BAHIR DAR UNIVERSITY

FACULTY OF COMPUTING

DEPARTMENT OF COMPUTER SCIENCE

COURSE: Object Oriented Software Engineering

Title: Hotel Management System

UML Diagram

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1.System models

1.1. Scenarios

ID	**UC#1**
Title	See available rooms
Primary actors	user/customer
preconditions	Customer opens the hotel website
postconditions	The customer gets information about the available rooms
scenarios	1. Customer opens web page of the hotel 2. By opening the home page the user gets into available rooms page
Extensions	2a. When there is no available room 2a1. There will be an information that will inform the customer there is no available room
Frequency of use	Every time the user clicks see available button
status	Active
owner	Customer
Priority	high

ID	**UC#2**
Title	Book a room
Description	A customer
Primary actors	user/customer
Preconditions	Customer opens the hotel web
Postconditions	The user reserves a room
Scenarios	1. Customer opens the web page of the hotel 2. Click the button book a room 3. In the book a room page the customer fills in the required informations about him/herself 4. Click book now button
Extensions	2a. The customer checks first if there are available rooms or not
Frequency of use	Often
status	Operational
owner	Customer
Priority	Medium

ID	**UC#3**
Title	Make a payment
Description	Allows the customer to pay for the services
Primary actors	user/customer
Preconditions	Customer opens the hotel web
Postconditions	The user pays money for the room reserved
Scenarios	1. Customer opens the hotel web 2. After the customer finishes the room booking process clicks the button pay now and proceed to make a payment page

	3. In the make a payment page the system offers the customer different payment transaction methods(tele birr, hello cash, amole etc) 4. Customer chooses one of the payment transaction methods provided and fills the required information such as like account number password and others 5. Customer clicks the button pay
Extensions	2a. Customer realize the total money that it should be paid 3a. The customer may find out that there is no a payment transaction method that he/she frequently used 3a1. The customer may withdraw 5a. The system checks and validate the informations that the customer filled in with the bank and other institutions that the hotel associatively work with 5a1. If the filled in information is not correct the web page notifies the customer that the given information is not correct 5b. The account number that the customer specified does not contain the money required. 5b1. The web displays insufficient balance in the given bank account 5c. The transaction validated and authorized successfully 5c. The web displays paid successfully
Frequency of use	often
status	Operational
owner	
Priority	Medium

ID	**UC#4**
Title	Leave comment
Description	
Primary actors	user/customer/receptionist
preconditions	user opens the hotel website
postconditions	The user provide comment about the hotel service
scenarios	1. Customer opens the web page of the hotel 2. The user click the button leave a comment 3. The user write a comment about the hotel in a given specified place 4. The user click the button comment
Extensions	
Frequency of use	
status	
owner	
Priority	Less

ID	**UC#5**
Title	Searching customer information
Description	The system retrieves the stored data of the customer
Primary actors	receptionist
preconditions	The receptionist login in to the system
postconditions	The receptionist will find out whether the customer reserves a room or not
scenarios	1. The receptionist login to the system with specific username and password 2. Enter the name of the customer in the searching box and click search button 3. The system shows customer names that have already reserved a room 4. The receptionist checks if money was paid for the reserved room 5. The receptionist click issue a receipt button
Extensions	3a. The needed name doesn't display on the interface 3a1. The receptionist registers the customer 4a. The system shows that money was not paid for the reserved room 4a1. The receptionist receives the money in hand 5a. The interface shows that issued successfully
Frequency of use	
status	
owner	
Priority	Medium

ID	**UC #6**
Title	LOGIN
Primary actors	user/system admin/manager
preconditions	The user should have username and password
postconditions	User login into the system
scenarios	1. User opens the login page 2. Fill in the required password and username 3. User Clicks the login button 4. User enter into the system
Extensions	3a. The given password and username did not found 3a1. The system tells and notify that the entered information is not correct 3b. The given password and user name was legit 3b1. The needed page show up to access the system
Frequency of use	
status	
owner	
Priority	High

ID	**UC #7**
Title	Add employee
Primary actors	System admin
preconditions	The system admin must login into the system
postconditions	The system admin adds a new employee into the database
scenarios	1. The system admin login into the system with specific password and username 2. The system admin insert the new employee's information 3. The database saves the new information inserted

Extensions	1a. The system prohibit from logging when wrong password and username entered
Frequency of use	
status	
owner	
Priority	medium

ID	**UC#8**
Title	Update room
Description	The system administrator will add a new room with new attributes to the system.
Primary actors	System admin
preconditions	The system admin must login in to the system
postconditions	The rooms will be available or not
scenarios	1. System administrator will login to the system. 2. The system administrator will open the update room page. 3. The system administrator will enter the information of the room to be updated 4. The system search the room to be updated 5. If the room is found the system will display the rooms information 6. The system administrator selects the room and clicks on the update information button. 7. The system will display the form that have the selected room information 8. The system administrator will change the room information 9. System administrator will click save button 10. If the form correctly filled the system display a successful message
Extensions	4.1. If the room is not found 4.1.1. The system go to the update room page 10.1. If the form is not correctly filled 10.1.1. The system will display the form that have the selected room information
Frequency of use	
status	
owner	
Priority	Medium

ID	**UC #9**
Title	Add room
Description	The system administrator will add a new room with new attributes to the system.
Primary actors	System admin
preconditions	The system admin must login into the system
postconditions	The system admin adds available rooms to the system
scenarios	1. The system administrator will login to the system. 2. The system administrator will open the add room page. 3. The system will display the add room form with room name, room type, room price 4. System administrator will fill the form 5. The system will check if all fields of the form are filled or not. 6. If all fields are filled correctly, show a successful message.
Extensions	6.1. If the fields are filled successfully 6.1.1. The system will display the add room form with room name, room type, room price
Frequency of use	
status	
owner	
Priority	medium

ID	**UC #10**
Title	View Customer
Primary actors	Manager
preconditions	The manager must login to the system There must be a complete customer data in the system
postconditions	The manager exits the view information page

scenarios	1.1 The manager logs into the system 1.2 The manager goes to the view information page 1.3 The system asks for the authorization code 1.3.1 The manager inputs the code 1.3.2 The system checks validity of the code 1.3.3 The system redirects to the information tab if authorization is successful 1.4 The manager goes to select the information to be viewed ie. (customer,room or employee) 1.4.1 The manager chooses customer 1.5 The system pulls up the customer database 1.6 The manager views the selection 1.7 The manager exits the page
Extensions	1.3.2.1 There is an error in authorization of admin 1.3.2.2 The system asks the admin to resubmit their authorization signature 1.3.2.3 If the signature brings an error again The system locks down 1.6.1 The manager wants to send or print information 1.6.2 The manager clicks the share option 1.6.3 The manager inputs preference ie. (email, print,fax.. etc) 1.6.4 The system asks for confirmation 1.6.5 The manager clicks confirm 1.6.6 The system sends out the information
Frequency of use	Often
status	Active
owner	
Priority	Low

