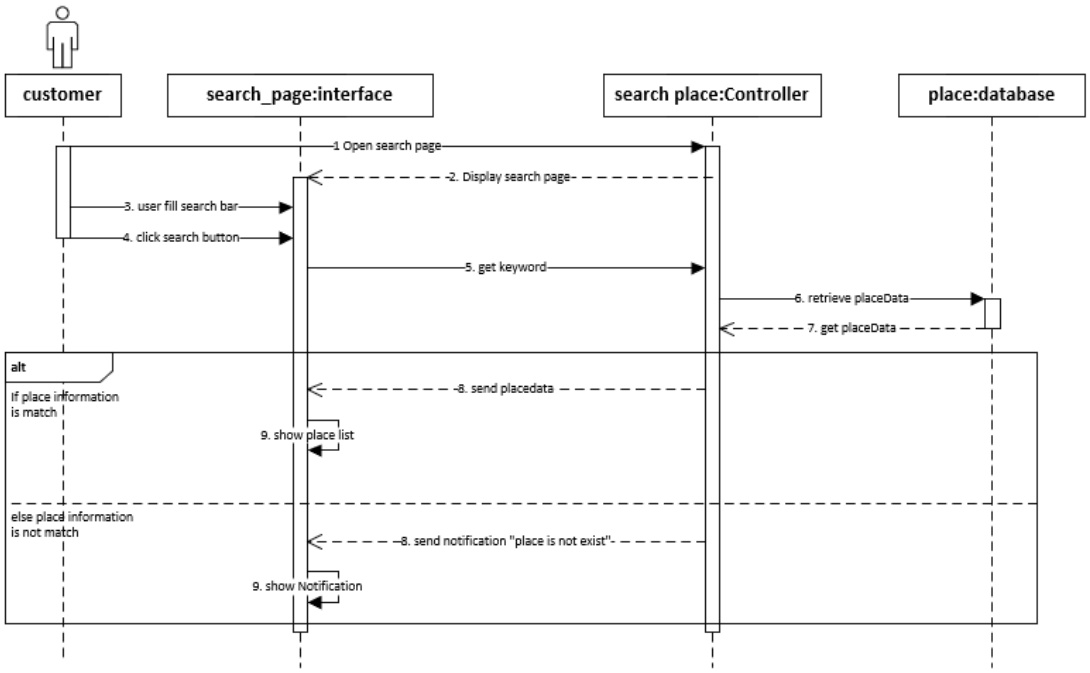
#### 3.1.4.1 Class Identification

*Table 5 Search Place Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *Customer* | *Controller* |
| *2.* | *Search* | *Interface* |
| *3.* | *Place_data* | *Database* |

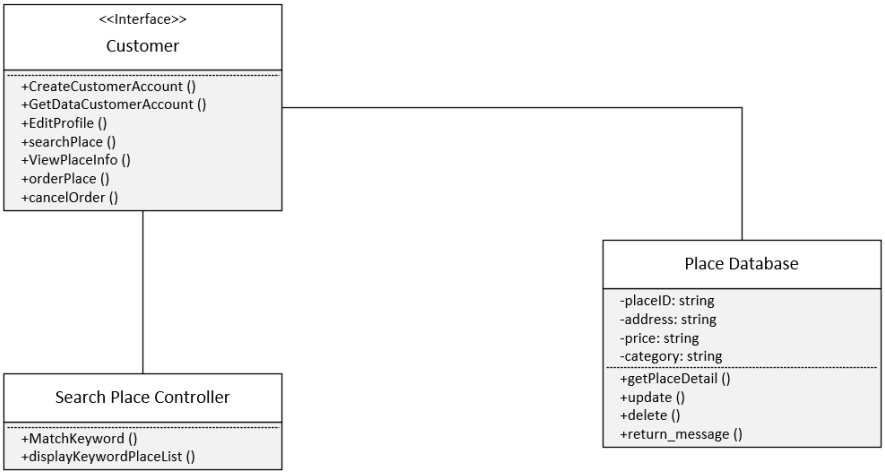
#### 3.1.4.2 Sequence Diagram

*Fig. 8 Search Place Sequence Diagram*




#### 3.1.4.3 Class Diagram

*Fig. 9 Search Place Class Diagram*







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### 3.1.5 Use Case Order Place

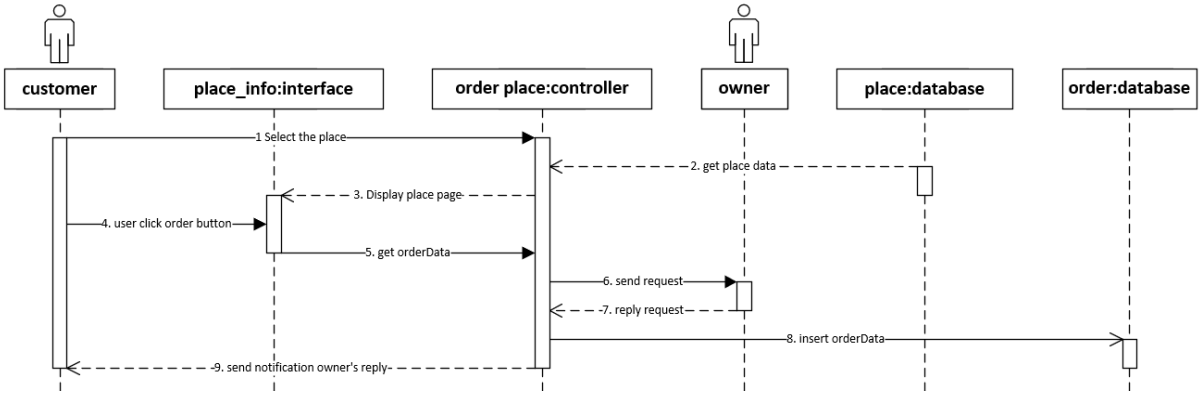
#### 3.1.5.1 Class Identification

*Table 6 Order Place Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *Customer* | *Actor* |
| *2.* | *Owner* | *Actor* |
| *3.* | *Place_info:interface* | *interface* |
| *4.* | *Order:controller* | *controller* |
| *5.* | *Place:database* | *database* |
| *6.* | *Order:database* | *database* |

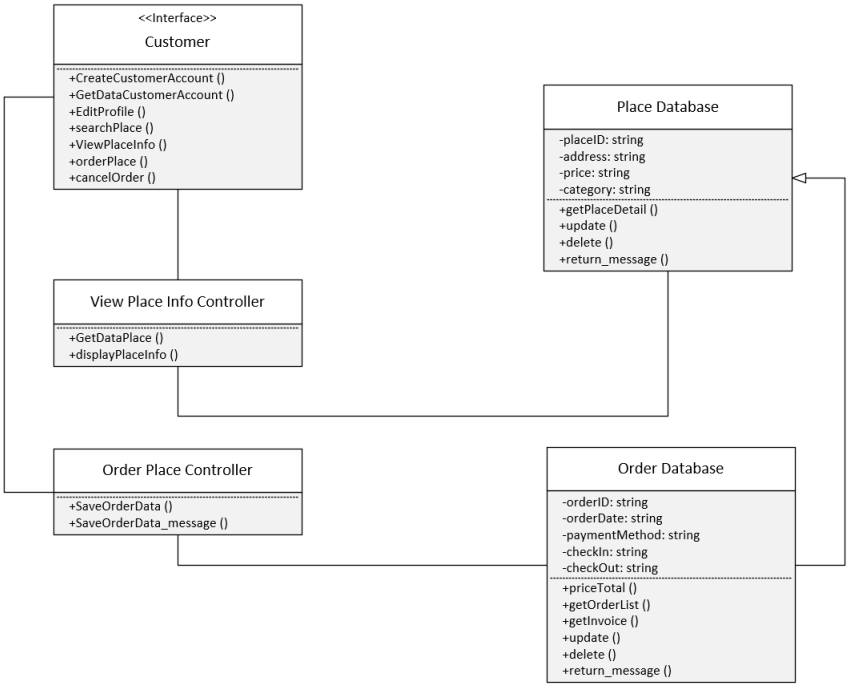
#### 3.1.5.2 Sequence Diagram

*Fig. 10 Order Place Sequence Diagram*




#### 3.1.5.3 Class Diagram

*Fig. 11 Order Place Class Diagram*



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### 3.1.6 Use Case View Order

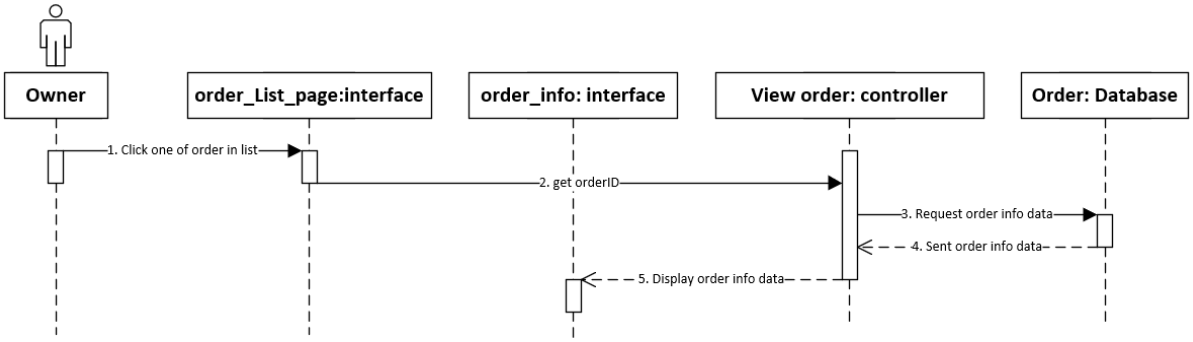
#### 3.1.6.1 Class Identification

*Table 7 View Order Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *Customer* | *Actor* |
| *2.* | *Order_list_page* | *Interface* |
| *3.* | *Order_info* | *interface* |
| *4.* | *View Order: controller* | *Controller* |
| *5.* | *Order* | *Database* |

