King Abdulaziz University

Faculty of Computing & Information Technology

Department of Computer Science

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Project ID: Group 2

Student name	Student ID	Section
Rolina Katouaha	2006180	B9
Shrooq kaabi	2205003	B9
Samar Al-otaibi	2006191	B9

Table of Contents

Phase 1: Project Description

1.1   Introduction

Wearing make-up has become a necessity on our special days. We are always looking for a professional artist, but finding one available on the scheduled day takes much work. In most cases, it is hard to contact them, get their locations, and know if they are ready to serve us. On the other side, many artists have a problem with some customers who book an appointment and then break it without having any way to contact them. So, what if we make an application with the most successful make-up artist, and everyone can get an appointment through it?

1.2   Description

Our project's fundamental idea is around the use of the technology sector to make woman's life easier. The main problem is communicating with the makeup artist and getting an appointment by making an application that guarantees the interest of the artist and the customer by creating a policy for each user. It makes sense to have an application that includes all the citizen artists' schedules and their assistant numbers in case the client has a problem with the application and she is not able to change the needed services. To ensure everyone's rights, customers must add an active phone number and pay 25% of the total price, making them stick to the appointment.

1.3 Project Objectives

- As a software Engineering, we keen to make an application that allow users to take an appointment with makeup artist.

- Beauty Me is keen to save time for the user so that he can order at any time and easily.

- The application aims to provide high security to preserve the data of both the customer and the employee.

- One of our most important objectives is to facilitate job opportunities for those with experience.

- Compared to the high prices of popular apps, we make sure to provide the app with affordable makeup services.

1.4 Project Team

Team Member	ID Number	Responsibilities
Rolina Katouaha	2006180	• Logo design
Samar Al-otaibi	2006191	• Introduction • Project description • Project Objectives • Project goals • Source of Domain Analysis Information • Scope of the Project
Shrooq Kaabi	2205003	

Goals and Scope

1.5 Project Goals

Beauty Me application aims to provide beauty services by selecting the best make-up artists, which makes it easier for the customer to choose and saves time.

1.6 Source of Domain Analysis Information

Our project aims to improve the idea of finding make-up artists faster in the same area. we will do a survey Our sources will include beauty centers, customers, and make-up artists on social media.

1.7 Scope of the Project

Beauty me will be an application dedicated to make-up artists with different experiences. It will serve customers in choosing the right make-up artist for them by displaying a list of make-up artists' names, the days they work, and the price specified by the artist. The application displays the make-up artists when the customer selects the region and date.

1.7.1 included

The system provides:

Direct contact with the makeup artist

•application that includes all the artists' schedules and their assistant numbers

Qualified and professional beauticians.

Instant and fast reservations

It does not require phone calls or WhatsApp conversations

You can see photos of the expert's work and customer evaluation and opinions before booking.

Many offers, discounts and exclusive packages.

1.7.2 Excluded

• The system does not provide cash payment

Phase 2: Business Requirements Specifications

2.1 Domain Analysis

Fact	details
Type of Business	Make-up services application
Parts of the business	• Reception. • Salons. • Management.

Business Operation	• The system asks the user to log in.
	• Ask the user if she is an artist or a client:
	  - If she is a client, the system will ask her to enter her information, select the employee and specify the type of service.
	  - If she is an employee, the system asks for her experience and CV to enter her working hours.
	• The system asks the client to confirm the reservation to enter payment information.
	• The system allows the user to check the reservation with the ability to change or cancel it.
	• The system enables the user to log out at the end.

Business's System environment/context	An application to provide make-up services

Problems with the current system	• The best beauticians are not provided in such applications. • The employee can not determine the appropriate times for his work and must work at times specified by the system.
Business/product goals	experienced and empowered employees provide The best make-up services to ensure customer satisfaction
Users, their wants, and business priorities	• Facilitate users' service and provide it with high quality. • Maintaining the security of user information and financial data.
Quality, performance and security considerations	The system is secure for employee and client information: Employee: - It is only allowed to display employee's cv so the client can guarantee employee services. Client: - His location data is hidden from the rest of the clients and only the employee is allowed to see it. - Protect his financial information and provide him with safe means of payment. - Keep customer registration information secure.

2.2 Functional Requirements

R1: The system will ask the user to log in.

 R1.1: The system will ask new users to sign up.

R1.1.1: The system shall ask the user to enter her first and second names.

 R1.1.2: The system shall ask the user to enter her phone number.

R1.1.3: The system must verify the user number by sending an OTP code.

R1.1.4: The system must allow the user to enter the verification code.

R1.1.5: The system must allow the user to set a password.

R1.2: The system must allow users with an existing account to log in with a phone number and password.

R2: The system must ask the user to choose her purpose of registration.

R2.1: The system must allow the user to choose that she is an artist.

R2.1.1 The system must allow the user to scan her national Id.

R2.1.2: The system must allow the user to upload her certificates.

R2.1.3: The system must allow the user to upload her CV.

R2.1.4: The system must allow the user to enter her experience with photos.

R2.1.5: The system must allow the user to upload her working location.

R2.1.6: The system must allow the user to enter her working hours.

R2.2: The system must allow the user to choose that she is a client.

R2.2.1: The system shall ask the user to select the service's.

R2.2.2: The system shall ask the user to choose a specific date.

R2.2.3: The system must ask the user about her location.

R3: The system must allow the user to check all available artist.

R4: The system must allow the user to pick an artist on a specific date.

R5: The system must allow the user to change the search filter (date, location, and specific artist).

R6: The system must allow the user to check the price.

R6.1: The system must ask the user to confirm the appointment.

R6.1.1: The system shall allow the user to enter her credit number.

R6.1.2: The system shall ask the user to enter her credit expiration date.

R6.1.3: The system must ask the user to enter her CVV.

R6.1.4: The system must check the payment verification.

R6.2: The system must allow the user to return to the list.

R7: The system must warn the user that money paid is not refundable.

R7.1: The system must warn the user that she should pay within 3 hours or the appointment will cancelled.

R8: The system must allow the user to check her reservation details.

R9: The system must allow the user to change her booking date.

R10: The system must allow the user to cancel the reservation.

R11: Users must be able to log out.

2.3 Non-Functional Requirements:

R1: users can use Arabic or English languages.