ID	**UC #11**
Title	View Employee
Primary actors	Manager
preconditions	The manager must login to the system There must be a complete employee data in the system
postconditions	The manager exits the view information page
scenarios	1.1 The manager logs into the system 1.2 The manager goes to the view information page 1.3 The system asks for the authorization code

	1.3.1 The manager inputs the code 1.3.2 The system checks validity of the code 1.3.3 The system redirects to the information tab if authorization is successful 1.4 The manager goes to select the information to be viewed ie. (customer,room or employee) 1.4.1 The manager chooses employee 1.5 The system pulls up the customer database 1.6 The manager views the selection 1.7 The manager exits the page
Extensions	1.3.2.1 There is an error in authorization of admin 1.3.2.2 The system asks the admin to resubmit their authorization signature 1.3.2.3 If the signature brings an error again The system locks down 1.6.1 The manager wants to send or print information 1.6.2 The manager clicks the share option 1.6.3 The manager inputs preference ie. (email, print,fax.. etc) 1.6.4 The system asks for confirmation 1.6.5 The manager clicks confirm 1.6.6 The system sends out the information
Frequency of use	Often
status	Active
owner	Manager
Priority	Low

ID	**UC #12**
Title	View Room
Primary actors	Manager
preconditions	The manager must login to the system There must be a complete room data in the system
postconditions	The manager exits the view information page
scenarios	1.1 The manager logs into the system 1.2 The manager goes to the view information page 1.3 The system asks for the authorization code 1.3.1 The manager inputs the code 1.3.2 The system checks validity of the code 1.3.3 The system redirects to the information tab if authorization is successful

	1.4 The manager goes to select the information to be viewed ie. (customer,room or employee) 1.4.1 The manager chooses room 1.5 The system pulls up the room database 1.6 The manager views the selection 1.7 The manager exits the page
Extensions	1.3.2.1 There is an error in authorization of admin 1.3.2.2 The system asks the admin to resubmit their authorization signature 1.3.2.3 If the signature brings an error again The system locks down 1.6.1 The manager wants to send or print information 1.6.2 The manager clicks the share option 1.6.3 The manager inputs preference ie. (email, print,fax.. etc) 1.6.4 The system asks for confirmation 1.6.5 The manager clicks confirm 1.6.6 The system sends out the information
Frequency of use	Often
status	Active
owner	Manager
Priority	Low

ID	**UC #13**
Title	View report
Primary actors	Manager
preconditions	The manager must login to the system There must be a complete report data in the system
postconditions	The manager exits the view information page
scenarios	1.1 The manager logs into the system 1.2 The manager goes to the view information page 1.3 The system asks for the authorization code 1.3.1 The manager inputs the code 1.3.2 The system checks validity of the code 1.3.3 The system redirects to the information tab if authorization is successful 1.4 The manager goes to select the information to be viewed ie. (customer,room or employee) 1.4.1 The manager chooses report 1.5 The system pulls up the report window 1.6 The manager views the selection

	1.7 The manager exits the page
Extensions	1.3.2.1 There is an error in authorization of admin 1.3.2.2 The system asks the admin to resubmit their authorization signature 1.3.2.3 If the signature brings an error again The system locks down 1.6.1 The manager wants to send or print information 1.6.2 The manager clicks the share option 1.6.3 The manager inputs preference ie. (email, print,fax.. etc) 1.6.4 The system asks for confirmation 1.6.5 The manager clicks confirm 1.6.6 The system sends out the information
Frequency of use	Often
status	Active
owner	Manager
Priority	Low

ID	**UC#14**
Title	Delete Room
Primary actors	System Admin
preconditions	The system admin must login into the system
postconditions	The room information is deleted completely from the system
scenarios	1.1 The system admin logs into the system 1.2 The system admin searches for the room to be deleted 1.3 The system admin presses the delete button on the page 1.4 The page asks for authentication of rank in order to execute deletion 1.5 The system admin inputs their authorization signature into the page 1.5.1 The system checks for authorization 1.5.2 The system goes to the confirmation page if the authentication is successful 1.6 The system asks for confirmation of deletion 1.7 The system admin presses confirm 1.8 The room data is deleted from the system
Extensions	1.5.1.1 There is an error in authorization of admin 1.5.1.2 The system asks the admin to resubmit their authorization signature 1.5.1.3 If the signature brings an error again The system locks down 1.8.1 There is a mistake in room deletion and undo is required 1.8.1.2 The system admin accesses the backup files to restore the information

Frequency of use	uncommon
status	active
owner	System administrator
Priority	medium

ID	**UC#15**
Title	Delete employee
Primary actors	System Admin
preconditions	The system admin must login into the system
postconditions	The employee information is deleted completely from the system
Scenarios	1.1 The system admin logs into the system 1.2 The system admin searches for the employee to be deleted 1.3 The system admin presses the delete button on the page 1.4 The page asks for authentication of rank in order to execute deletion 1.5 The system admin inputs their authorization signature into the page 1.5.1 The system checks for authorization 1.5.2 The system goes to the confirmation page if the authentication is successful 1.6 The system asks for confirmation of deletion 1.7 The system admin presses confirm 1.8 The employee data is deleted from the system
Extensions	1.5.1.1 There is an error in authorization of admin 1.5.1.2 The system asks the admin to resubmit their authorization signature 1.5.1.3 If the signature brings an error again The system locks down 1.8.1 There is a mistake in employee deletion and undo is required 1.8.1.2 The system admin accesses the backup files to restore the information
Frequency of use	uncommon
status	active
owner	System administrator
Priority	medium

Use case diagram

A use case describes the sequence of actions a system performs yielding visible results. It shows the interaction of things outside the system with the system itself. Use cases may be applied to the whole system as well as a part of the system.

