IT 309 SOFTWARE ENGINEERING

PROJECT DOCUMENTATION

Beauty Appointment System
GlamfyMe

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TABLE OF CONTENTS

1. Introduction

GlamfyMe is a beauty appointment management system that simplifies booking for clients and service providers. It integrates key features like appointment scheduling, service browsing and profile management.

Following the Agile methodology, the project ensures iterative development and continuous improvements. The tech stack includes React (frontend), Node.js with Express (backend), and MySQL (database). Firebase handles authentication.

This documentation outlines the Glamfy Me system's purpose, core functionalities, and implementation approach, serving as a reference for future enhancements.

GitHub repository: https://github.com/EmiinaPeljto/beauty_appointment_system.git

1.1. About the Project

GlamifyMe is a simple web-based platform that is designed to simplify beauty appointment booking and offer overall convenience. The website enables users to browse and book beauty treatments in comfort, manage their bookings, and stay in order using an incorporated calendar function. GlamifyMe also offers a high-rated list of salons and a specific page for users to favor and easily book their preferred salons with no inconvenience.

Other features encompass personalized reminders for upcoming appointments, canceling bookings, and an interactive interface to guarantee a seamless user experience. GlamifyMe makes it simple for users to manage their beauty regimen while connecting them with credible beauty professionals.

1.2. High-level Plan

The project will be realized in multiple phases: planning, core feature development, core feature enrichment with additional functionalities, and deployment. Each phase focuses on a specific aspect of the system's development, ensuring steady progress and addressing user needs effectively.

A detailed roadmap exists that outlines the timeline, key milestones, and expected deliverables for each of the phases.
The release plan includes milestones for both core features and additional functionalities, with deployment as the final phase for ensuring the system's readiness for users.

1.2.1. The GO Product Roadmap

THE GO PRODUCT ROADMAP

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DATE The date or time frame when a goal should be met.	March 2025	April 2025	May 2025	June 2025
NAME The name of the new release.	Project Planning	MVP Release	First Release	Final Release
GOAL The outcome or benefit you want to achieve.	Define project scope, plan development, and establish core requirements.	Develop and submit the first working entity.	Deliver a functional system with core features and submit documentation.	Fully functional deployment with improved user experience and testing.
FEATURES The high-level features required to meet the goal.	- Product Roadmap & Release Plan - Functional & Non-Functional Requirements (25 User Stories) - UML Diagrams (Activity, Class, Sequence)	- User Authentication - Salon Listing - Basic Appointment Booking System	- User Profiles - Appointment Management (View, Edit, Cancel) - UI Implementation - API Integration	- Calendar Integration - Appointment Notifications - UX Refinements - Finalized Testing
METRICS The measures to determine if the goal has been met.	-Completion of product roadmap & release plan(100%) -Finalized list of functional & non-functional requirements (25+ user stories) -Completion of UML diagrams (Activity, Class, Sequence)	-User authentication tested at least 90% of test cases -Salon listing functionality implemented with at least 10 test salons -Basic appointment booking system functional with at least 80% success rate in test runs	-User profiles successfully created for at least 50 test users -At least 70% of appointment actions (view, edit, cancel) completed without errors -Successful API integration with 80% uptime during testing	-80% of users complete at least one booking per month -Calendar integration used by at least 60% of users -At least 90% of bookings completed without errors

www.romanpichler.com
Version 01/2023

1.2.2. Release Plan

Release 1.0 – First Release (March 25 – May 11, 2025)

Goal: Deliver a functional system with core features and submit documentation.

Features & Timeline:

1. ***March 25 – March 31*** → Define Functional & Non-Functional Requirements
2. ***April 1 – April 7*** → Complete UML Diagrams (Activity, Class, Sequence)
3. ***April 8 – April 14*** → Develop User Authentication (Sign-up, Login)
4. ***April 15 – April 21*** → Implement Salon Listing (View, Filters)
5. ***April 22 – April 28*** → Build Basic Appointment Booking System
6. ***April 29 – May 5*** → UI Implementation & API Integration
7. ***May 6 – May 10*** → Testing & Bug Fixes
8. ***May 11, 2025*** → First Release (Launch Core Functionalities)

Milestone: First Release (May 11, 2025)

Release 2.0 – Final Release (May 12 – June 15, 2025)

Goal: Deliver a fully functional and stable system with an improved user experience, seamless third-party integrations, and optimized performance, ensuring a smooth booking and management experience for all users.