R2: The system must be secure.

R3: The system must be able to serve 1000 user at the moment.

R4: The system must be able to deal with future changes.

R5: The system should not grant access until the user creates a strong password

2.4 Techniques for gathering data

We gathered data using a survey sent to the 50 users. Most of them have a problem finding an appointment with a makeup artist, and they don't know the nearest salon to their home. Also, we gathered more data by interviewing many makeup artists who many people do not know, so the application will help them get more work.

2.5 Use Case Description

<table>
<tr><td colspan="2" style="text-align:center">Use Case Documentation</td></tr>
<tr><td>Use Case ID:</td><td>UC-1</td></tr>
<tr><td>Use Case Name:</td><td>Create Account</td></tr>
<tr><td>Description:</td><td>Customer accesses the system and choose between three options either log in, continue as a guest, or create an account using his phone number. Then he can select artists and communicate with them.</td></tr>
<tr><td>Primary Actor:</td><td>Customer</td></tr>
<tr><td>Preconditions:</td><td>Customer is on the start interface</td></tr>
<tr><td>Postconditions:</td><td>no</td></tr>
<tr><td>Main Success Scenario:</td><td>1. Customer selects "create an account " from the startup page.

2. System asks the customer for his first name, last name, and phone number.

3. Customer enters his phone number and click "Register" button.

4. System checks the validity of the phone number.

5. System sends an SMS verification to the customer's phone number.

6. Customer enters the OTP (One-time Password) code into the system.

7. System registers customer and display a confirmation message.</td></tr>
</table>

Extensions:	5a. Phone number is already registered in the system.
	5a1. System displays an error message saying that the phone number
	is already used for a registered account, and then return the customer
	to the startup page.
	6a. The user did not receive the verification code message. 6a1.
	System counts down for 60 seconds and then enable the option to
	resend the verification code.
	7a. Customer enters a wrong verification code (OTP).
	7a1. System asks user to re-enter the verification code (OTP).

| Use Case Documentation	
Use Case ID:	UC-2
Use Case Name:	Change booking
Description:	The customer reschedules or changes any booking details of the makeup artist's booking.

Primary Actor:	Customer .
Preconditions:	The customer must have a reservation.

Postconditions:	Customer edits the booking
Main Success Scenario:	1. The customer logs into the system. 2. The customer will choose a booking to modify. 3. The customer will change their booking. 4. The system displays a confirmation message. 5. The customer confirms their selection. 6. The customer will leave the editing page. 7. The makeup artist will become available for other customers.
Extensions:	The customer did not reservation artist
	Use Case Documentation
Use Case ID:	UC-3

Use Case Name:	Cancel the reservation
Description:	The customer cancels the room reservation
Primary Actor:	coustemer
Preconditions:	The customer must have a reservation.
Postconditions:	The customer edits the reservation
Main Success Scenario:	1. The customer logs into the system. 2. The customer will choose a reservation to cancel. 3. The system displays a confirmation message. 4. The customer confirms their selection. 5. If the customer canceled a paid reservation via an online method, the system would refund the money within 5-7 business days. 6. The customer will leave the editing page. 7. The makeup artist will become available for other customers.
Extensions:	The customer did not reservation artist

Use Case Documentation	
Use Case ID:	UC-4
Use Case Name:	Payment
Description:	The customer makes payment and the system informs him whether the payment is successful or not.
Primary Actor:	Customer
Preconditions:	The customer confirmed his order.
Postconditions:	Payment has done successfully.
Main Success Scenario:	8. The customer chooses the payment method credit card. 9. Customer enters his payment information and selects confirm payment. 10. System informs the customer that the payment is successful.
Extensions:	2a. Wrong payment Information. 2a1. System displays an error message saying wrong input. 2a2. Customer either enters the information again or cancels the order. 2a3. After the third wrong input, the system automatically cancels the order-generating process and logs out the customer. 2b. Payment failed. 2b1. System displays an error message saying "Payment failed, try again later" and. 2b2. System keeps the order not fulfilled and load the main page.