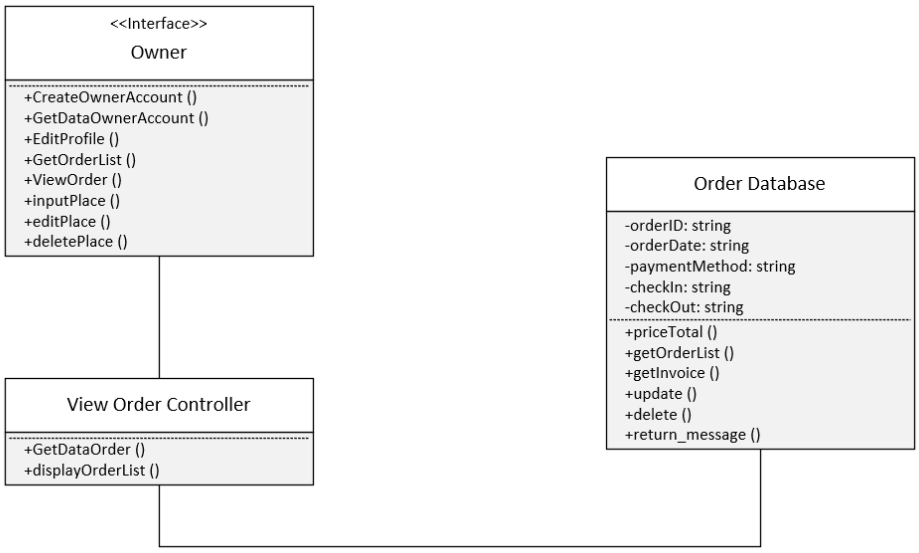
#### 3.1.6.2 Sequence Diagram

*Fig. 12 View Order Sequence Diagram*




#### 3.1.6.3 Class Diagram

*Fig. 13 View Order Class Diagram*







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### 3.1.7 Use Case Cancel Order

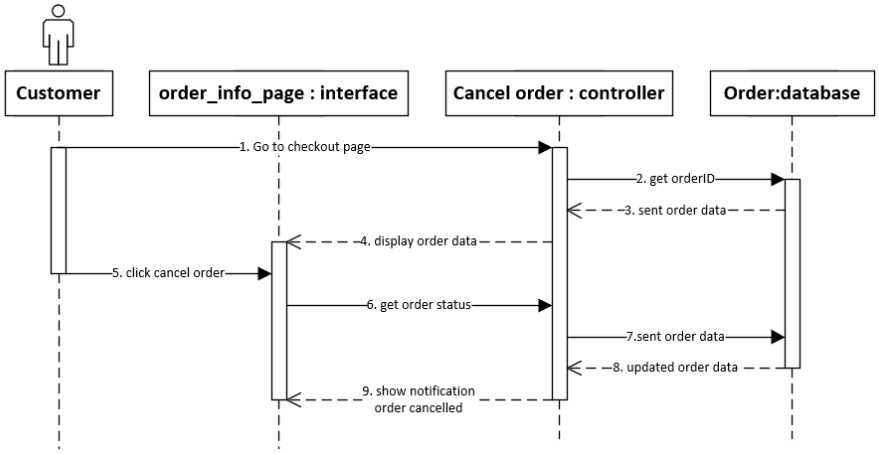
#### 3.1.7.1 Class Identification

*Table 8 Cancel Order Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *Customer* | *Actor* |
| *2.* | *order_info_page* | *Interface* |
| *3.* | *Cancel order : controller* | *Controller* |
| *4.* | *Order* | |

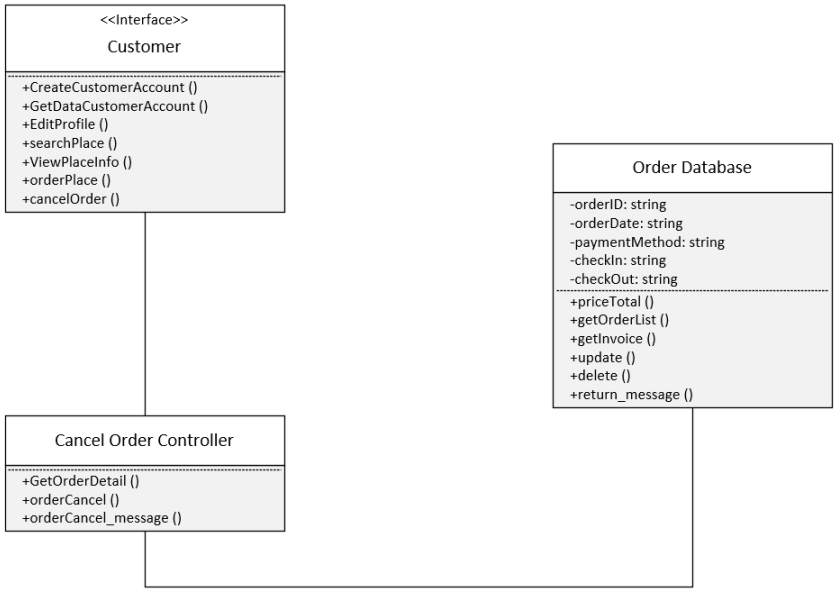
#### 3.1.7.2 Sequence Diagram

*Fig. 14 Cancel Order Sequence Diagram*




#### 3.1.7.3 Class Diagram

*Fig. 15 Cancel Order Class Diagram*







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### 3.1.8 Use Case Payment

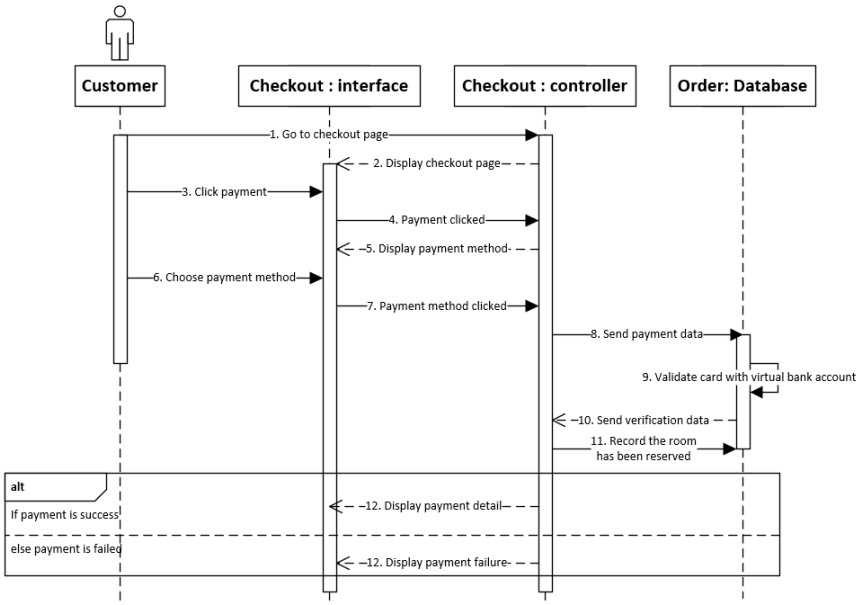
#### 3.1.8.1 Class Identification

*Table 9 Payment Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *Customer* | *Actor* |
| *2.* | *Checkout order* | *Interface* |
| *3.* | *Checkout: controller* | *Controller* |
| *4.* | *Order* | *Database* |

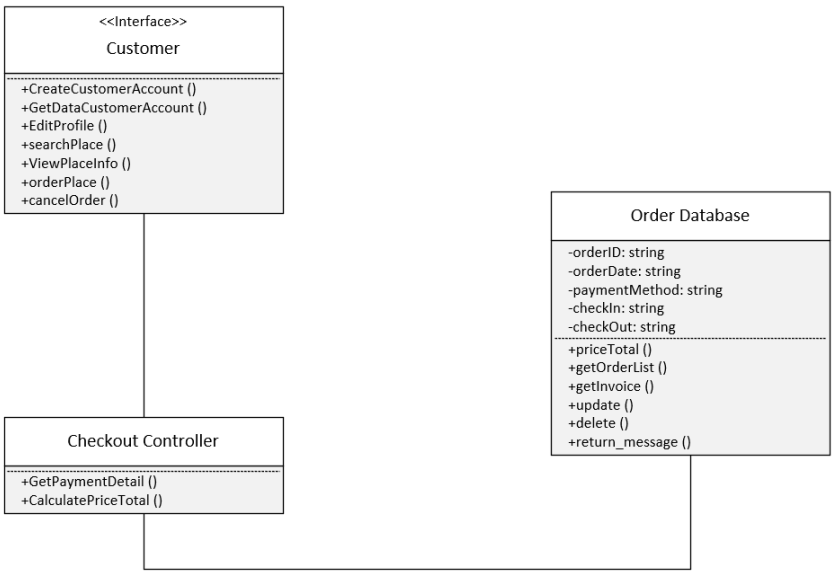
#### 3.1.8.2 Sequence Diagram

*Fig. 16 Payment Sequence Diagram*




#### 3.1.8.3 Class Diagram

*Fig. 17 Payment Class Diagram*



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### 3.1.9 Use Case Input Place

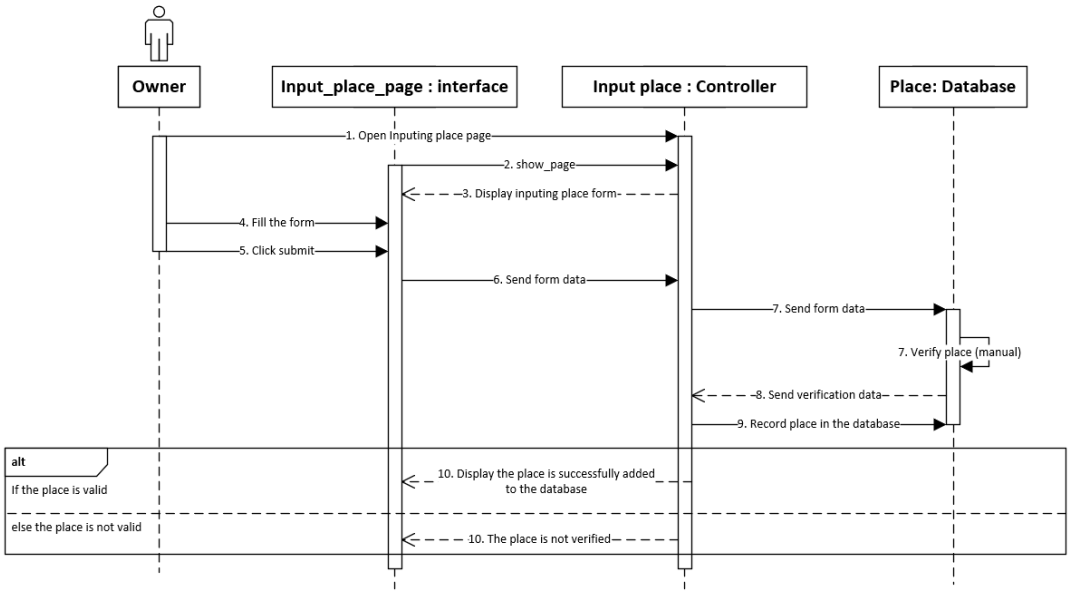
#### 3.1.9.1 Class Identification

*Table 10 Input Place Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *Customer* | *Actor* |
| *2.* | *Input_place_page* | *Interface* |
| *3.* | *Input place: controller* | *Controller* |
| *4.* | *Place* | *Database* |