Features & Timeline:

1. ***May 12 – May 18*** → Implement User Profiles (Edit Profile, Upload Picture)
2. ***May 19 – May 25*** → Add Appointment Management (View, Edit, Cancel)
3. ***May 26 – June 1*** → Calendar Integration & Appointment Notifications
4. ***June 2 – June 8*** → UX Refinements & Performance Optimization
5. ***June 9 – June 14*** → Finalized Testing & Bug Fixes
6. ***June 15, 2025*** → Final Release (Launch Enhancements & Fixes)

Milestone: Final Release (June 15, 2025)

1.3. Project Requirements

1.3.1. Theme 1: User Authentication & Account Management

1.3.1.1. Epic 1: User Registration

1. **SignUp**
   As a user I want to create an account in order to make an appointment or log in to an existing one.

   Acceptance Criteria:

   - The form should include the following fields: First Name, Last Name, Email, Phone Number, Password, and Repeat Password.
   - All fields should be clearly labeled.
   - Users should not be able to submit the form if any field is empty.
   - The Password and Repeat Password fields should validate that the values match.
   - Clicking the "Sign Up" button should validate all form fields.
   - If validation fails, a clear error message should be displayed to the user indicating what needs to be corrected

- If validation passes, the user should be able to verify email.
- Below the "Sign Up" button, a message is displayed: "Already have an account?Log in"
- Clicking "Log in" navigates the user to the login page.

2. **LogIn**

   As a user, I want to either log in with my credentials or sign up for a new account, so I can be able to make an appointment.

   Acceptance Criteria:

   - The form should include the following fields: Email and Password
   - All fields should be clearly labeled
   - Users should not be able to submit the form if any field is empty.
   - Clicking the "Log In" button should validate all form fields.
   - If validation fails, an error message should be displayed to the user, but it cannot contain specific details about what is wrong (for security reasons).
   - If validation passes, the user should be navigated to the Profile page.
   - Below the "Log In" button, a message is displayed: "Don't have an account? Sign Up."
   - Clicking "Sign Up" navigates the user to the sign-up page.

3. **Email Verification with OTP Code**

   As a new user, I want to verify my email by entering a 6-digit code sent to my email, so that I can securely complete my account registration and prevent unauthorized access.

   Acceptance Criteria:

   - The system sends a 6-digit verification code to the user
   - The user has 3 attempts to enter the correct verification code.
   - If the user enters the wrong code 3 times, they can no longer enter a code.
   - The "Resend Code" button can only be clicked once.
   - If the user enters the correct code within the attempts limit, their email is verified, and they can proceed.
   - The verification code expires after 60 seconds.

4. **Password Recovery Process**

   As a user, I want to reset my password if I forget it, so I can regain access to my account.

   Acceptance Criteria:

   - A "Forgot Password?" link is displayed below the login input fields.
   - Clicking the "Forgot Password?" link navigates the user to the Forgot Password page.
   - The Forgot Password page displays:
     - Explanatory text: "Enter your email to receive a password reset link."
     - An input field where the user enters their registered email address.
     - A "Continue" button, which remains inactive until a valid email is entered.
   - Clicking the "Continue" button sends a password reset link to the user's email and displays a confirmation message: "A reset link has been sent to your email."
   - The password reset link directs the user to the Reset Password page.

5. **Log Out**

   As a user, I want to be able to log out from my account.

   Acceptance Criteria:

   - When the user clicks on the profile icon, a dropdown should appear with the options "My Profile" and "Log Out".
   - Clickin on the "Log Out" user should be able to log out
   - After user is successfully logged out, the user should be navigate back to the home page

1.3.1.2. Epic 2: Profile Management

1. View and Customize Profile Information

As a user, I want to view my personal information (name, email, phone number) and optionally add a profile image, so I can personalize my profile.

Acceptance Criteria:

- The page displays:
  - User's name, email, and phone number (fetched from the database).

    - Option to upload a profile image.
    - If the user uploads a profile image, it is displayed on the profile page.
    - User should be able to change the username

1.3.2. Theme 2: Appointment Management

1.3.2.1 Epic 1: Appointment Booking Process

1. **Book Appointment (Date and Time Selection)**
   As a user, I want to choose a specific date and time slot for my appointment, so I can book my services at a convenient time.
   Acceptance Criteria:
   - A calendar is displayed, allowing the user to select available dates.
   - Available dates are visually distinguishable from unavailable ones.
   - When the user selects a date, a circle around the selected day changes color.
   - After selecting a date, available time slots are displayed below the calendar.
   - Time slots are visually distinguishable (e.g., grayed out for unavailable slots).
   - When the user selects a time slot, the slot changes color to indicate selection.
   - The selected date and time slot are saved and used for booking the appointment.

2. **Confirm Services and Proceed to Invoice Page**
   As a user, I want to review my selected services, add more if needed, and then proceed to the page where I can receive my invoice and confirm my appointment details.
   Acceptance Criteria:
   - A list of selected services is displayed, showing: service name and price of each service
   - A "Next" button is displayed at the bottom of the page.
   - Clicking the "Next" button navigates the user to the invoice page.