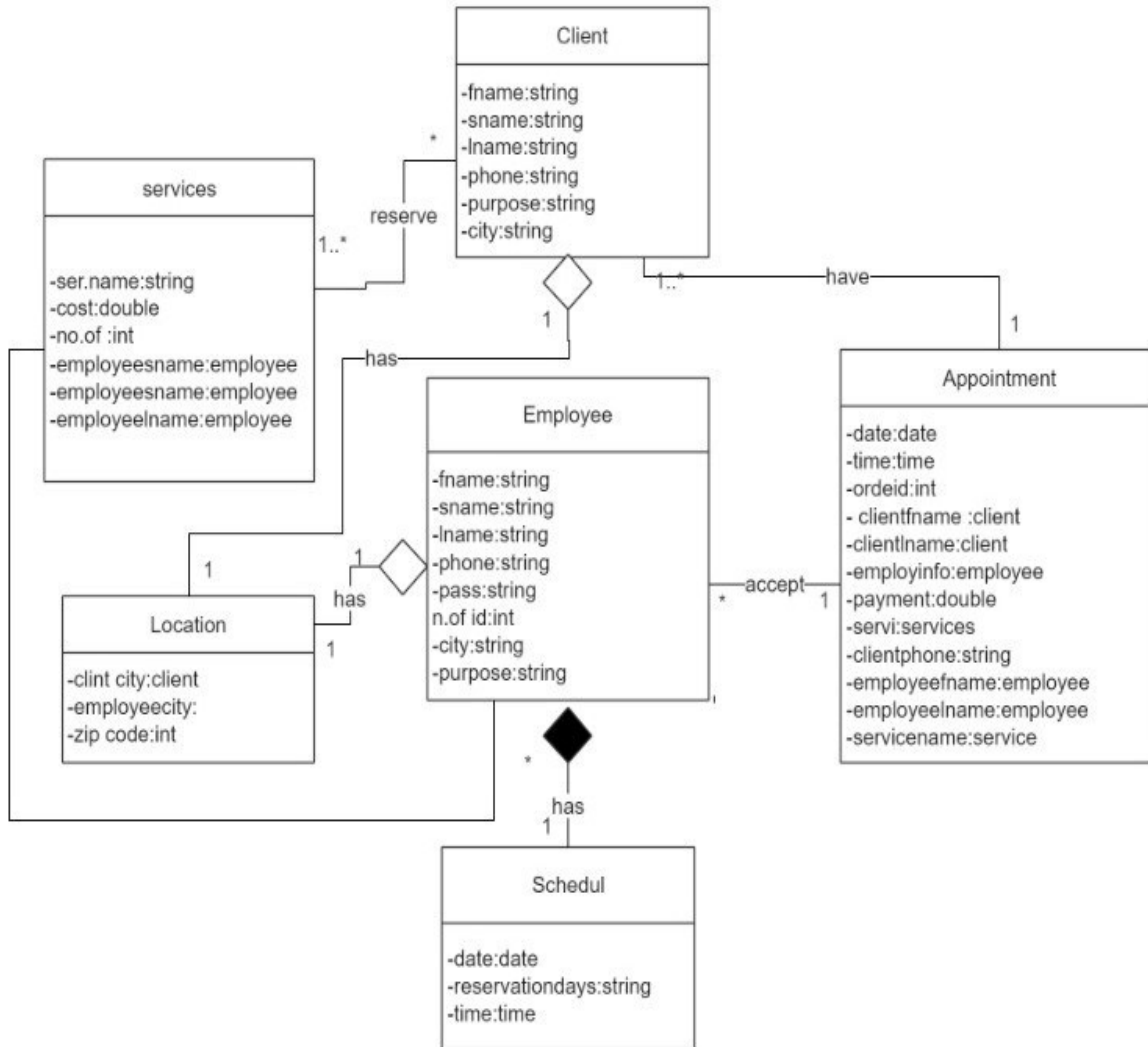## 2.6 Use Case Diagram for Given Problems
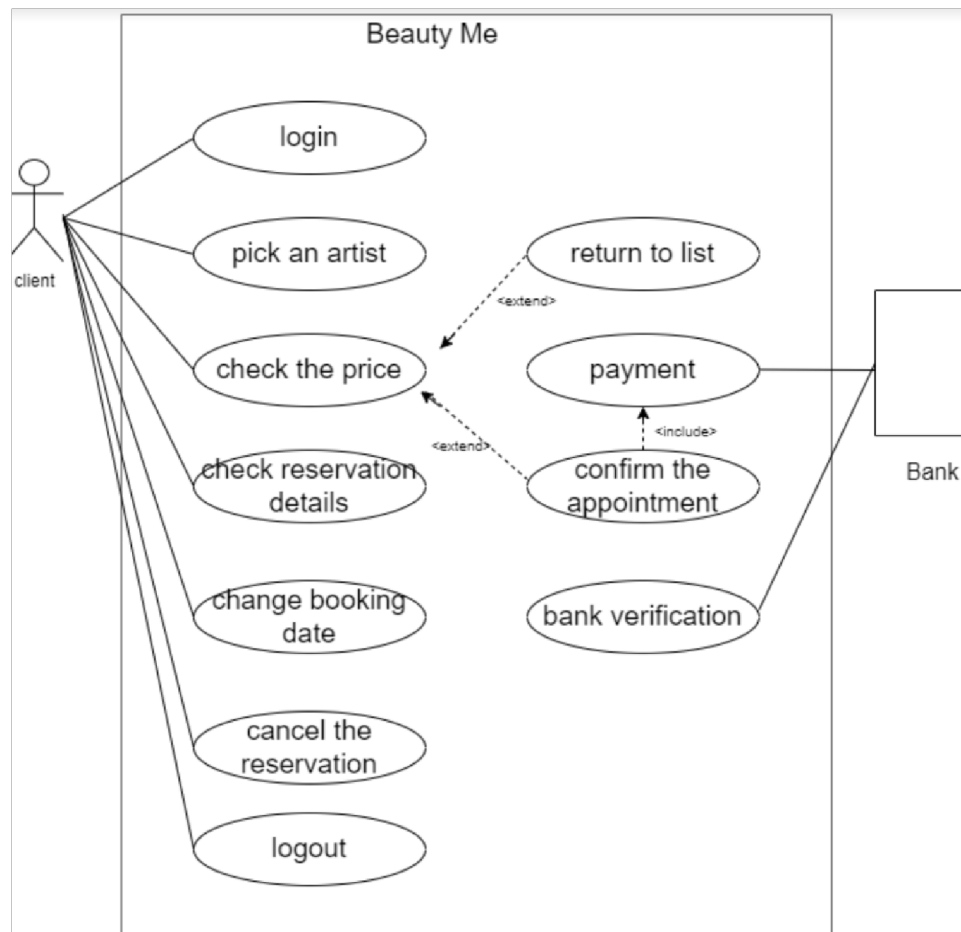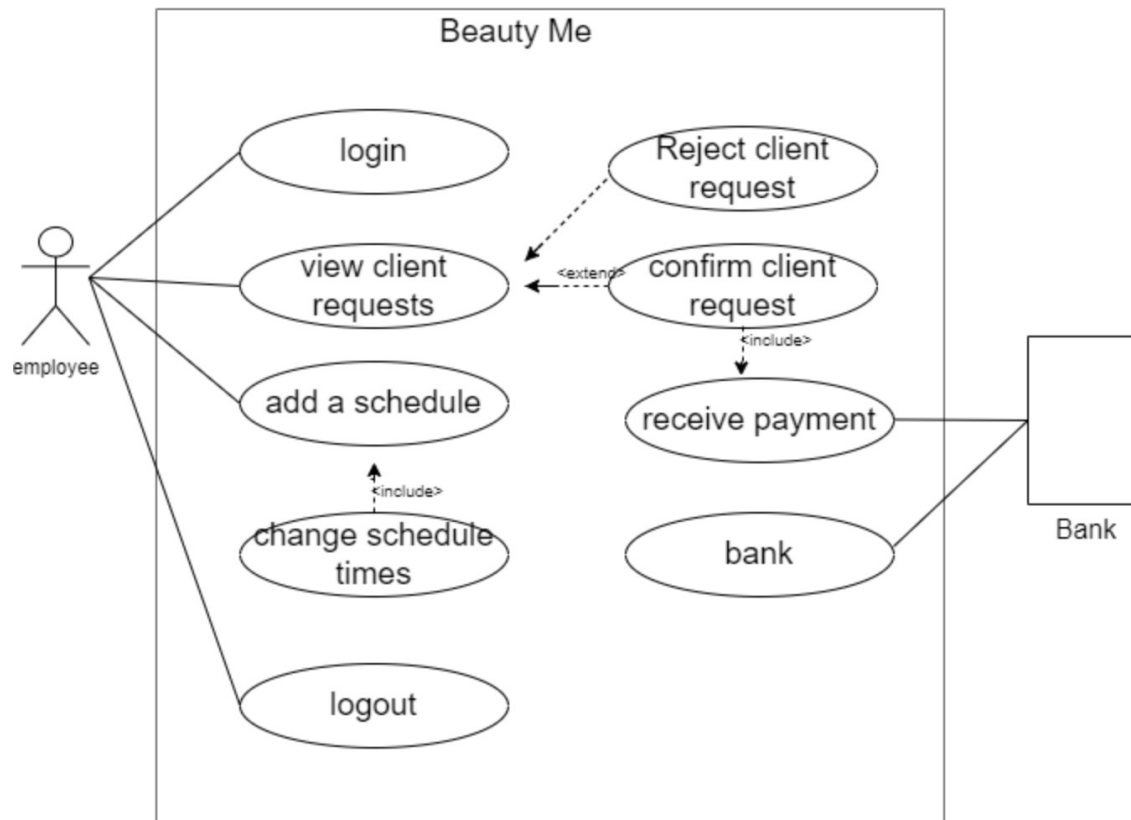
2.7 Difficulties & Risk Analysis in The Domain