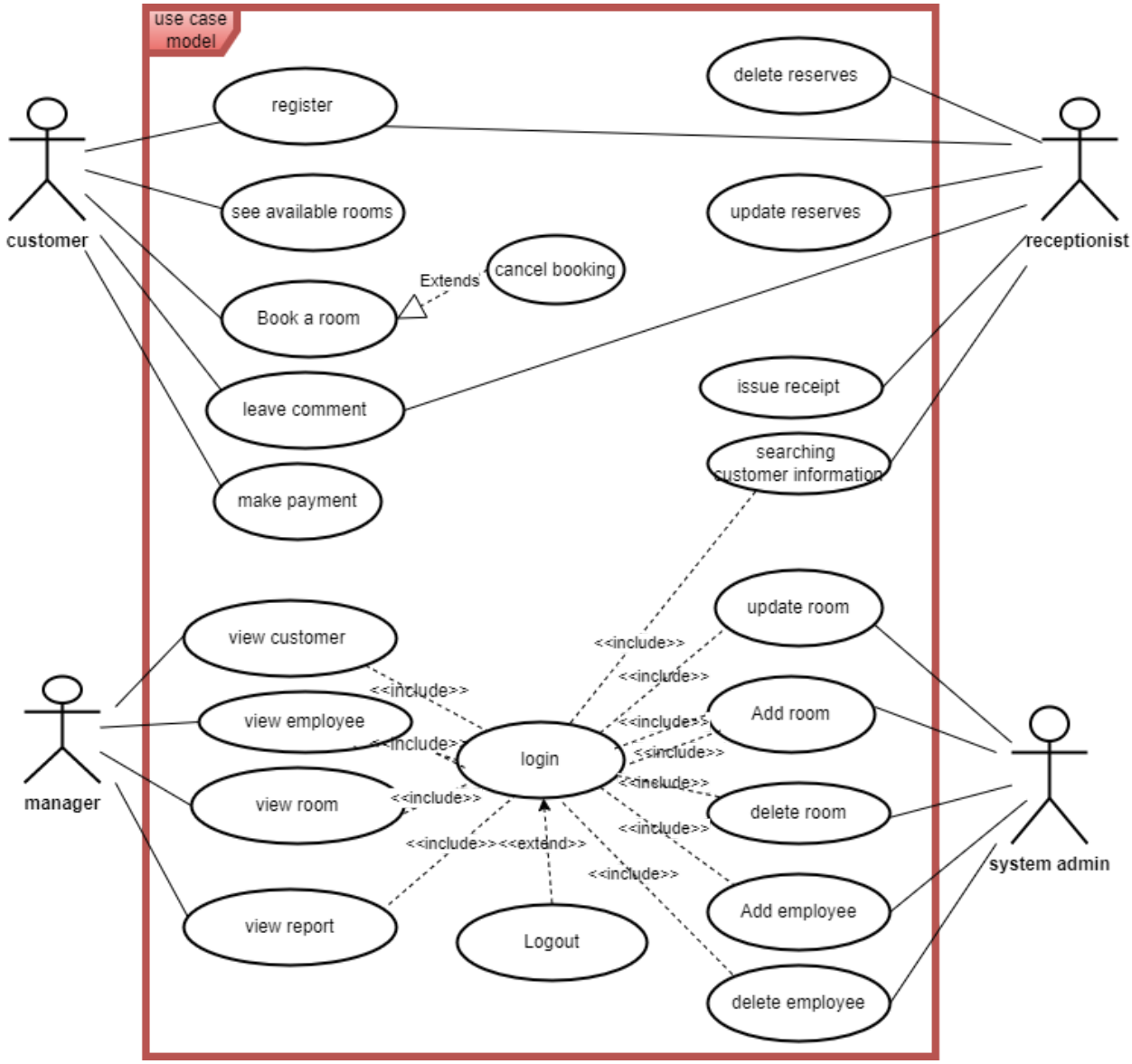

Figure 1.1 Use Case Diagram

Class Diagram

Class diagram in the Unified Modeling Language(UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among objects.It is used for general conceptual modeling of the structure of the application, and for detailed modeling, translating the models into programming code.

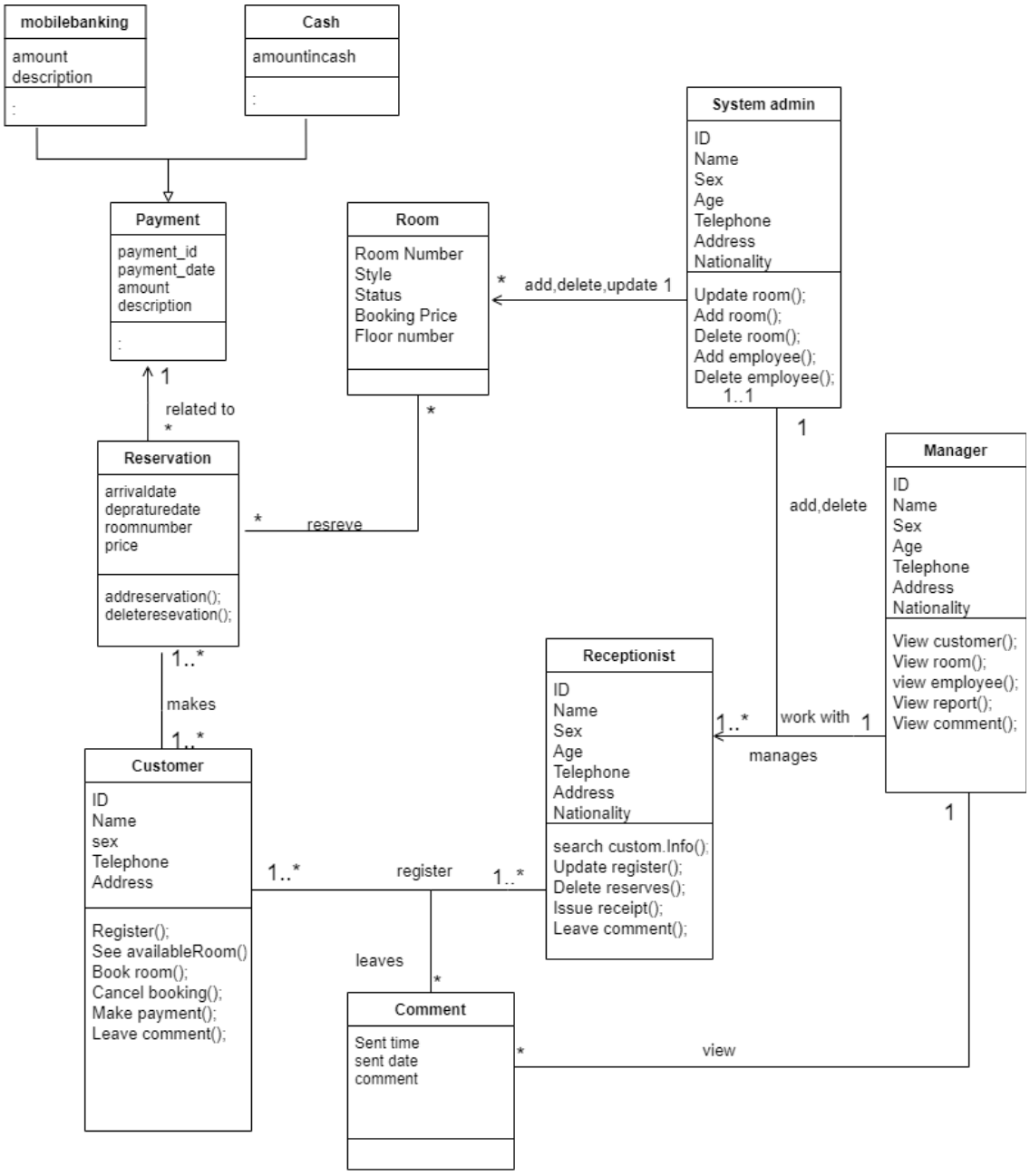

Figure 1.2 Class Diagram

Sequence Diagram

Sequence Diagrams are an interaction diagram that deals with how operations are carried out. They capture the interaction between objects in the context of collaboration. Sequence Diagrams are time focus and they show the order of the interaction visually by using the vertical axis of the diagram to represent time what messages are sent and when