3. **Complete Appointment Booking**
   As a user, I want my invoice to include all information about my appointment (total price, services, etc.) in order to confirm the booking and finalize my appointment.
   Acceptance Criteria:

- The first part of the invoice should display the salon’s name, its location, and the date and time of the appointment.
- It should display the user's first name, last name, email, and phone number (fetched from the database).
- The price for each service and the total price should be displayed clearly.
- There should be a "Make an Appointment" button to finalize the booking.
- After clicking the "Make an Appointment" button, a confirmation popup should appear, displaying a message like: "Booking Successful!"
- The confirmation popup should have a 'Done' button, which navigates the user to the profile page, where they can see their appointment

4. **View Appointment Details and Confirm**

   As a user, I want to view the details of an appointment from my profile and confirm it after reviewing, so I can ensure the information is correct.

   Acceptance Criteria:

   - The detailed appointment page displays:
     - A generic image (not the salon image).
     - A personalized greeting message using the user's name.
     - Salon name and location.
     - Services booked by the user.
     - Date and time of the appointment.
   - Two buttons are displayed at the bottom of the page:
     - Cancel Appointment: Clicking this opens a pop-up
     - Okay: Clicking this navigates back to the Upcoming section of the profile page without making any changes.

5. **Cancel an appointment**

   As a user, I want to cancel an upcoming appointment if needed, so I can manage unexpected changes in my schedule.

   Acceptance Criteria:

   - On the appointment detail page, a Cancel Appointment button is displayed.
   - Clicking the button opens a confirmation popup that asks, “Are you sure you want to cancel the appointment?”

- The pop-up includes a No button that navigates back to the appointment details and Yes button that will cancel the appointment
- After clicking the yes button, another pop-up window appears that state "Your appointment has been canceled."
- The pop-up includes a Done button that navigates back to the profile page with the updated Upcoming section

1.3.3. Theme 3: Salon Management

1.3.3.1. Epic 1: Salon Discovery

1. **View Salon Pricing**
   As a user, I want to view a salon's pricing by category, so I can see the available services and make an appointment for the service I want.
   Acceptance Criteria:
   - The screen should display salon pricing organized by categories (e.g., "Haircut - Long Hair", "Haircut - Short Hair", etc.).
   - The pricing for each service should be clearly displayed next to the corresponding category.
   - There should be a "Make an Appointment" button that becomes clickable once a service is selected by the user.
   - Clicking the "Make an Appointment" button should navigate the user to the "Make an Appointment" screen where they can proceed with booking the service.
2. **View Salon Information in About Tab**
   As a user, I want to view detailed information about the salon in the About tab, so I can learn about its location, working hours, payment methods, before making a decision.
   Acceptance Criteria:
   - When the About tab is selected, the following details are displayed:
     - Salon's phone number and email address.
     - The salon's working hours
     - Accepted payment methods
     - The information should load dynamically when the About tab is clicked without refreshing the entire page.

3. **View Salon Images, Details, and Save as Favorite**

   As a user, I want to view salon images and key details and have the ability to save the salon as a favorite so that I can evaluate the salon's quality and save it for easy access later.

   Acceptance Criteria:

   - The page displays salon images.
   - Below the images, the salon's details are displayed, including:
     - Name
     - Location
     - Star rating (e.g., 4.5 stars)
     - Heart icon (for saving as a favorite)
   - Clicking the heart icon turns it red and saves the salon to the user's favorites.
   - Clicking the heart icon again removes the salon from the user's favorites.

1.3.4. Theme 4: User Experience & UI Navigation

1.3.4.1. Epic 1: Navigation

1. **Navigation Header and Seamless Access**

   As a user, I want to have a well-structured navigation header, so that I can easily access key pages and manage my account efficiently.

   Acceptance Criteria:
   - The header is displayed at the top of every page.
   - The left side of the header contains a logo icon, which redirects to the Home page when clicked.
   - The center of the header contains three main navigation links:
     - Home (redirects to the homepage)
     - Services (redirects to the services page)
     - Help (redirects to the help page)
   - The right side of the header changes dynamically based on user authentication:
   - If the user is not logged in, a "Sign Up" link is displayed.
   - Clicking the "Sign Up" link redirects the user to their profile page.
   - If the user is logged in, a profile icon is displayed instead.
   - Clicking the profile icon redirects the user to their profile page.

2. **Navigate Between Profile Sections**
   As a user, I want to switch between Calendar and Favorites sections, so I can manage my appointments or view my favorite salons conveniently.
   Acceptance Criteria:
   - *Two icons (Calendar and Heart) are displayed as a navigation bar.* Clicking the Calendar icon displays either Upcoming or Completed appointments, based on the selected tab.
   - Clicking the Heart icon displays the list of liked salons.