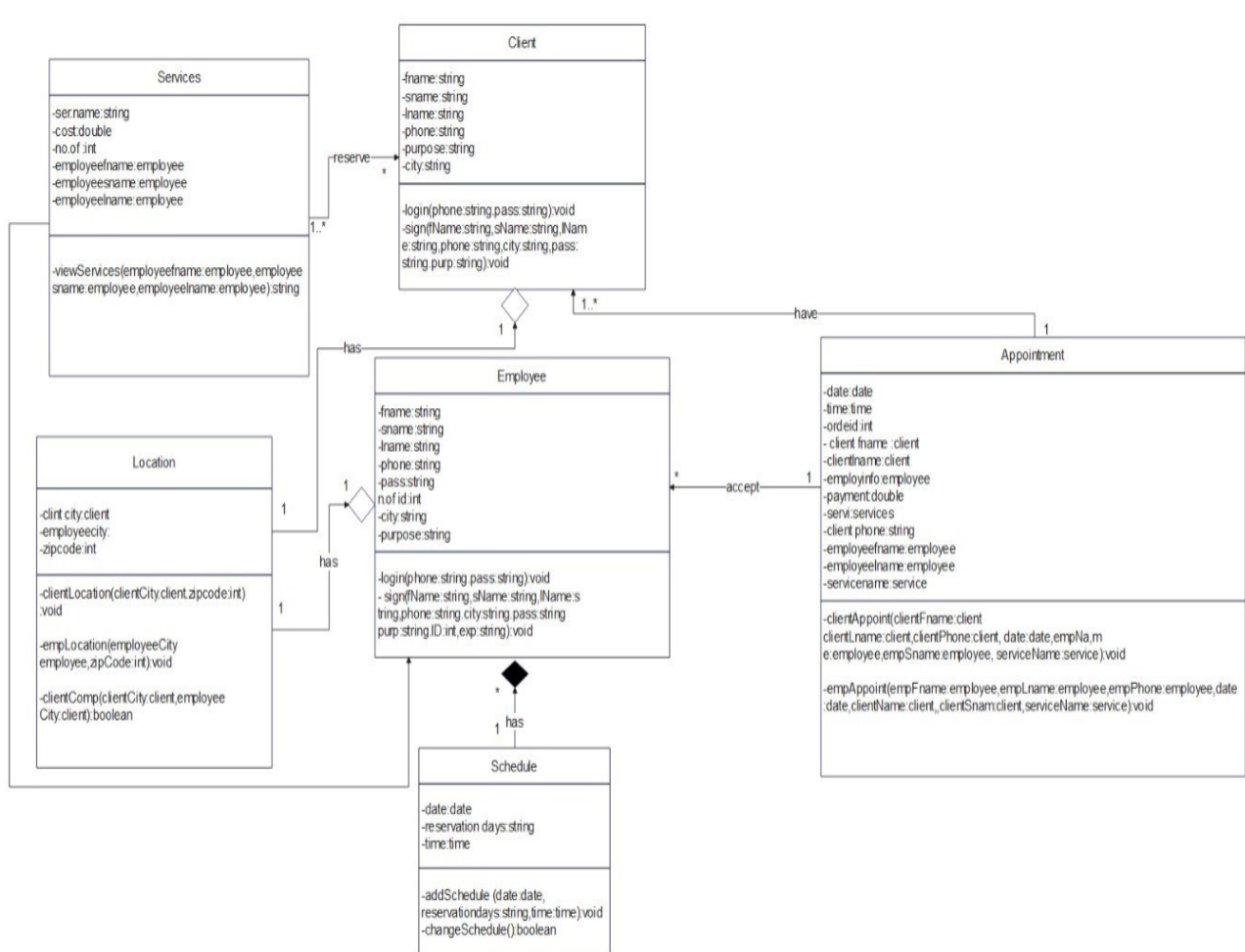**The difficulties we faced while the development are:**

o Non-cooperation from some salons and artists.

o Difficulty to know the artist appointment.   o

Difficulty to hire new makeup artist.