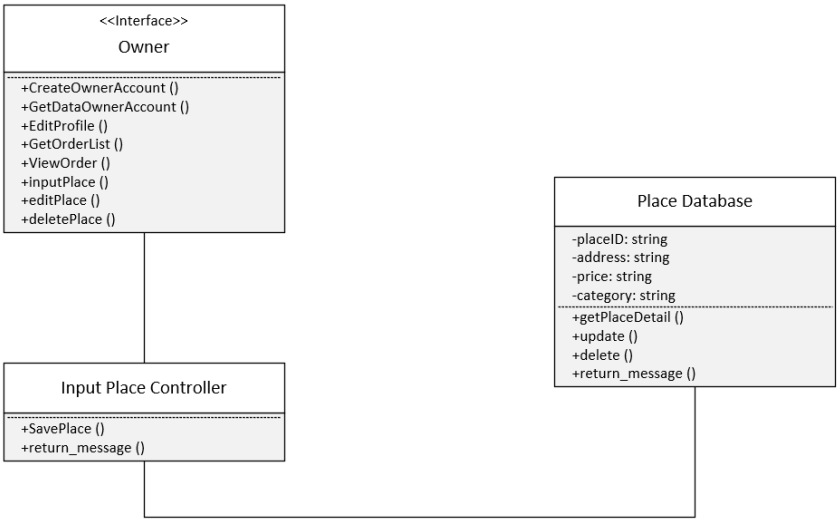
#### 3.1.9.2 Sequence Diagram

*Fig. 18 Input Place Sequence Diagram*




#### 3.1.9.3 Class Diagram

*Fig. 19 Input Place Class Diagram*







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### 3.1.10 Use Case View Product

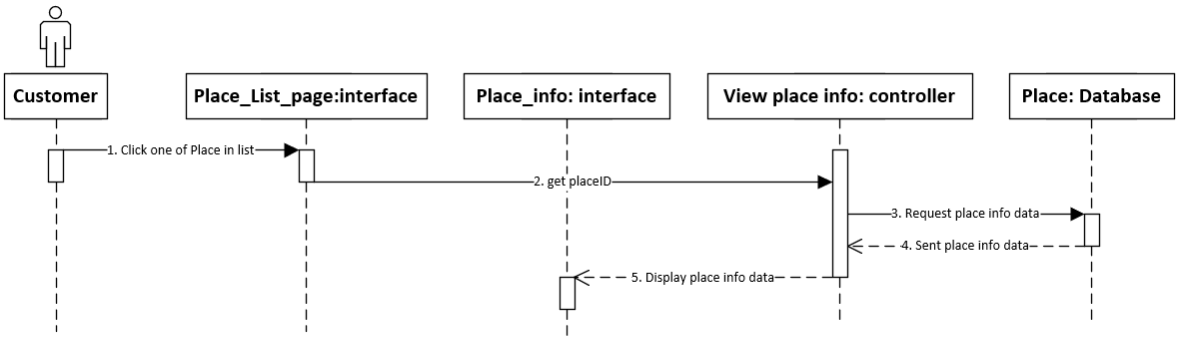
#### 3.1.10.1 Class Identification

*Table 11 View Product Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *Customer* | *Actor* |
| *2.* | *Place_list_page* | *Interface* |
| *3.* | *Place_info* | *Interface* |
| *4.* | *View place info: controller* | *Controller* |
| *5.* | *Place* | *Database* |

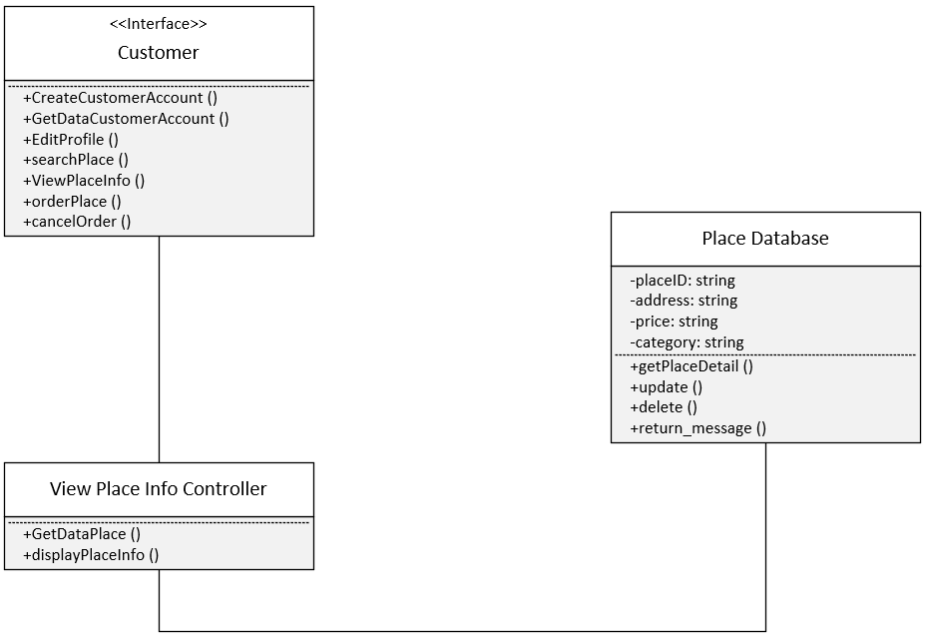
#### 3.1.10.2 Sequence Diagram

*Fig. 20 View Product Sequence Diagram*




#### 3.1.10.3 Class Diagram

*Fig. 21 View Product Class Diagram*







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### 3.1.11 Use Case Edit Place

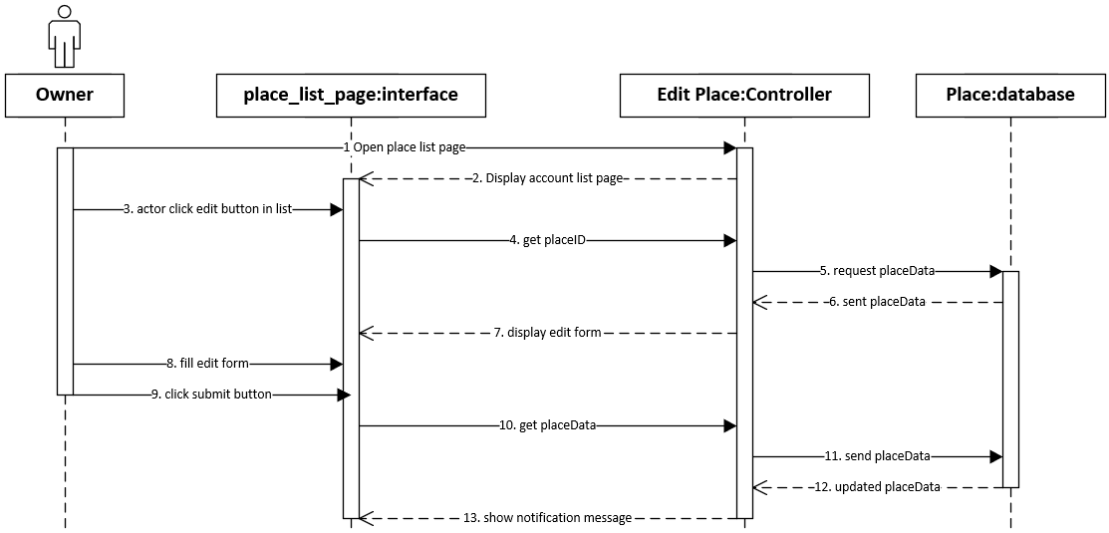
#### 3.1.11.1 Class Identification

*Table 12 Edit Place Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *Owner* | *Actor* |
| *2.* | *Edit Place* | *Interface* |
| *3.* | *Edit place : controller* | *Controller* |

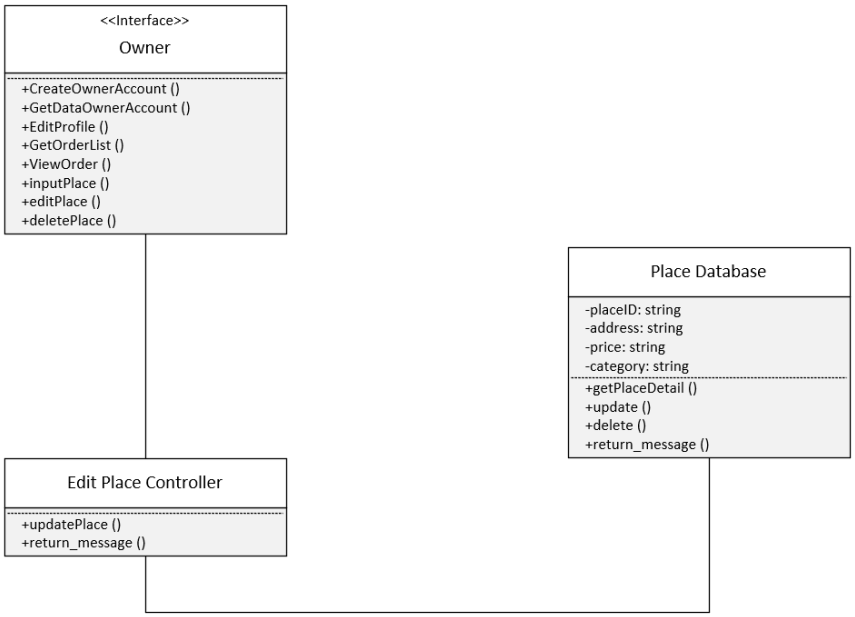
#### 3.1.11.2 Sequence Diagram

*Fig. 22 Edit Place Sequence Diagram*




#### 3.1.11.3 Class Diagram

*Fig. 23 Edit Place Class Diagram*







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### 3.1.12 Use Case Delete Place

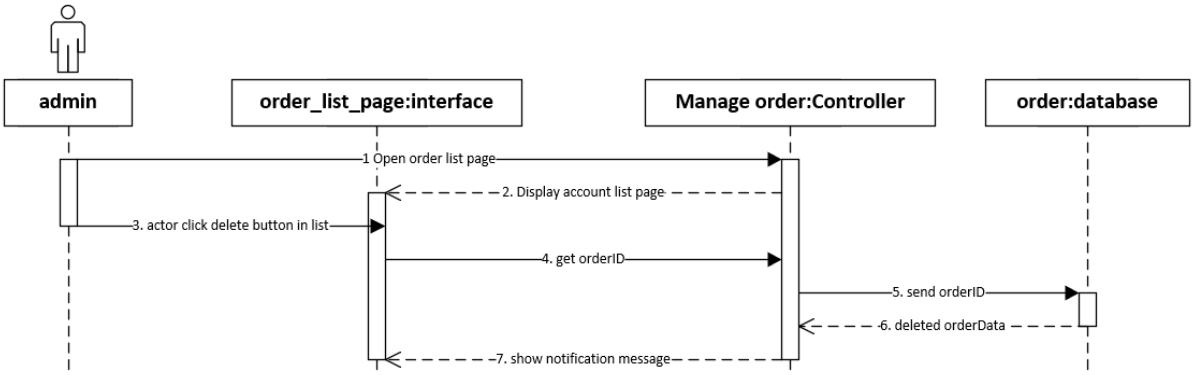
#### 3.1.12.1 Class Identification

*Table 13 Delete Place Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *Owner* | *Actor* |
| *2.* | *Delete place* | *Interface* |
| *3.* | *Delete place* | *Controller* |