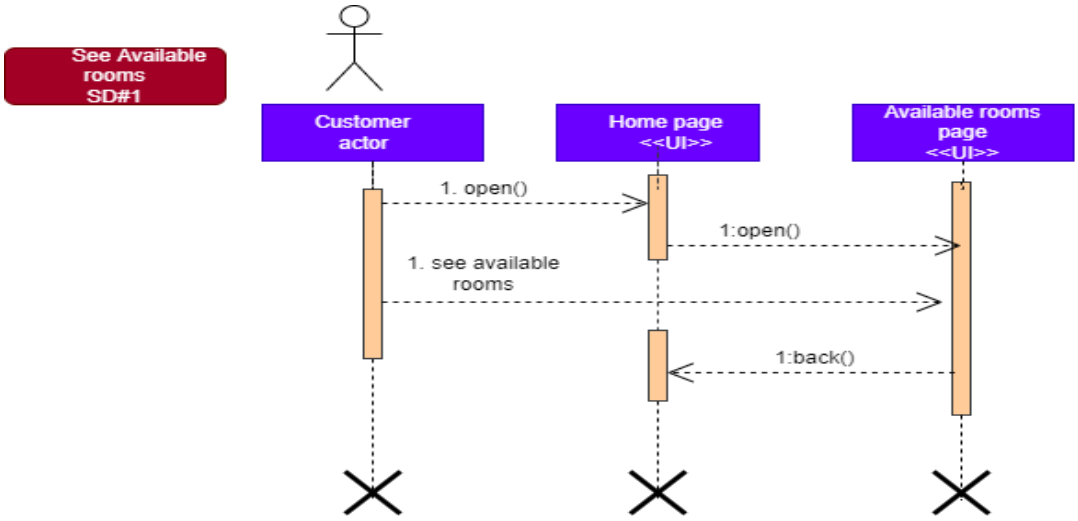

Figure 1.3 See available rooms sequence diagram

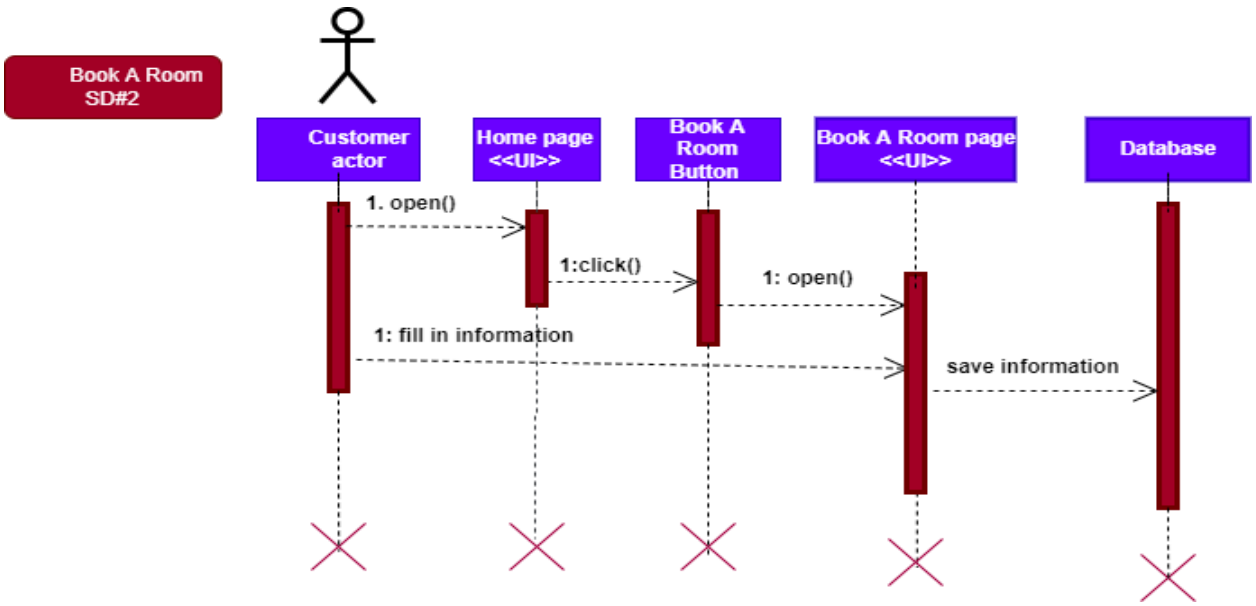

Figure 1.4 Book a room sequence diagram

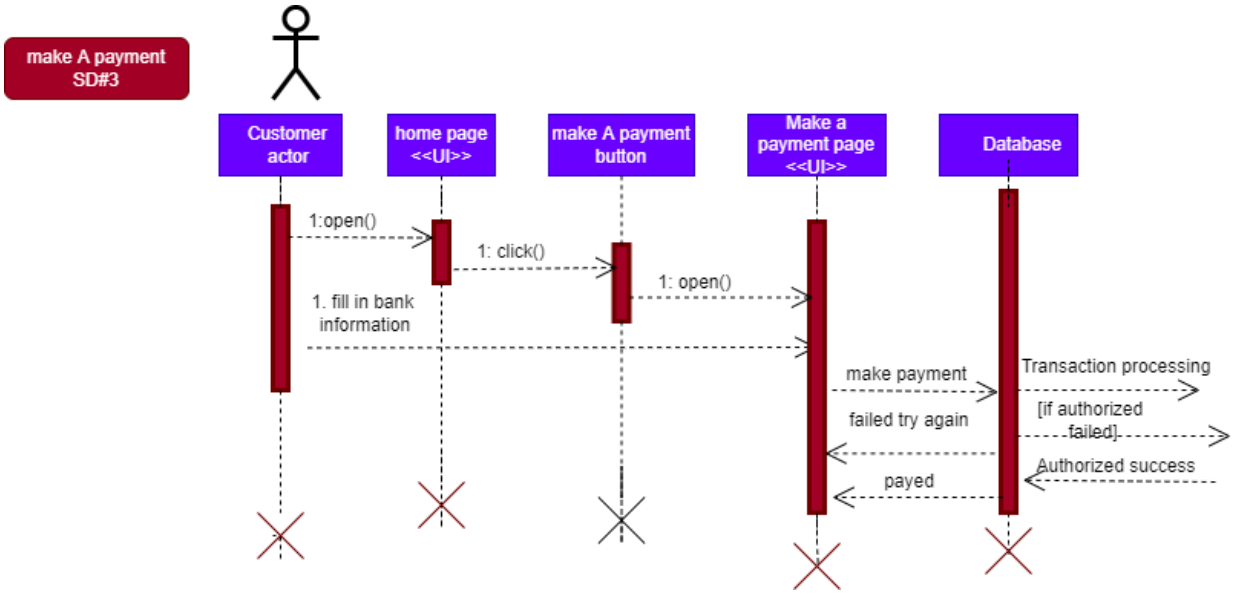