Phase 3: Design and Structuring

3.1 Converting use cases to class diagram

3.2 UML class diagram

Services

-ser.name:string
-cost:double
-no.of :int
-employeefname:employee
-employeesname:employee
-employeelname:employee

-viewServices(employeefname:employee,employee
sname:employee,employeelname:employee):string

Client

-fname:string
-sname:string
-lname:string
-phone:string
-purpose:string
-city:string

-login(phone:string,pass:string):void
-sign(fName:string,sName:string,lNam
e:string,phone:string,city:string,pass:
string.purp:string):void

reserve

*

1..*

have   1..*   1

Location

-clint city:client
-employeecity:
-zipcode:int

-clientLocation(clientCity:client.zipcode:int)
:void

-empLocation(employeeCity:
employee,zipCode:int):void

-clientComp(clientCity:client,employee
City:client):boolean

1

has

1   has   1

Employee

-fname:string
-sname:string
-lname:string
-phone:string
-pass:string
n.of id:int
-city:string
-purpose:string

-login(phone:string,pass:string):void
- sign(fName:string,sName:string,lName:s
tring,phone:string,city:string,pass:string
purp:string,ID:int,exp:string):void

1   accept   1

*

Appointment

-date:date
-time:time
-ordeid:int
- client fname :client
-clientlname:client
-employinfo:employee
-payment:double
-servi:services
-client phone :string
-employeefname:employee
-employeelname:employee
-servicename:service

-clientAppoint(clientFname:client
clientLname:client,clientPhone:client, date:date,empNa,m
e:employee,empSname:employee, serviceName:service):void

-empAppoint(empFname:employee,empLname:employee,empPhone:employee,date
:date,clientName:client,,clientSnam:client,serviceName:service):void

has

1   has

Schedule

-date:date
-reservation days:string
-time:time

-addSchedule (date:date,
reservationdays:string,time:time):void
-changeSchedule():boolean

22

3.2.1 Association Relationship

1- between client class and appointment class:

- Each client can have many appointment.

- Each appointment can be reserved by one client.

2- between client class and services class:

- Many client can reserve many services.

- Many services can be reserved by many clients.

3- between employee class and appointment class:

- Each employee can accept many appointment.

- Each appointment can be for one employee.

3.2.2: Aggregation Relationship:

1- between client class and location class:

- The location is a part of clients information.

- Each client can has one location.

2- between employee class and location class:

- The location is a part of employee information.

- Each employee can has one location.

3.2.2: Composition Relationship:

1- Between employee and schedule:

- If there is no schedule, there is no employee.

- Each employee can has many schedules.