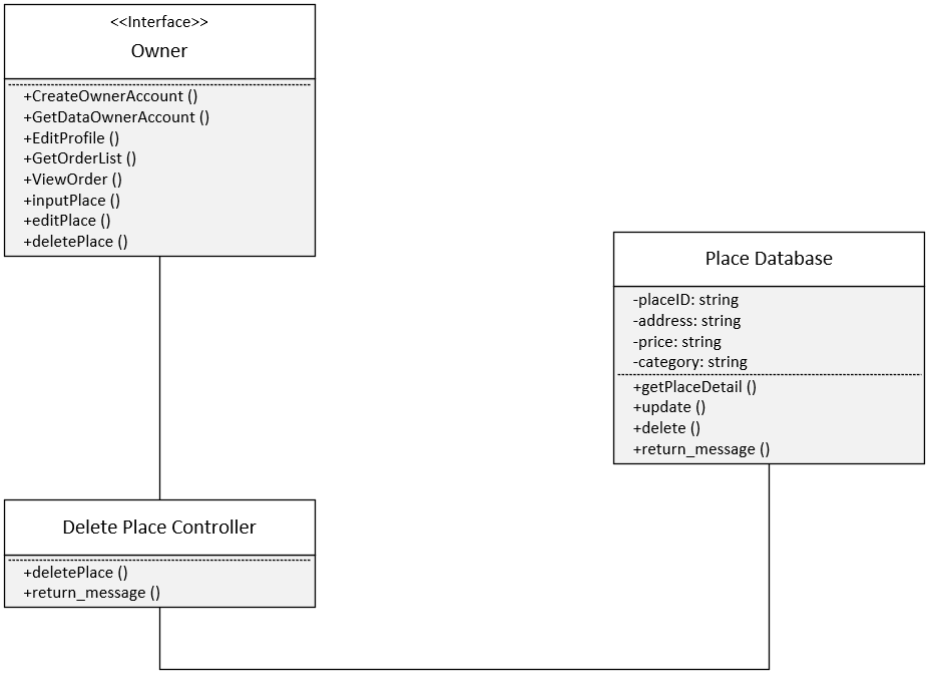
#### 3.1.12.2 Sequence Diagram

*Fig. 24 Delete Place Sequence Diagram*




#### 3.1.12.3 Class Diagram

*Fig. 25 Delete Place Class Diagram*







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### 3.1.13 Use Case Manage Account

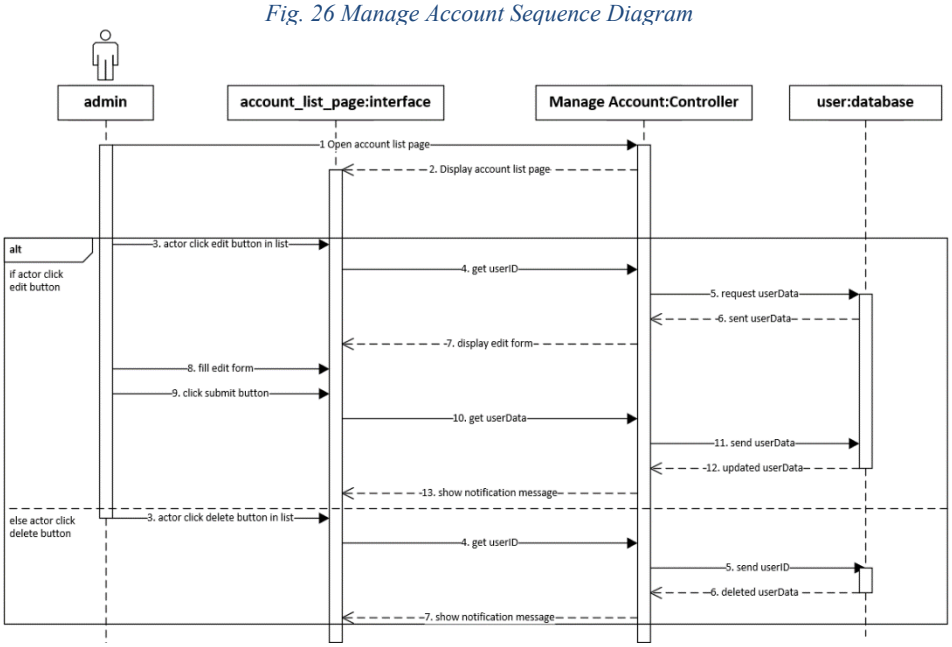
#### 3.1.13.1 Class Identification

*Table 14 Manage Account Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *Admin* | *Actor* |
| *2.* | *Account_list_page:interface* | *Interface* |
| *3.* | *Manage Account:controller* | *Controller* |
| *4.* | *User:database* | *database* |

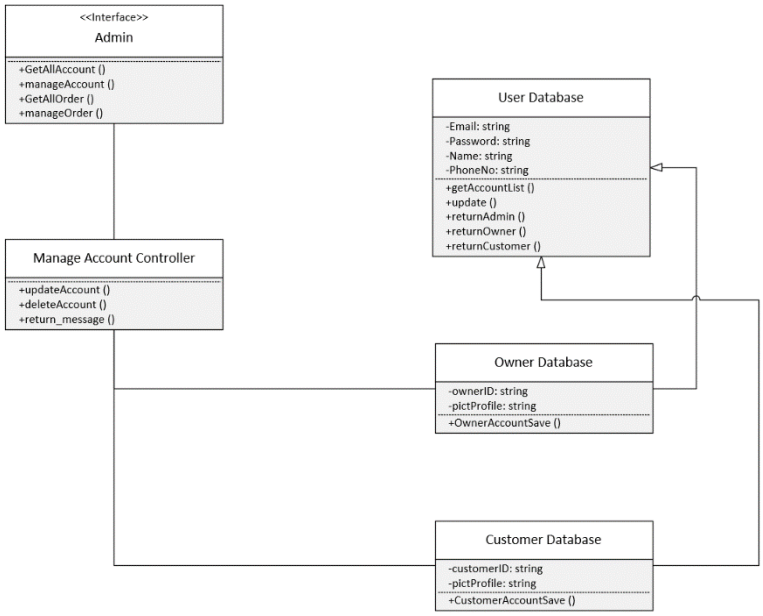
#### 3.1.13.2 Sequence Diagram

*Fig. 26 Manage Account Sequence Diagram*




#### 3.1.13.3 Class Diagram

*Fig. 27 Manage Account Class Diagram*



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### 3.1.14 Use Case Manage Order

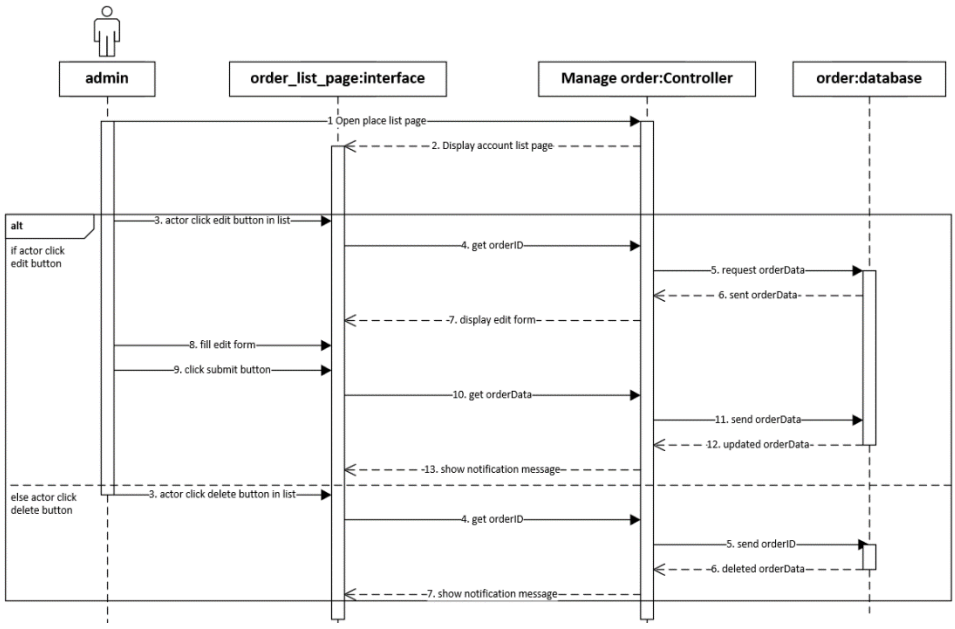
#### 3.1.14.1 Class Identification

*Table 15 Manage Order Class Identification*

| *No* | *Design Class Name* | *Class Type* |
|---|---|---|
| *1.* | *Admin* | *Actor* |
| *2.* | *Account_list_page:interface* | *Interface* |
| *3.* | *Manage Account:controller* | *Controller* |
| *4.* | *User:database* | *database* |

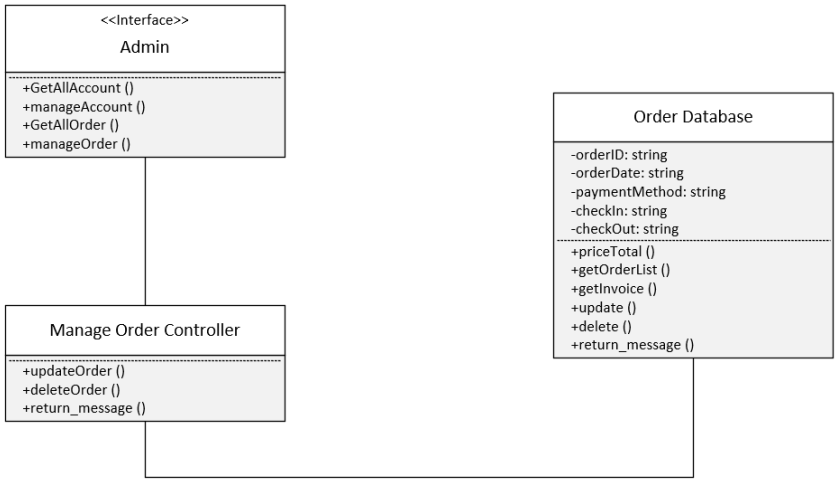
#### 3.1.14.2 Sequence Diagram

*Fig. 28 Manage Order Sequence Diagram*




#### 3.1.14.3 Class Diagram

*Fig. 29 Manage Order Class Diagram*







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## 3.2 Design Class Detail

*Table 16. Design Class Detail*

| No | Design Class Name | Related Analysis Class Name |
|---|---|---|
| 1 | Owner | Owner |
| 2 | Customer | Customer |
| 3 | Admin | Admin |
| 4 | User | User |
| 5 | Owner Database | Database |
| 6 | Customer Database | Database |
| 7 | Admin Database | Database |
| 8 | User Database | Database |
| 9 | Place Database | Database |
| 10 | Order Database | Database |
| 11 | Login Controller | Controller |
| 12 | Create Owner Account Controller | Controller |
| 13 | Create Customer Account Controller | Controller |
| 14 | View Homepage Controller | Controller |
| 15 | Logout Controller | Controller |
| 16 | Input Place Controller | Controller |
| 17 | Edit Place Controller | Controller |
| 18 | Delete Place Controller | Controller |
| 19 | View Place Info Controller | Controller |
| 20 | View Order Controller | Controller |
| 21 | Edit Profile Controller | Controller |
| 22 | Search Place Controller | Controller |
| 23 | Order Place Controller | Controller |
| 24 | Cancel Order Controller | Controller |
| 25 | Payment Controller | Controller |
| 26 | Manage Account Controller | Controller |
| 27 | Manage Order Controller | Controller |