Figure 1.5 Make a payment sequence diagram

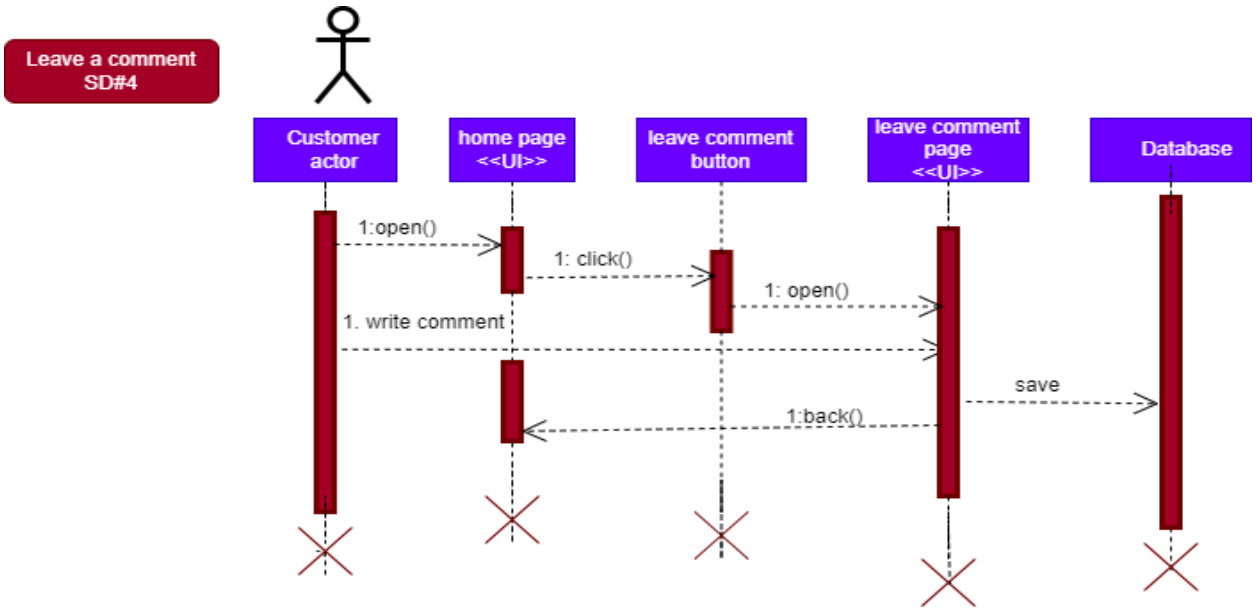

Figure 1.6 leave a comment sequence diagram

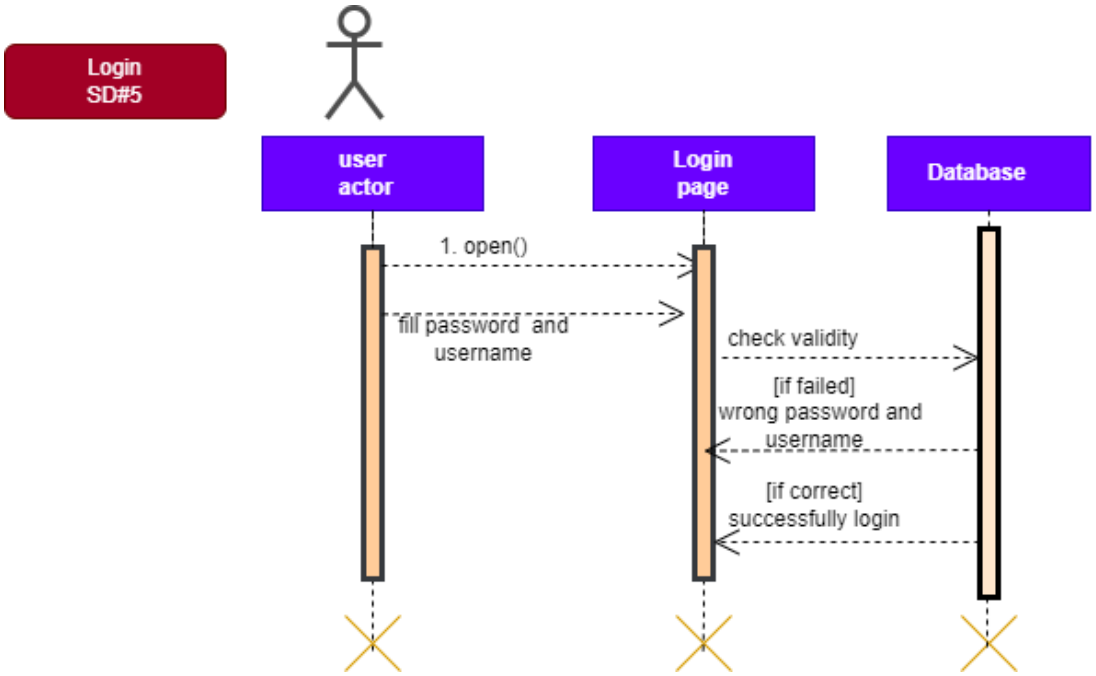

Figure 1.7 Login sequence diagram

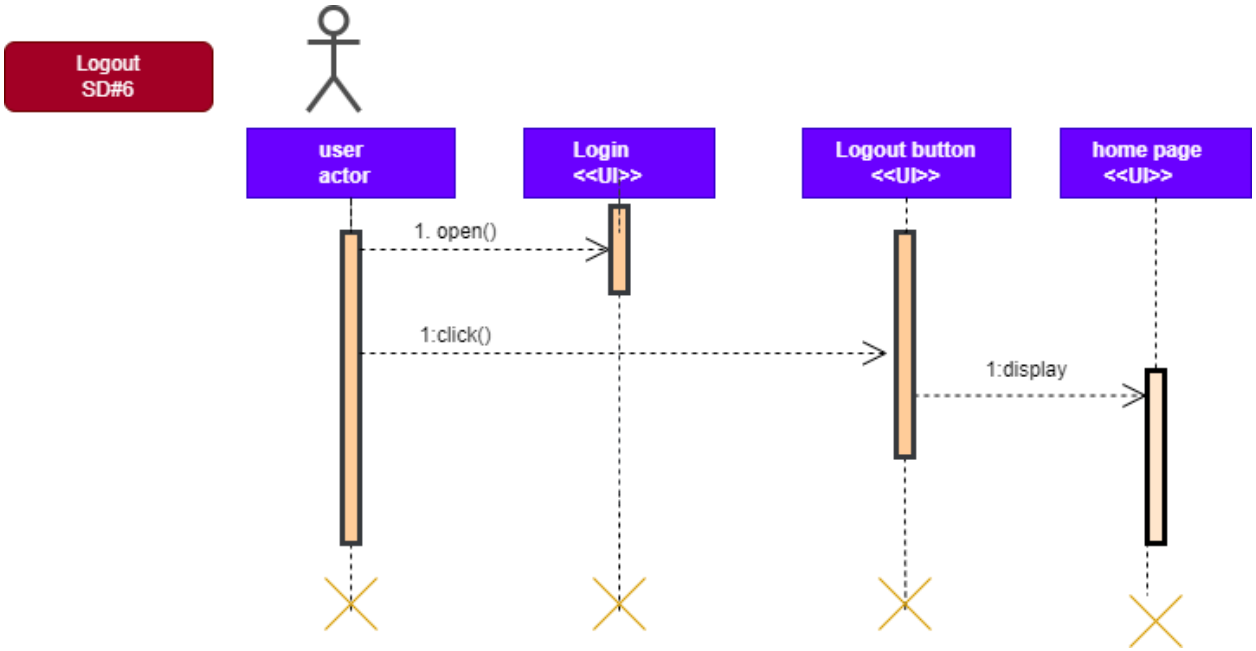