- Each schedule can be managed by one employee

3.3 System Architecture

Beauty Me applies an interactive system. Our project depends on the interaction of clients and employees with the system. For example, the employee will request the system to view client requests, the system will implement his request and display clients for this employee.
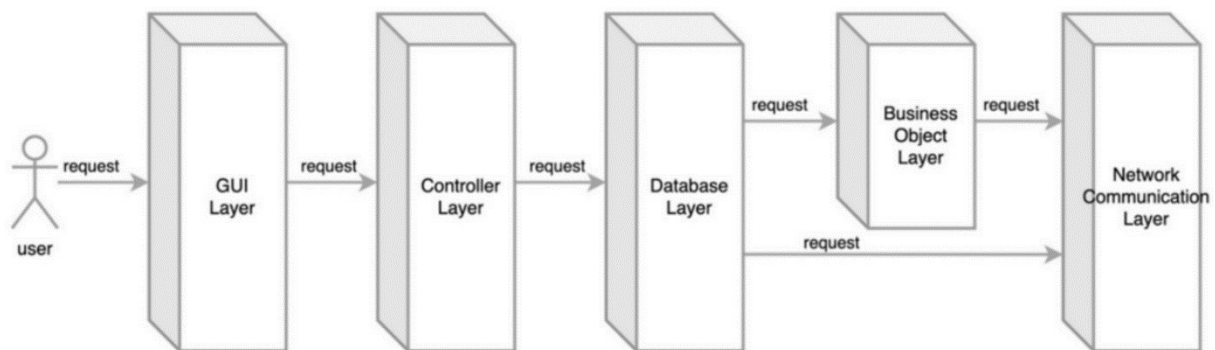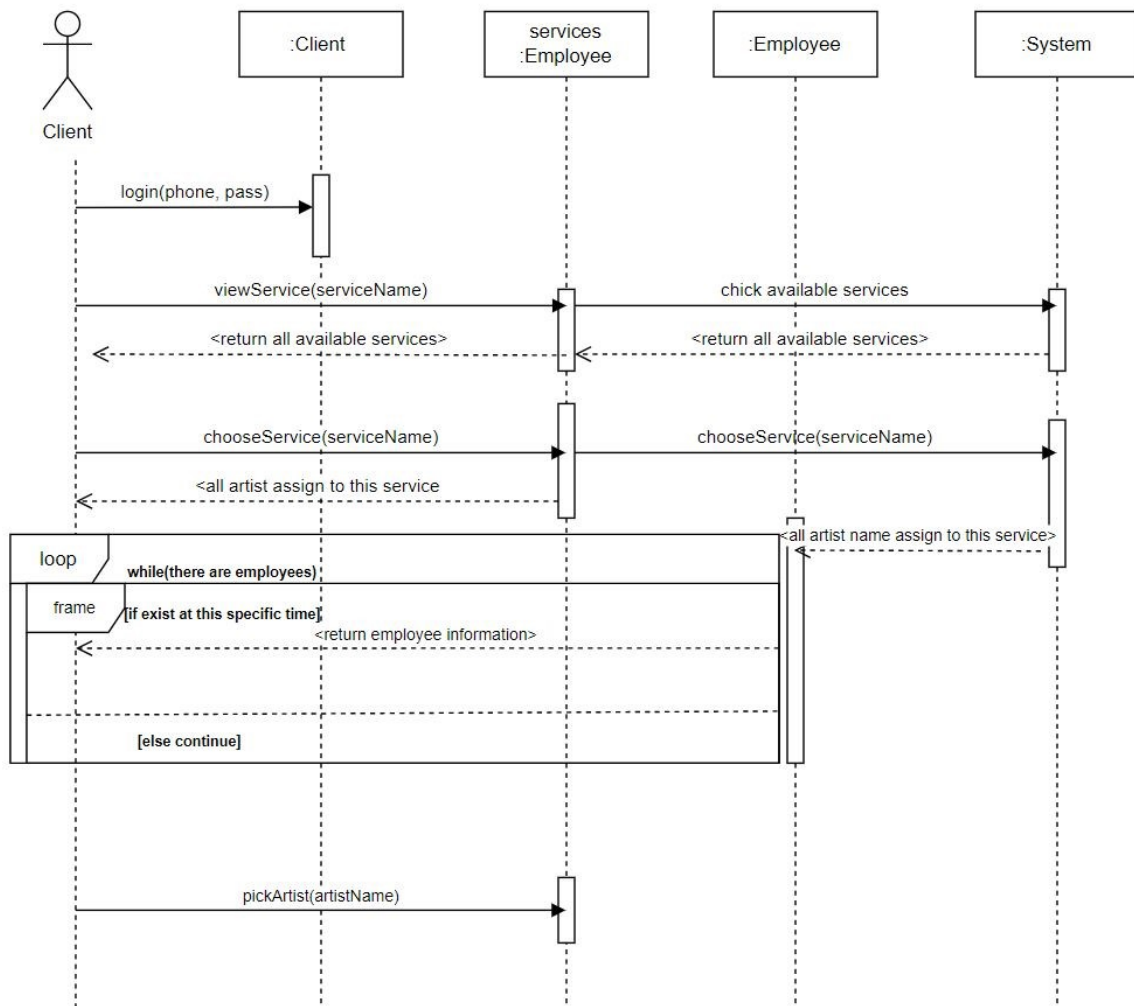
Phase 4: Modeling, Interaction &Behavior
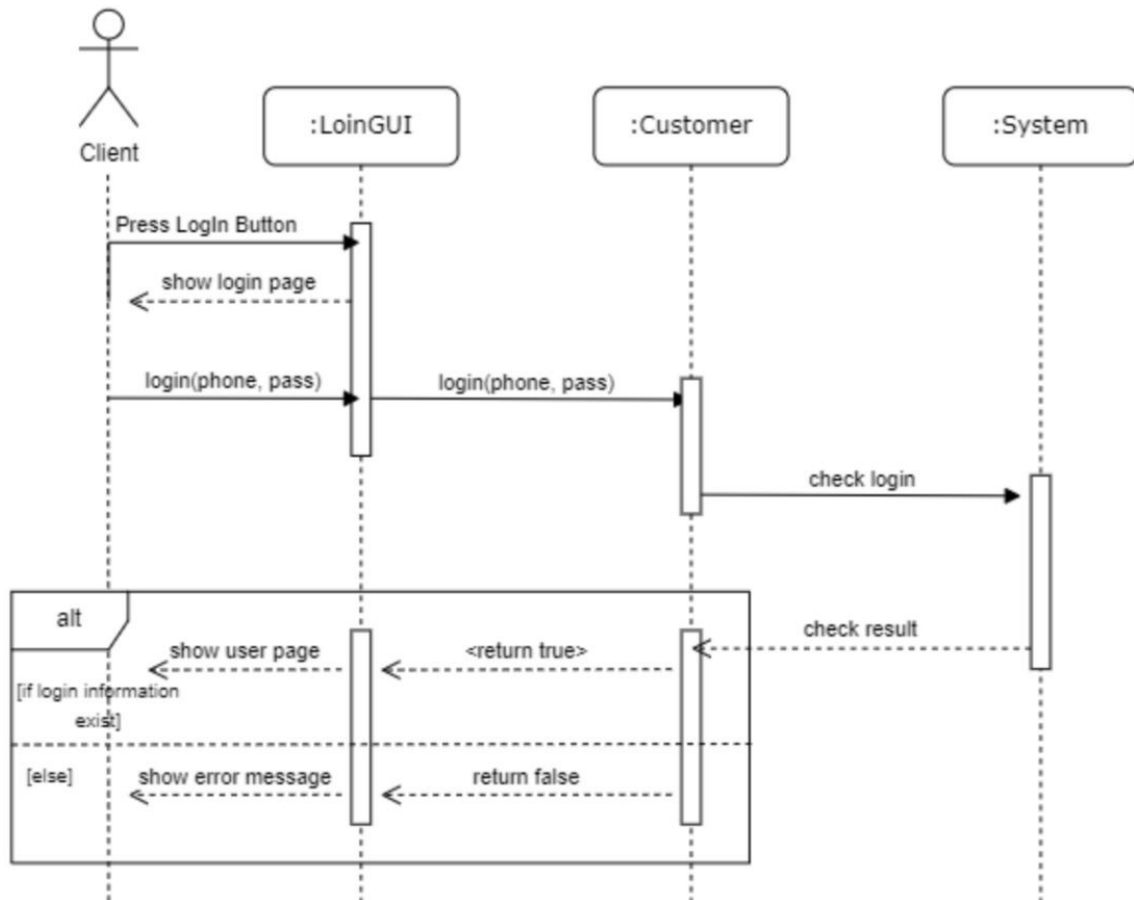
4.1 Sequence Diagrams:

4.1.1 Sequence Diagram 1:

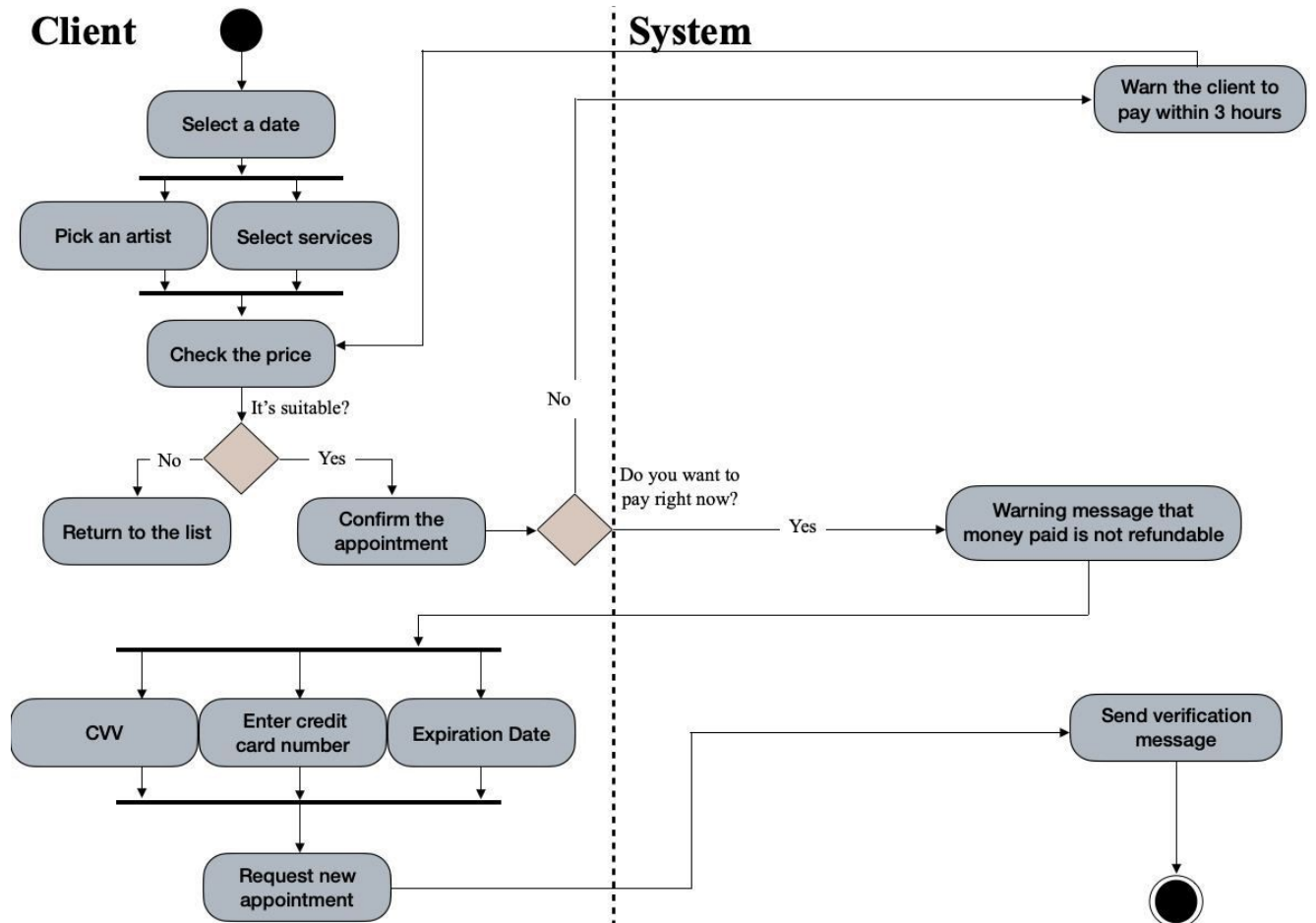Use case: pick an artist

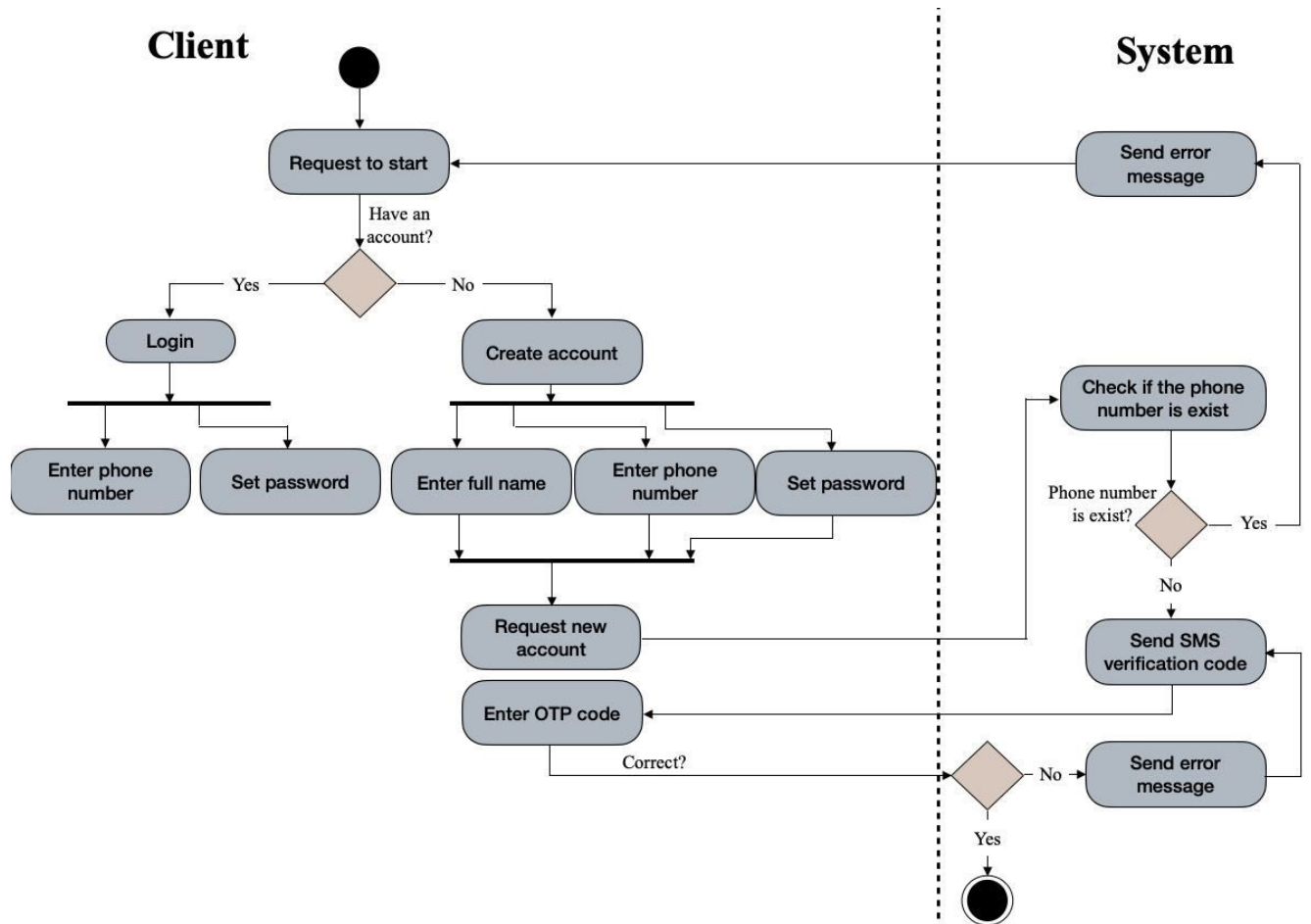## 4.1.2 Sequence Diagram 2:

Use case: login

4.2 Activity Diagrams:

4.2.1 Activity Diagram1:

Use case:Payment

4.2.2 Activity Diagrams 2:

Use case:Registration

4.3 Testing

4.3.1 Testing Objectives

Testing is an essential process in software engineering development that is done by qualified people evolved in the software development process. While the main goal of testing is to find bugs early and fix them, there are several other goals which are the following:

1. Ensuring that the system meets the requirements.
2. Measuring the performance of the system and evaluating it.
3. Enhancing the quality of the system.
4. Risk management and failure detection.
5. Offering the best product to satisfy the customer.
6. Reducing maintenance cost and preventing system failure.