### 3.2.1 Owner Class

*Table 17. Owner Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *CreateOwnerAccount()* | *public* | *Create a new account for the owner and store it into the database* |
| *GetDataOwnerAccount()* | *public* | *Get owner account data from the database* |
| *EditProfile()* | *public* | *Change a profile of the account in the database* |
| *GetOrderList()* | *public* | *Get list of order that the owner gets from the database* |
| *ViewOrder()* | *public* | *View the order from the database* |
| *InputPlace()* | *public* | *Input place to be rented from the owner and store it into the database* |
| *EditPLace()* | *public* | *Change a profile of the place in the database* |
| *DeletePlace()* | *public* | *Delete a place from the database* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |



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### 3.2.2 Customer Class

*Table 18. Customer Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *CreateCustomerAccount()* | *public* | *Create a new account for the customer and store it into the database* |
| *GetDataCustomerAccount()* | *public* | *Get customer account data from the database* |
| *EditProfile()* | *public* | *Change a profile of the account in the database* |
| *SearchPLace()* | *public* | *Search place to be rented from the database* |
| *ViewPlaceInfo()* | *public* | *View the info of the place from the database* |
| *OrderPlace()* | *public* | *Order a place and update the place to be reserved in the database* |
| *CancelOrder()* | *public* | *Cancel an order* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.3 Admin Class

*Table 19. Admin Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *GetAllAccount()* | *public* | *Get all the stored account from the database* |
| *ManageAccount()* | *public* | *Manage all the stored account from the database* |
| *GetAllOrder()* | *public* | *Get all the order that is made from the database* |
| *ManageOrder()* | *public* | *Manage all the order from the database* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.4 User Class

*Table 20. User Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *Login()* | *public* | *Login into an account* |
| *ViewHomepage()* | *public* | *View a homepage interface* |
| *GetData()* | *public* | *Get data from the database* |
| *Logout()* | *public* | *Logout from the account* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |


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### 3.2.5 Owner Database Class

*Table 21. Owner Database Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *OwnerAccountSave()* | *public* | *Save an owner account into the database* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| *OwnerID* | *private* | *String* |
| *PictProfile* | *private* | *String* |

### 3.2.6 Customer Database Class

*Table 22. Customer Database Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *CustomerAccountSave()* | *public* | *Save a customer account into the database* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| *CustomerID* | *private* | *String* |
| *PictProfile* | *private* | *String* |

### 3.2.7 Admin Database Class

*Table 23. Admin Database Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| | | |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| *AdminID* | *private* | *String* |

### 3.2.8 User Database Class

*Table 24. User Database Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *GetAccountList()* | *public* | *Get list of account in the database* |
| *Update()* | *public* | *Update the data in the database* |
| *ReturnAdmin()* | *public* | *Return the admin data* |
| *ReturnCustomer()* | *public* | *Return the customer data* |
| *ReturnOwner()* | *public* | *Return the owner data* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| *Email* | *private* | *String* |
| *Password* | *private* | *String* |
| *Name* | *private* | *String* |
| *PhoneNo* | *private* | *String* |

### 3.2.9 Place Database Class

*Table 25. Place Database Class Operation Detail*

| ***Operation Name*** | ***Visibility*** | ***Description*** |
|---|---|---|



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| | (private, public) | |
|---|---|---|
| *GetPlaceDetail()* | *public* | *Get the detail of the place in the database* |
| *Update()* | *public* | *Update the data of the place in the database* |
| *Delete()* | *public* | *Delete the data of the place in the database* |
| *Return Message()* | *public* | *Return a message* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| *PlaceID* | *private* | *String* |
| *Address* | *private* | *String* |
| *Price* | *private* | *String* |
| *Category* | *private* | *String* |

### 3.2.10 Order Database Class

*Table 26. Order Database Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *PriceTotal()* | *public* | *Get the total price of the order in the database* |
| *GetOrderList()* | *public* | *Get the order list in the database* |
| *GetInvoice()* | *public* | *Get invoice of the order* |
| *Update()* | *public* | *Update the data of order in the database* |
| *Delete()* | *public* | *Delete the data of the order* |
| *Return Message* | *public* | *Return a message* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| *OrderID* | *private* | *String* |
| *OrderDate* | *private* | *String* |
| *PaymentMethod* | *private* | *String* |
| *CheckIn* | *private* | *String* |
| *CheckOut* | *private* | *String* |

### 3.2.11 Login Controller Class

*Table 27. Login Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *ValidateAdmin* | *public* | *Validate the admin account from the database* |
| *ValidateOwner* | *public* | *Validate the owner account from the database* |
| *ValidateCustomer* | *public* | *Validate the owner account from the database* |
| *ReturnData* | *public* | *Return the data from the database* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.12 Create Owner Account Controller Class

*Table 28. Create Owner Account Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility*** | ***Description*** |
|---|---|---|


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| | | |
|---|---|---|
| | ***(private, public)*** | |
| *SaveCustomerAccount()* | *public* | *Save owner account into the database* |
| *CustomerAccountSave_Message()* | *public* | *Return a message of the saved account* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.13 Create Customer Account Controller Class

*Table 29. Create Customer Account Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *SaveOwnerAccount()* | *public* | *Save customerCccount into the database* |
| *OwnerAccountSave_Message()* | *public* | *Return a message of the saved account* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.14 View Homepage Controller Class

*Table 30. View Homepage Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *ViewHomepageDetail()* | *public* | *View the detail of the homepage* |
| *DisplayHomepage()* | *public* | *Display the homepage interface* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.15 Logout Controller Class

*Table 31. Logout Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *Logout_Message* | *public* | *Return a message of a logged out account* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.16 Input Place Controller Class

*Table 32. Input Place Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *SavePlace()* | *public* | *Save a place that is inputted into the database* |
| *Return_Message* | *public* | *Return a message* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |


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### 3.2.17 Edit Place Controller Class

*Table 33. Edit Place Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *UpdatePlace()* | *public* | *Update the place info into the database* |
| *Return Message* | *public* | *Return a message* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.18 Delete Place Controller Class

*Table 34. Delete Place Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *DeletePlace()* | *public* | *Delete a place from the database* |
| *Return Message* | *public* | *Return a message* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.19 View Place Info Controller Class

*Table 35. View Place Info Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *GetDataPlace()* | *public* | *Get the data of the place from the database* |
| *DisplayHomepage()* | *public* | *Display the homepage of the place info* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.20 View Order Controller Class

*Table 36. View Order Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *GetDataOrder()* | *public* | *Get the order data from the database* |
| *DisplayOrderList()* | *public* | *Display the order data from the database into the list* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.21 Edit Profile Controller Class

*Table 37. Edit Profile Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *UpdateAccount()* | *public* | *Update the account into the database* |



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| | | |
|---|---|---|
| *Return_Message* | *public* | *Return a message* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.22 Search Place Controller Class

*Table 38. Search Place Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *GetDataPlace()* | *public* | *Get the place data from the database* |
| *DisplayHomepage()* | *public* | *Display the homepage containing the place of search* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.23 Order Place Controller Class

*Table 39. Order Place Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *GetDataPlace()* | *public* | *Get the place data from the database* |
| *DisplayHomepage()* | *public* | *Display the homepage of the order* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.24 Cancel Order Controller Class

*Table 40. Cancel Order Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *GetOrderDetail()* | *public* | *Get the order detail from the database* |
| *OrderCancel()* | *public* | *Cancel an order* |
| *OrderCancel_Message()* | *public* | *Return a message of a cancelled order* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.25 Payment Controller Class

*Table 41. Payment Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *GetPaymentDetail()* | *public* | *Get the detail of payment from the order* |
| *CalculatePriceTotal()* | *public* | *Calculate the total price of the order* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |



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### 3.2.26 Manage Account Controller Class

*Table 42. Manage Account Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *UpdateAccount()* | *public* | *Update an account data into the database* |
| *DeleteAccount()* | *public* | *Delete an account data from the database* |
| *Return Message()* | *public* | *Return a message* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |

### 3.2.27 Manage Order Controller Class

*Table 43. Manage Order Controller Class Operation Detail*

| ***Operation Name*** | ***Visibility (private, public)*** | ***Description*** |
|---|---|---|
| *UpdateOrder()* | *public* | *Update the order from the database* |
| *DeleteOrder()* | *public* | *Delete an order from the database* |
| *Return Message* | *public* | *Return a message* |
| ***Attribute Name*** | ***Visibility (private, public)*** | ***Type*** |
| | | |