Figure 1.8 Logout sequence diagram

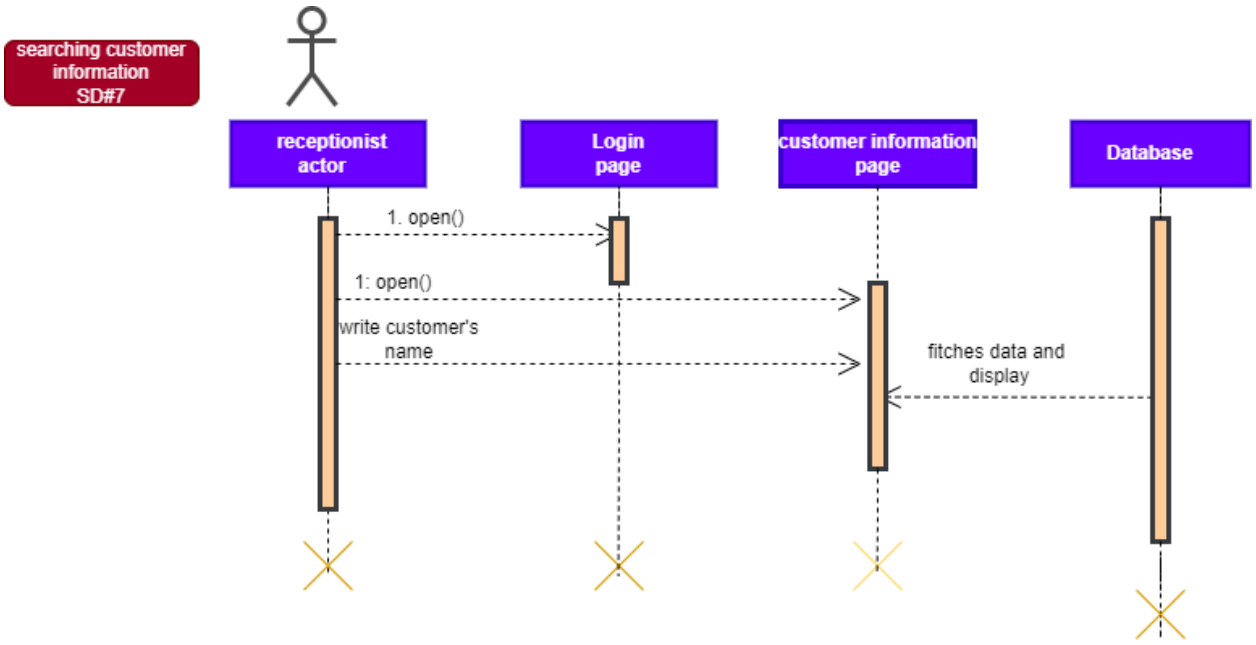

Figure 1.9 searching customer information sequence diagram

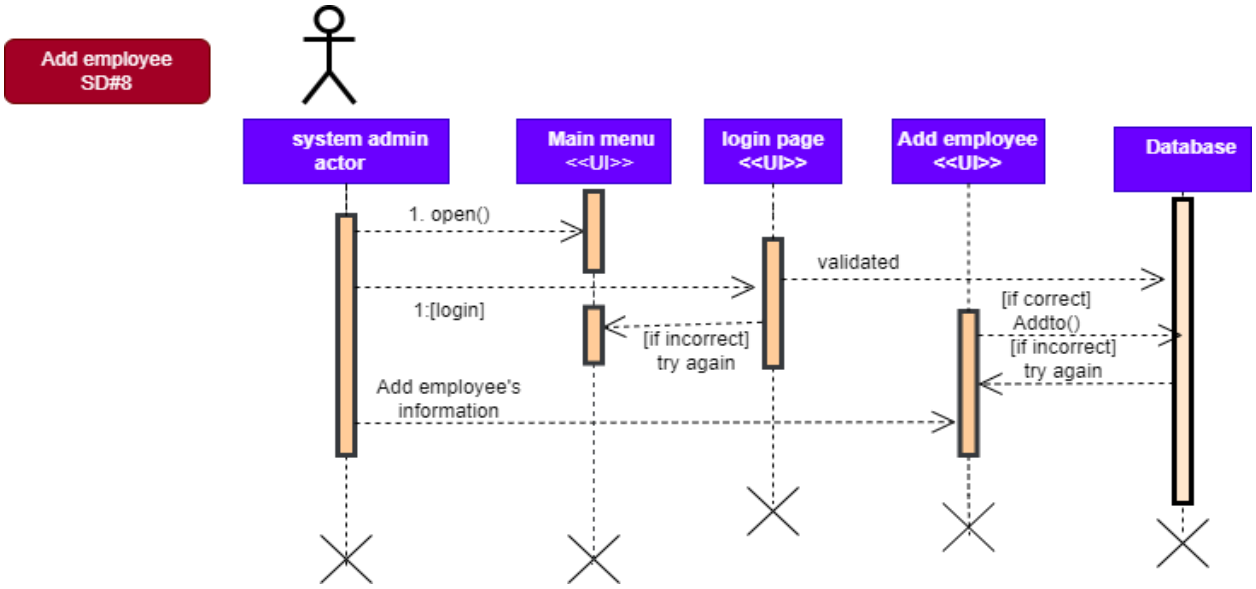

Figure 1.10 Add employee sequence diagram