4.3.2 Testing Strategy

We used black box testing to test functional requirements based on our system. We will test these three functionalities:

1. change booking date

2. pick an artist

The system result must match the expected answer for this test to pass; otherwise, the test is incorrect.

4.3.3 Testing Approach

Our approach in testing is provide an input to the system being tested then we observe the behavior of the system.

4.3.4 Test Plans: consists of 2 test cases

Test Plan 1

System: Beauty Me Application

Test case name: change booking date

Description: Test if the customer can change booking date successfully.

Test Scenario: Check system's response when customer enter the date information.

Precondition:

• The customer must have a reservation

Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Pass/ Fail
1	check system behavior when the customers change booking date approved	1- Logged in 2- Click on booking 3- Choose change a date 4- Choose date 5- date change confirmed 6- Msg "The date has changed"	Change booking date result: Confirmed. Booking information: Date Date: 10/10/2023.	change booking date successfully.	As expected	Pass

| 2 | check system behavior when the customers change | 1- Logged in 2- Click on booking 3- Choose change a date 4- Choose date | Change booking date result: rejected. | System should show an error message Change | As expected | Pass |
| | booking date rejected | 5- Msg "Date not available" | | booking date method has been rejected | | |

Postcondition: booking date change

Test Plan 2

System: Beauty Me Application

Test case name: pick an artist

Description: testing the customer can pick an artist in the system successfully

Test Scenario: Check system's response when customer pick an artist in the system.

Precondition:

• User must have account

Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Pass/ Fail

1	check system behavior when customer pick an artist in the system	1- Logged in 2- Click on Menu 3- Choose a makeup artist name	Pick an artist result: Confirmed. Artist information: name name: reem	The system shows a message Artist's Choice	As expected	Pass
	with accepted artist name	4-makeup artist confirmed				
2	check system behavior when customer pick an artist in the system with invalid artist name	1- Logged in 2- Click on Menu 3- Choose a makeup artist name 4-makeup artist name	Pick an artist Name: name:saleh	The system shows a message Ar invalid tist's	As expected	Pass

Postcondition: the user has account in our system.

4.4 Test Design Technique

4.4.1 Decision Table Testing

<u>Example: Username & Password</u>

| Username	F	T	F	T
Password	F	F	T	T
Expected Result	Error: Please Enter Username	Error: Please Enter Password	Error: Please Enter Username	Log in processed

4.4.2 Equivalence Partitioning

Example: Change Booking Date (1-31)

Invalid Partition	Valid Partition	Invalid Partition
• 0 • -1 • -2 • -3 • …	• 1 • 2 • 3 • 4 • … • 31	• 32 • 33 • 34 • 35 • …

Appendix A

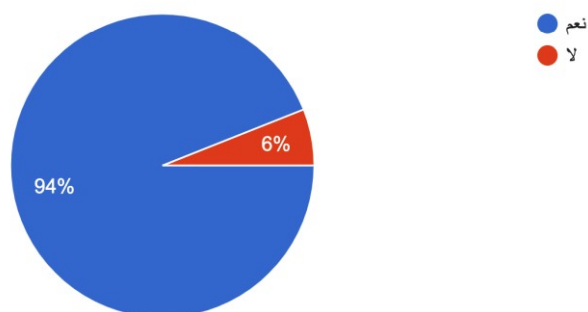هل تواجهين مشكلة في التواصل مع خبيرات التجميل؟
50 responses

- نعم
- لا، اتواصل معهم بسرعة

78%

22%
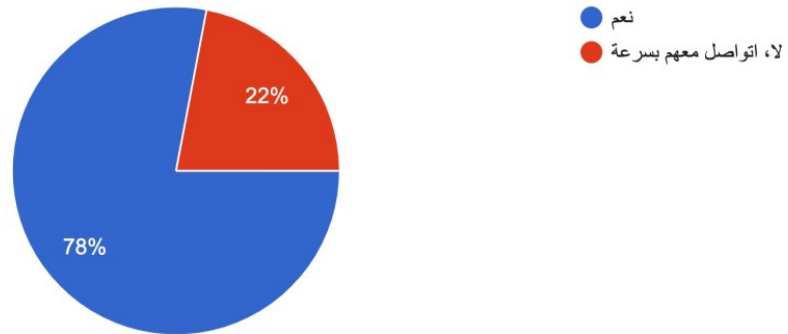
ما مدى معرفتك بخبيرات التجميل الموجودات بالقرب من منزلك؟
50 responses

- ٠٪
- ٢٥٪
- ٩٠٪

42%

56%
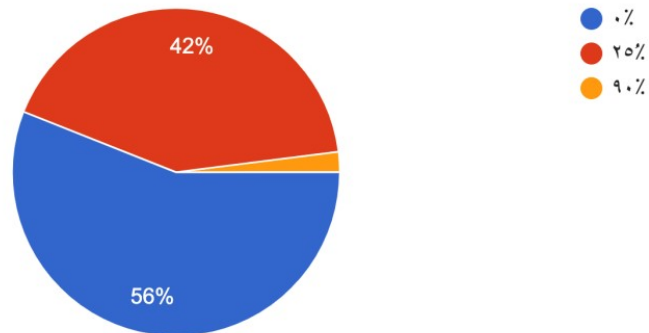
هل تفضلين وجود تطبيق يسهل عملية حجز موعد مع خبيرة تجميل؟

50 responses

● نعم
● لا

94%   6%

اقتراحات واستفسارات:

5 responses

.
وجود تقييمات و لكل تقييم خصم لفترة محدودة ، عرض اختصاص كل خبيرة تجميل
وضع دوراتهم وشهاداتهم في التطبيق
عمل قروب لكل حي