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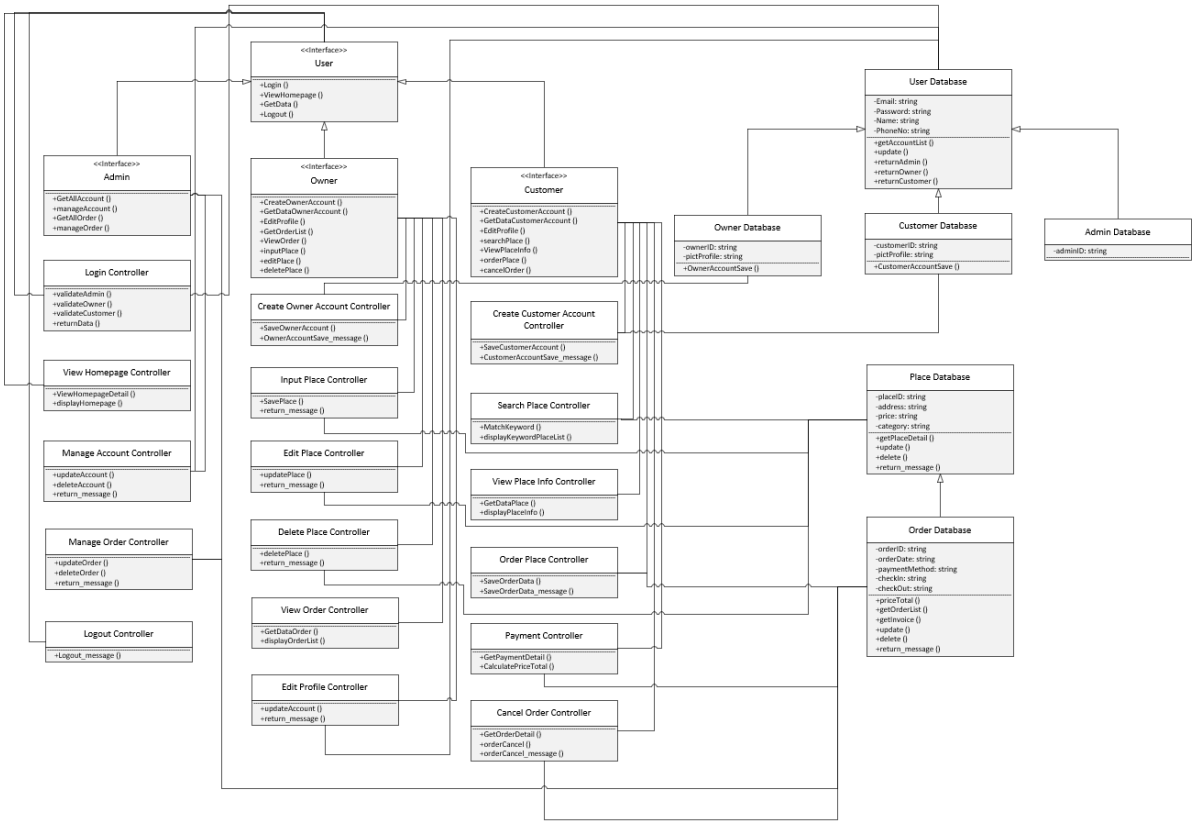
## 3.3 Overall Class Diagram

*Fig. 30 Overall Class Diagram*




## 3.4 Algorithm/Query

### A. Algorithm for Class Admin, Customer, Owner

*Class Name : Owner, Customer, Admin*
*Operation : Login*
*Algotrithm : (Algo-001)*

```
Email = input
Password = input
If (Select * from Admin where email=Email and password=Password) then
begin
Session = login_admin
Show AdminHomepage
end
Else if(Select * from Owner where  email=Email and password=Password)
then
begin
Session = login_Owner
Show OwnerHomepage
end
Else if(Select * from Customer where  email=Email and password=Password) then
begin
Session = login_Customer
Show CustomerHomepage
end
Else
Output("email or password doesn't match/doesn't exist")
End if
```

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*Query :*

*Table 44. Query for Class Admin, Customer, and Owner*

| *No Query* | *Query* | *Explanation* |
|---|---|---|
| *Q-001* | *Select * from Admin where email=Email and password=Password* | *Finding email and password from user's input in table Admin* |
| *Q-002* | *Select * from Owner where email=Email and password=Password* | *Finding email and password from User input in table Owner* |
| *Q-003* | *Select * from Customer where email=Email and password=Password* | *Finding email and password from user's input in table Customer* |

## B. Algorithm for Class Owner

*Class Name : Owner, input place*
*Operation Name : Input data place*
*Algorithm : (Algo-003)*

***Input place***
*id, name, size, date, price, category*
*idinp= input*
*nameinp: input*
*Sizeinp: input*
*addressinp: input*
*priceinp: inputt*
*insert into Place values(id, name, size, address, price);*

*Query :*

*Table 45. Query for Class Owner*

| *No Query* | *Query* | *Description* |
|---|---|---|
| *Q-004* | *insert into Place values(placeId, placeName, size, address, category, price);* | *Input the data into table Place in database* |

## C. Algorithm for Class Owner

*Class Name : Owner, input, edit, delete, place*
*Operation Name : Input data place, edit data place, delete place*
*Algorithm : (Algo-004)*

**Edit data place**
idinp= input
if (Select * from Place where id = idinp) then
idinp= input
nameinp: input
Sizeinp: input
addressinp: input
priceinp: input
update Place set name=nameinp, size=sizeinp, address=addressinp, price=priceinp where id=idinp;

**Delete place**
idInp = input
Delete *from Place where id=idInp;

*Query :*

*Table 46. Query for Class Owner*

| *No Query* | *Query* | *Description* |
|---|---|---|



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| | | |
|---|---|---|
| *Q-005* | *Select * from Place where id = idinp* | *Checking if the place exist in the place database.* |
| *Q-006* | *update place set placeName=placeNameInp, size=sizeInp, address=addressInp, price=priceInp, date=dateInp where id=idInp;* | *Change the value of the data in Product Table based on the input* |
| *Q-007* | *delete from place where id=idInp;* | *Delete data in Product Table based on the input* |

## D. Algorithm for Class Customer

*Class Name : Customer, Search, Order place*
*Operation Name : Input place, edit place, delete place*
*Algorithm : (Algo-004)*

***Search place***
*keyword = input*
*If(Select * From Place Where name like '%$keyword' OR address like %keyword% OR category= categoryinp)*
*then*
*Select * From Place Where name like '%$keyword' OR address like %keyword% OR category= categoryinp*
*Else*
*Output"Place not found"*

***View Place***
*idInp = input*
*select * from Place where placeId=idInp*

***Order Place***
*orderId, orderDate, checkIn, checkOut, paymentMethod, status*
*orderId=input*
*orderDate=input*
*checkIn=input*
*checkOut=input*
*paymentMethod=input*
*insert into Order values(orderId, orderDate, checkIn, checkOut, paymentMethod);*

*Cancel Order*
*idinp= input*
*if (Select * from Order where orderId = orderIdinp)*
*then*
*orderIdinp=input*
*status=input*
*update Order set status where orderId = ordeIdinp*

*Query :*
*Table 47. Query for Class Customer*

| *No Query* | *Query* | *Description* |
|---|---|---|
| *Q-008* | *Select * From Place Where name like '%$keyword' OR address like %keyword% OR category= categoryinp* | *Display the Place data that match the keyword or category from table Place in database* |
| *Q-009* | *select * from Place where* | *Display the Place that match with* |



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| | | |
|---|---|---|
| | *placeId=idInp* | *orderID from Order place in database* |
| *Q-010* | *insert into Order values(orderId, orderDate, checkIn, checkOut, paymentMethod)* | *Input the Order data into table Order in database* |
| *Q-011* | *update Order set status where orderId = ordeIdinp* | *Update Order data into table Order in database* |

### E. Algorithm for Class Admin

*Class Name : Customer, Search, Order place Operation*
*Name : Display account, Order List*
*Algorithm : (Algo-005***)**

***Update account***
*if (Select * from Customer where Customer_id = Customer_id != null) then*
*Customer_nameinp: input*
*Emailinp: input*
*Phoneinp: input*
*Usernameinp: input*
*Passwordinp: input*
*Addressinp: input*
*update Customer set e Customer_name=Customer_nameinp, Email=Emailinp, Phone=Phoneinp, Username=Usernameinp, Password=Passwordinp, Adress = Adressinp where Customer_id=Customet_idinp;*
*Else if(Select * from Owner where Owner_id = Owner_id != null)then*
*Owner_nameinp: input*
*Emailinp: input*
*Phoneinp: input*
*Usernameinp: input*
*Passwordinp: input*
*Addressinp: input*
*update Owner set e Owner_name=Owner_nameinp, Email=Emailinp, Phone=Phoneinp, Username=Usernameinp, Password=Passwordinp, Adress = Adressinp where Owner_id=Owner_idinp;*
*End.*

***Delete account***
*Idinp=input*
*if (Select * from Customer where Customer_id = idinp !=null)then*
*Delete *from Customer where Customer_id=Customer_idinp;*
*Else if(Select * from Owner where Owner_id = idinp != null)then*
*Delete *from Owner where Owner_id=Owner_ididinp;*
*End.*

*Query :*
*Table 48. Query for Class Admin*

| *No Query* | *Query* | *Description* |
|---|---|---|


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| | | |
|---|---|---|
| *Q-012* | *Select * from Customer where Customer_id = Customer_id != null* | *Find the account of the customer in the Customer table base on the customer_id.* |
| *Q-013* | *update Customer set e Customer_name=Customer_name inp, Email=Emailinp, Phone=Phoneinp, Username=Usernameinp, Password=Passwordinp, Adress = Adressinp where Customer_id=Customet_idinp;* | *Change the value of the data in Customer Table based on the input.* |
| *Q-013* | *Select * from Owner where Owner_id = Owner_id != null* | *Find the account of the Owener in theOwner table base on the customer_id.* |
| *Q-014* | *update Owner set e Owner_name=Owner_nameinp, Email=Emailinp, Phone=Phoneinp, Username=Usernameinp, Password=Passwordinp, Adress = Adressinp where Owner_id=Owner_idinp; End.* | *Change the value of the data in Owner Table based on the input.* |
| *Q-015* | *Delete *from Customer where Customer_id=Customer_idinp;* | *Delete the data form Customer table base on the input* |
| *Q-016* | *Delete *from Owner where Owner_id=Owner_ididinp;* | *Delete the data from Owner base on the input.* |