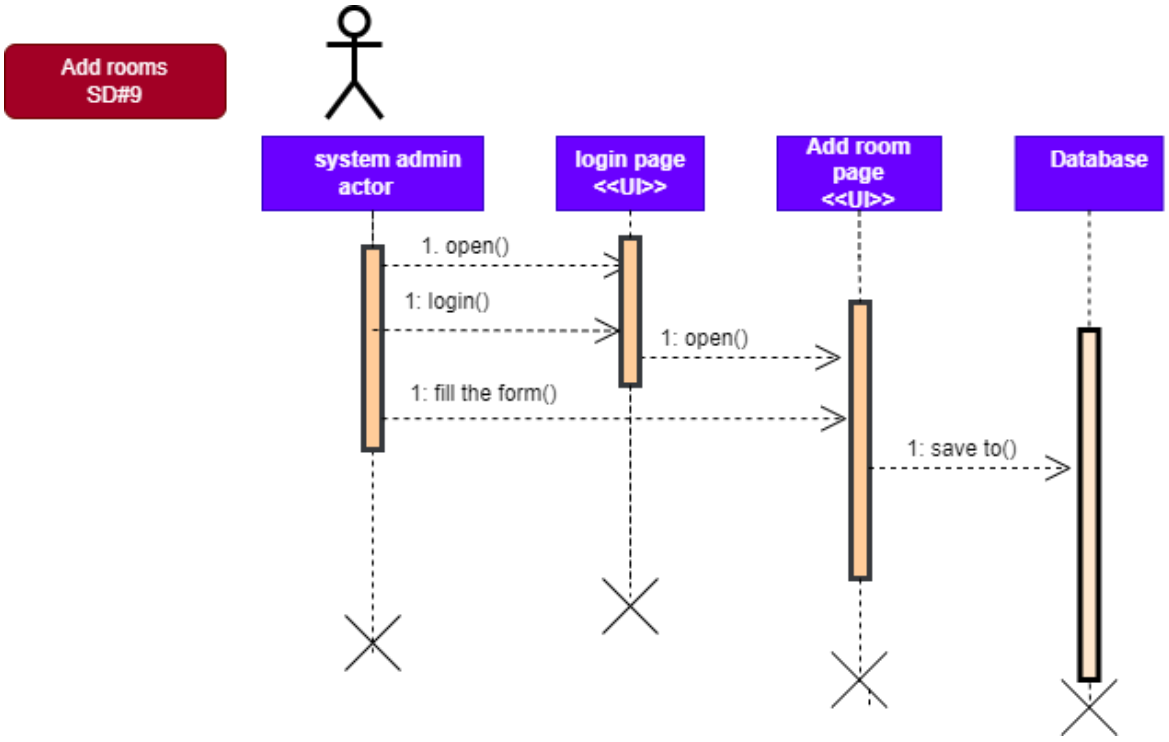

Figure 1.11 Add rooms sequence diagram

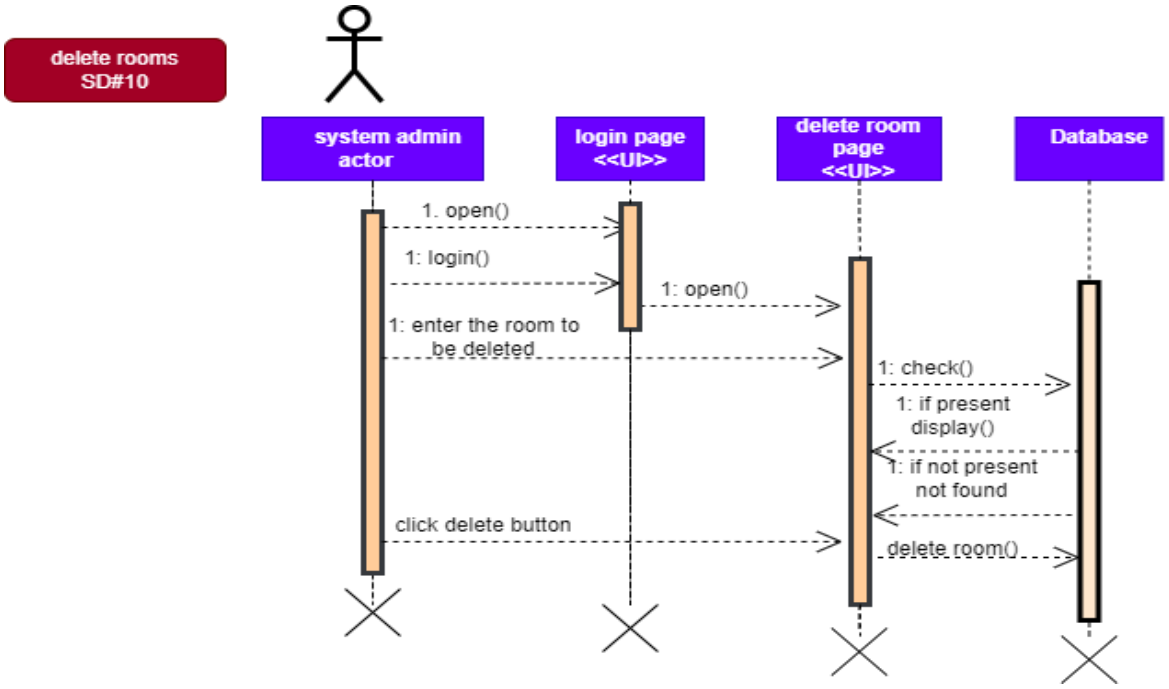

Figure 1.12 Delete rooms sequence diagram

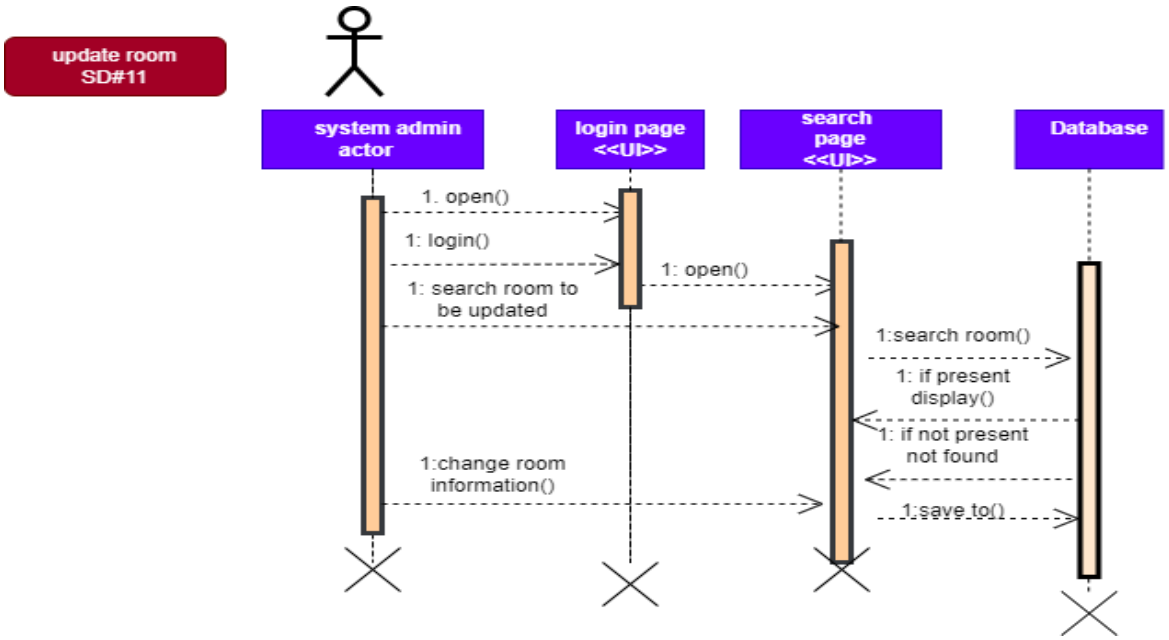

Figure 1.14 Update rooms sequence diagram