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## 3.5 Design

### A. Interface: Homepage

*Fig. 31 Homepage Interface Design*

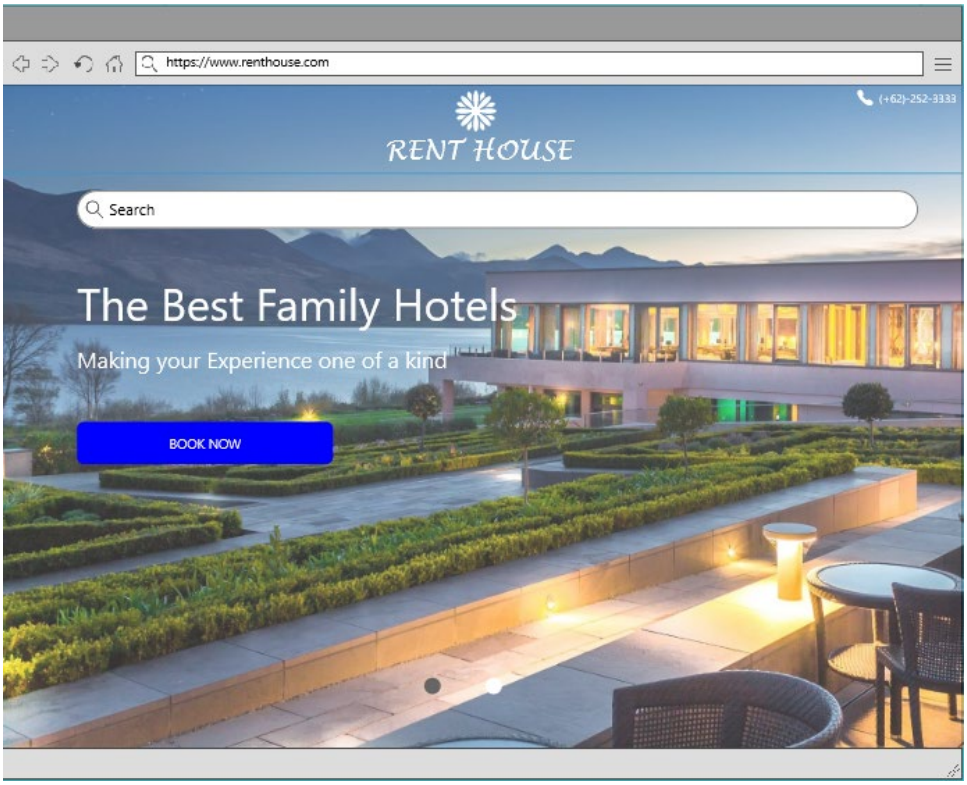


*Table 49 Homepage Navigation*

| Object_id | Type | Name | Description |
|---|---|---|---|
| *BTN9* | *Button* | *Book Now* | *If clicked, it will go to the search place interface* |
| *TXS13* | *Text Input* | *Search* | *Fill the text with keywords* |



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## B. Interface: Registration Page

*Fig. 32 Registration Page Interface Design*

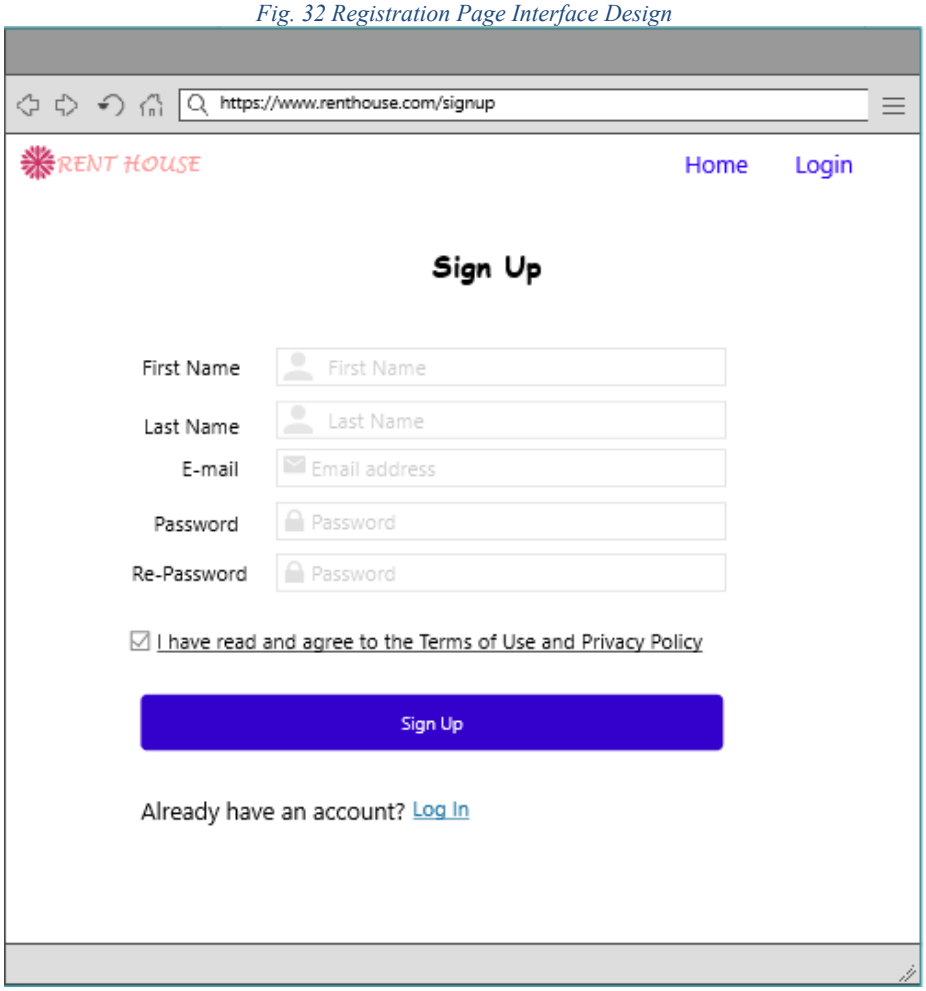


*Table 50 Registration Page Navigation*

| Object_id | Type | Name | Description |
|---|---|---|---|
| *TXS1* | *Text Input* | *First Name* | *Fill the text box with user first name* |
| *TXS2* | *Text Input* | *Last Name* | *Fill the text box with user last name* |
| *TXS3* | *Text Input* | *E-mail* | *Fill the text box with user email* |
| *TXS4* | *Text Input* | *Password* | *Fill the text box with user's password* |
| *TXS4* | *Text Input* | *Re-Password* | *Fill the text box with user's password* |
| *UPL1* | *Button* | *Choose File* | *If clicked, user can choose file he wants to upload* |
| *NAV1* | *Button* | *Home* | *If clicked, it will go to homepage.* |
| *NAV2* | *Button* | *Login* | *If clicked, it will go to login page* |
| *TXS7* | *Button* | *Sign up* | *If clicked and the data entered is valid, it will go to homepage after login based on the role. If not valid, it will go back to login page.ccount* |
| *TXF1* | *Text Field* | *Login* | *If clicked, it will go to login page.* |



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## C. Interface: Login Page

*Fig. 33 Login Page Interface Design*

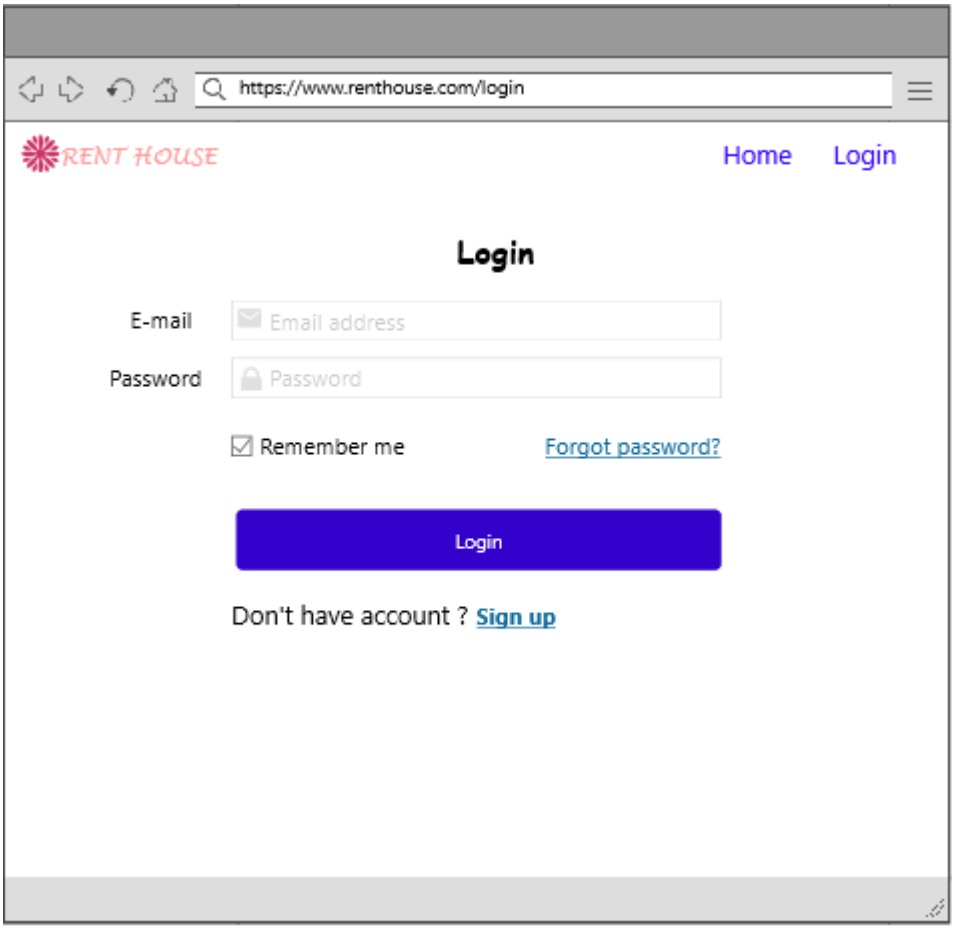


*Table 51 Login Page Navigation*

| Object_id | Type | Name | Description |
|---|---|---|---|
| *TXS3* | *Text Input* | *E-mail* | *Fill the text box with user's email* |
| *TXS4* | *Text Input* | *Password* | *Fill the text box with user's password* |
| *BTN3* | *Button* | *Login* | *If clicked and the data entered is valid, it will go to homepage after login based on the role. If not valid, it will go back to login page.* |
| *NAV1* | *Button* | *Home* | *If clicked, it will go to homepage.* |
| *NAV2* | *Button* | *Login* | *If clicked, it will go to login page.* |
| *TXS6* | *Button* | *Forgot Password* | *If clicked, it will go to forgot password page.* |
| *TXF2* | *Text Field* | *Sign up* | *If clicked, it will go to registration page.* |


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## D. Interface: Input Place Page

*Fig. 34 Input place Page Interface Design*

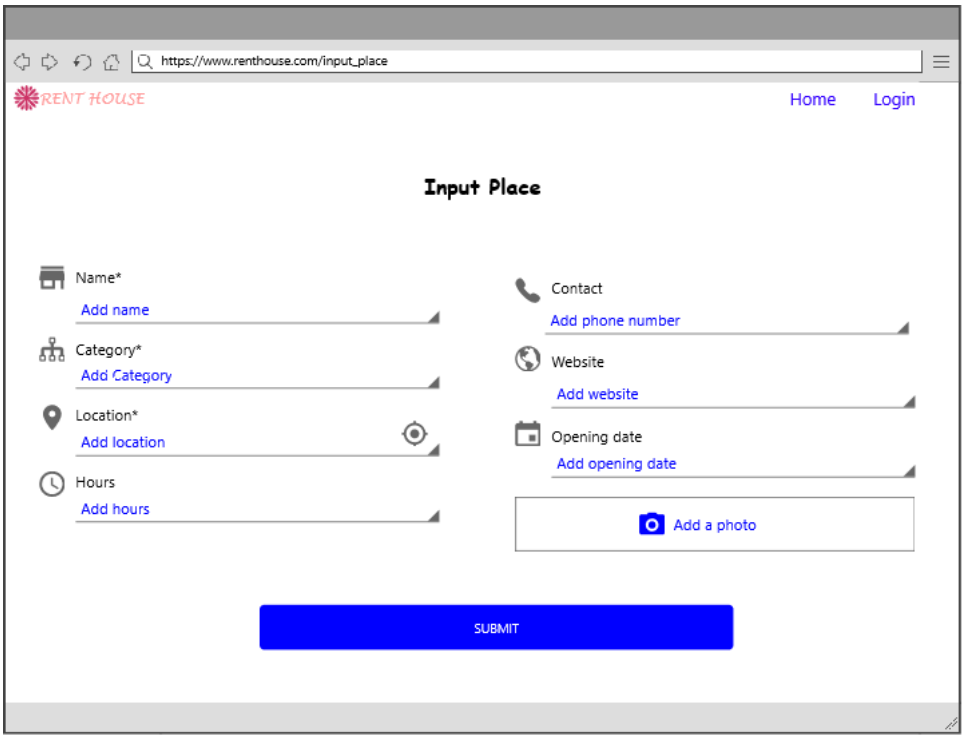


*Table 52 Input Place Page Navigation*

| Object_id | Type | Name | Description |
|---|---|---|---|
| *TXS8* | *Text Input* | *Name* | *Fill the text box with place name* |
| *BTN4* | *Button* | *Category* | *If clicked, user can choose the category of the place* |
| *BTN5* | *Button* | *Location* | *If clicked, user can choose the location of the place* |
| *BTN6* | *Button* | *Hours* | *If clicked, user can choose the open time of the place* |
| *TXS9* | *Text Input* | *Contact* | *Fill the text box with phone number* |
| *TXS10* | *Text Input* | *Website* | *Fill the text box with the user's website* |
| *BTN7* | *Button* | *Opening date* | *If clicked, user can choose the opening date of the place* |
| *UPL2* | *Button* | *Add a photo* | *If clicked, user can upload a photo* |
| *BTN8* | *Button* | *Submit* | *If clicked, the data will be inputted* |


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## E. Interface: Order Place Page

*Fig. 35 Order Place Page Interface Design*

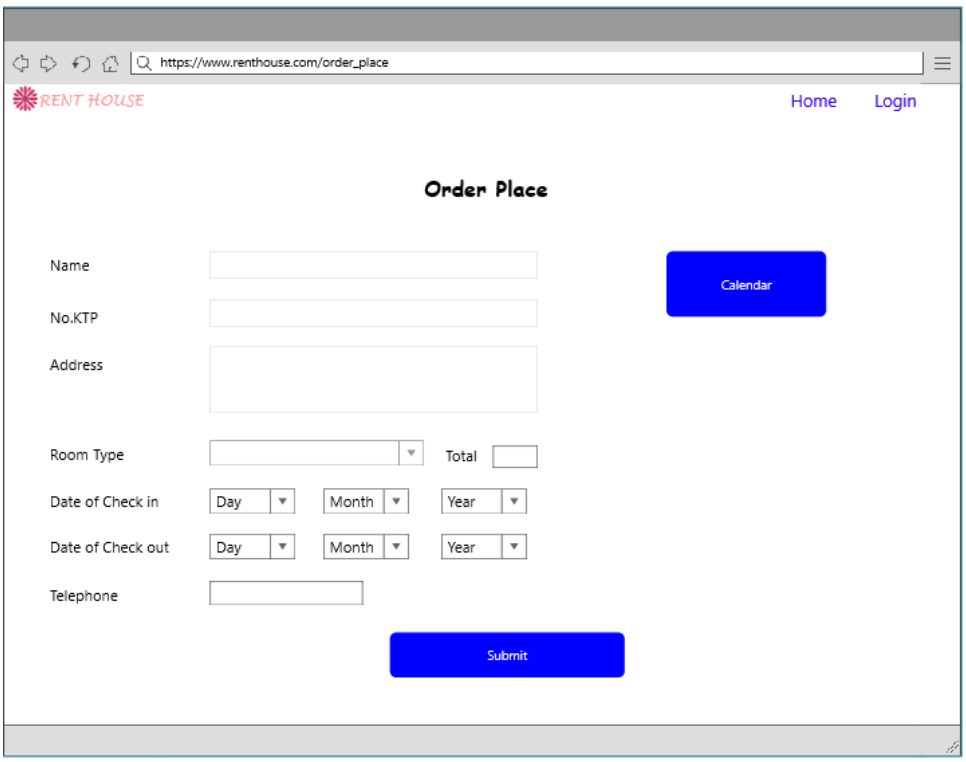


*Table 53 Order Place Page Navigation*

| Object_id | Type | Name | Description |
|---|---|---|---|
| *TXS11* | *Text Input* | *Name* | *Fill the text box with user's name* |
| *TXS12* | *Text Input* | *No. KTP* | *Fill the text box with user's ID number* |
| *TF1* | *Text Field* | *Address* | *Fill the text field with user's address* |
| *DP1* | *Dropdown* | *Room type* | *If clicked, user can choose the type of room that is available* |
| *BTN9* | *Button* | *Total* | *If clicked, user can choose how many rooms to rent* |
| *DP2* | *Dropdown* | *Day* | *If clicked, user can choose the day to rent begin* |
| *DP3* | *Dropdown* | *Month* | *If clicked, user can choose the month to rent begin* |
| *DP4* | *Dropdown* | *Year* | *If clicked, user can choose the year to rent begin* |
| *DP5* | *Dropdown* | *Day* | *If clicked, user can choose the day to rent ended* |
| *DP6* | *Dropdown* | *Month* | *If clicked, user can choose the month to rent ended* |
| *DP7* | *Dropdown* | *Year* | *If clicked, user can choose the year to rent ended* |
| *TXS9* | *Text Input* | *Telephone* | *Fill the text box with the user telephone* |
| *BTN10* | *Button* | *Calendar* | *If clicked, user can see the calendar* |
| *BTN8* | *Button* | *Submit* | *If clicked, the data will be inputted* |


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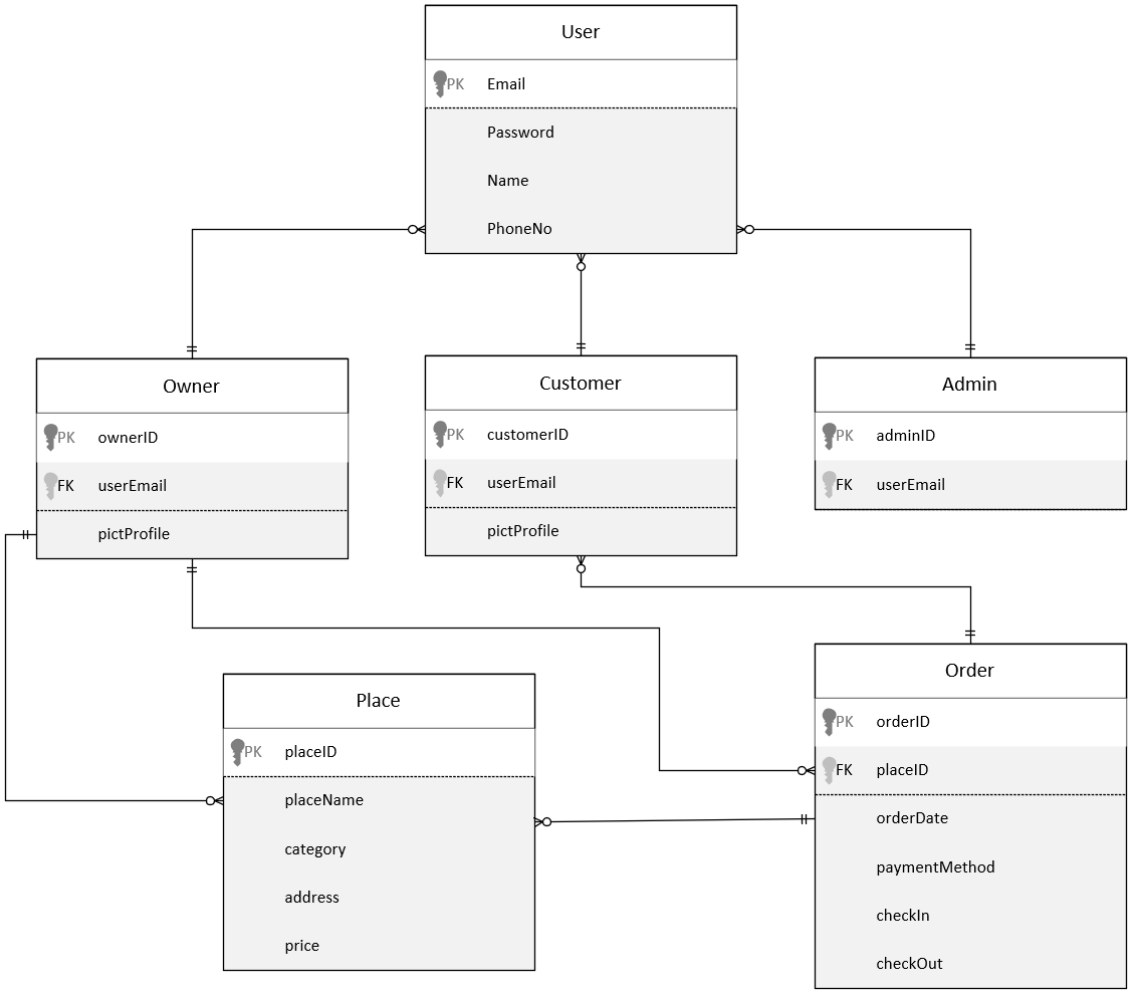
## 3.6 Design of Class Persistence Representation

*Fig. 36 Design of Class Persistence Representation*




# 4 Usability Matrix

*Table 54 Usability Matrix List*

| Requirement | Related Usecase | Class |
|---|---|---|
| FR-01 | Create Account | Owner, Customer, User Database, CreateOwnerAccount Controller, CreateCustomerAccount Controller |
| FR-02 | Login | Admin, Owner, Customer, User Database, Login Controller |
| FR-03 | Manage Place | Owner, Place database, Insert Place Controller, Edit Place Controller, Delete Place Controller |
| FR-04 | Order Place | Customer, Order Database, Place Database, Order Place Controller |
| FR-05 | Cancel Order | Customer, Order Database, Cancel Order Controller, View Order Controller |
| FR-06 | Payment | Customer, Order Database, Checkout Controller |
| FR-07 | Manage Account | Admin, Account Database, Manage Account Controller |
| FR-08 | Manage Order | Admin, Order Database. Manage Order Controller |



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