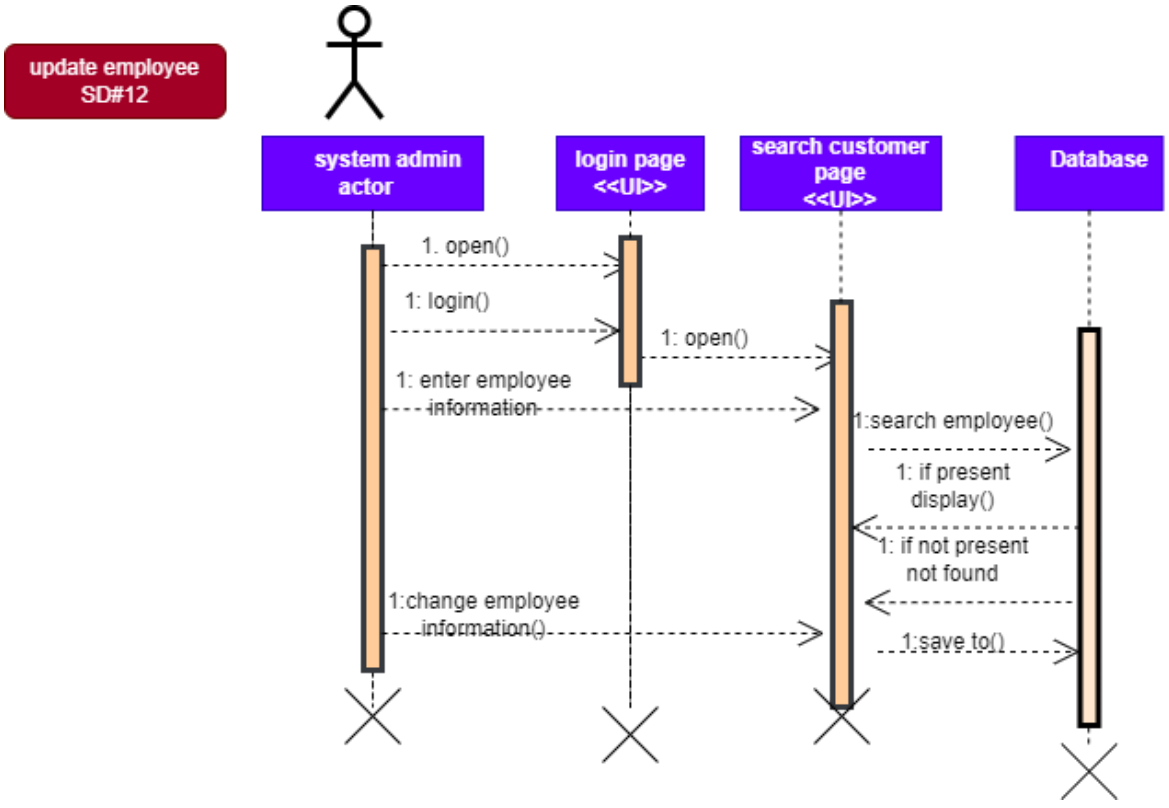

Figure 1.13 Update employee sequence diagram

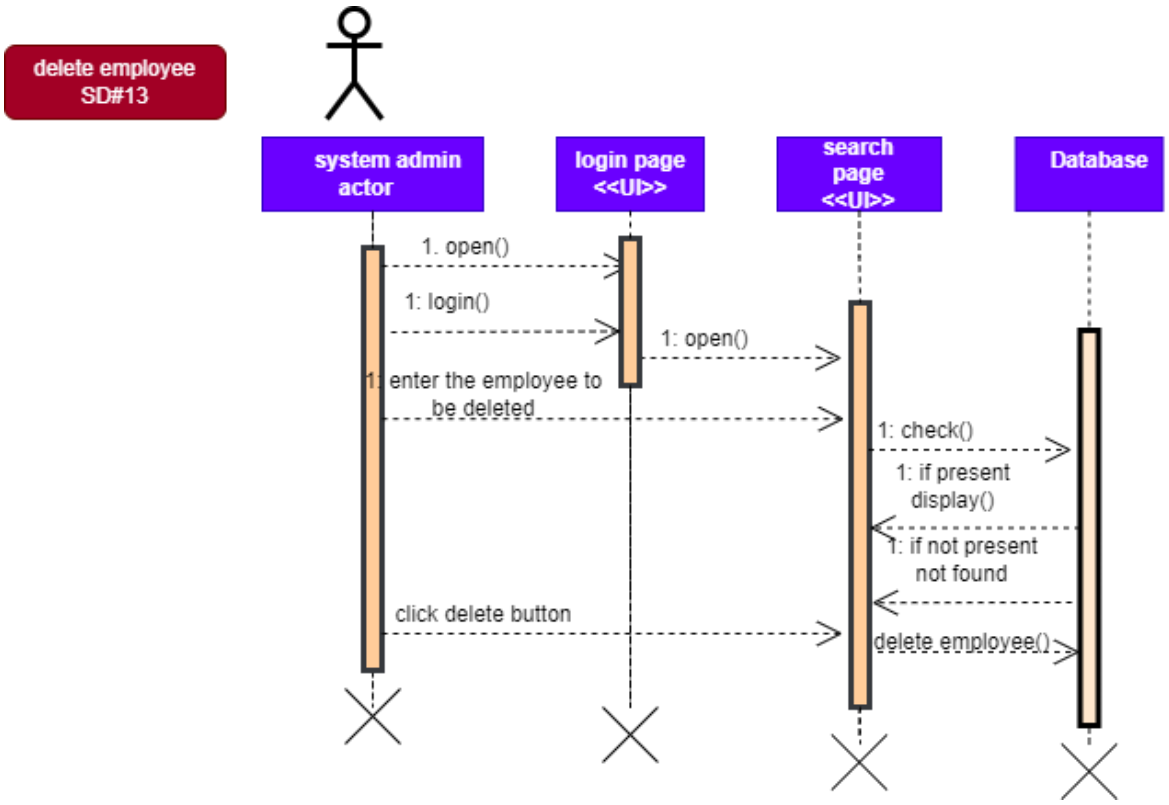

Figure 1.15 Delete employee sequence diagram

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