3. **Navigate Between Upcoming and Completed Sections**
   As a user, I want to switch between the Upcoming and Completed sections within the Calendar view, so I can easily manage both future and past appointments.
   Acceptance Criteria:
   - Two tabs labeled Upcoming and Completed are displayed within the Calendar section.
   - The Upcoming tab is selected by default when the profile page is opened.
   - Clicking on the Completed tab dynamically reloads the content to display completed appointments.
   - Clicking back on the Upcoming tab dynamically reloads the content to display upcoming appointments.
   - The selected tab is visually distinguishable from the unselected one (e.g., through color or underline).

4. **View Upcoming Appointments**
   As a user, I want to see a list of my upcoming appointments, so I can manage my schedule.
   Acceptance Criteria:
   - The default view of the profile page shows the Upcoming section
   - Each upcoming appointment is displayed as a card with:
     - Date and time of the appointment.
     - Name and location of the salon.
   - Clicking on an appointment card shows the modal with an appointment details (invoice).

1.3.5. Theme 5: Salon Reviews & Ratings

1.3.5.1. Epic 1: Best Rated Salons and User Engagement

1. **View Best Rated Salons**

   As a user, I want to view the best-rated salons, so I can make informed decisions based on customer reviews.

   Acceptance Criteria:

   - A section titled "Best Rated Salons" should display salon cards in a carousel format.
   - Each card should show the salon image, name, location, and rating based on overall customer ratings.
   - The carousel should be scrollable left and right.

2. **View Liked Salons**

   As a user, I want to view a list of salons I have liked, so I can easily access and revisit my favorite salons.

   Acceptance Criteria:

   - Clicking the heart icon on the profile page displays the list of liked salons.
   - The list of liked salons is shown as a vertical/horizontal list of salon cards.
   - Each salon card includes:
     - Salon image.
     - Name of the salon.
     - Location of the salon
     - Star rating of the salon.
   - Each salon card is clickable and leads to the salon's profile page.

1.3.5.2. Epic 2: Ratings

1. Add a Review

As a user, I want to submit my own review for a salon, so I can share my experience with others and help improve the salon's ratings.

Acceptance Criteria:

- There should be an "Add a Review" button that opens a modal to submit a review.
- The modal should include the following fields:
    - Rating stars (1 to 5) for rating the salon.
    - A text field for leaving a comment.
    - An option to upload an image of the service received.
    - A checkbox to confirm that the user agrees with the privacy policy.
- There should be a "Submit Review" button that, when clicked, submits the review.
- After submitting the review, a popup should appear with a confirmation message ("Thank you for your review!") and a "Go to Home" button that navigates the user to the Home screen.
- The modal should have an "X" in the upper-right corner to allow users to close it without submitting a review.

1.3.6. Theme 6: Contact and Support

1.3.6.1. Epic 1: User Support and Assistance

1. **Contact Us**
   As a user, I want to easily contact the support team so I can get help with using the website or resolve any other issues.
   Acceptance Criteria:
    - A "Contact Us" section should appear with a description of how users can get help.
    - The user's name and email will be displayed (fetched from the database).
    - The form should include the following fields: subject and message
    - All fields should be clearly labeled
    - Users should not be able to submit the form if any field is empty.
    - After clicking the submit button, the confirmation pop-up should appear .

1.3.7. Theme 7: System Performance and Reliability (Non-Functional Requirements)

1.3.7.1. Epic 1: High Availability, Security, and Cross-Platform Support

1. High Availability

As a user, I want the system to be available at all times so that I can book or manage my appointments without interruptions.

Acceptance Criteria:

- The system should maintain a 99.9% uptime to ensure continuous availability.
- Scheduled maintenance should occur during off-peak hours with prior user notification.

2. Cross-Platform Compatibility & Responsiveness

As a user, I want the system to work smoothly on different browsers and devices so that I can access it from anywhere.

Acceptance Criteria:

- The system should be fully responsive and accessible on desktop, tablet, and mobile devices.
- It should support major web browsers (Chrome, Firefox, Edge, Safari).
- It should work on both Windows and macOS.

3. **Data Security & Privacy**

As a user, I want my personal information to be protected so that I feel safe using the platform.

Acceptance Criteria:

- User data should be encrypted both in transit and at rest.
- Multi-factor authentication (MFA) should be available for users who opt in.

1.3.7.2. Epic 2: Simple, Intuitive User Experience

1. **Ease of Use**

   As a user, I want the system to have a simple and intuitive interface so that I can easily book appointments and manage services without confusion.

   Acceptance Criteria:

- The user interface should follow standard UX best practices for simplicity and ease of navigation.
- Users should be able to book an appointment in no more than three steps

1.3.7.3. Epic 3: Third-Party Service Integration

1. **Third-Party Integration**

   As a user, I want the system to integrate with external services so bookings are handled efficiently.

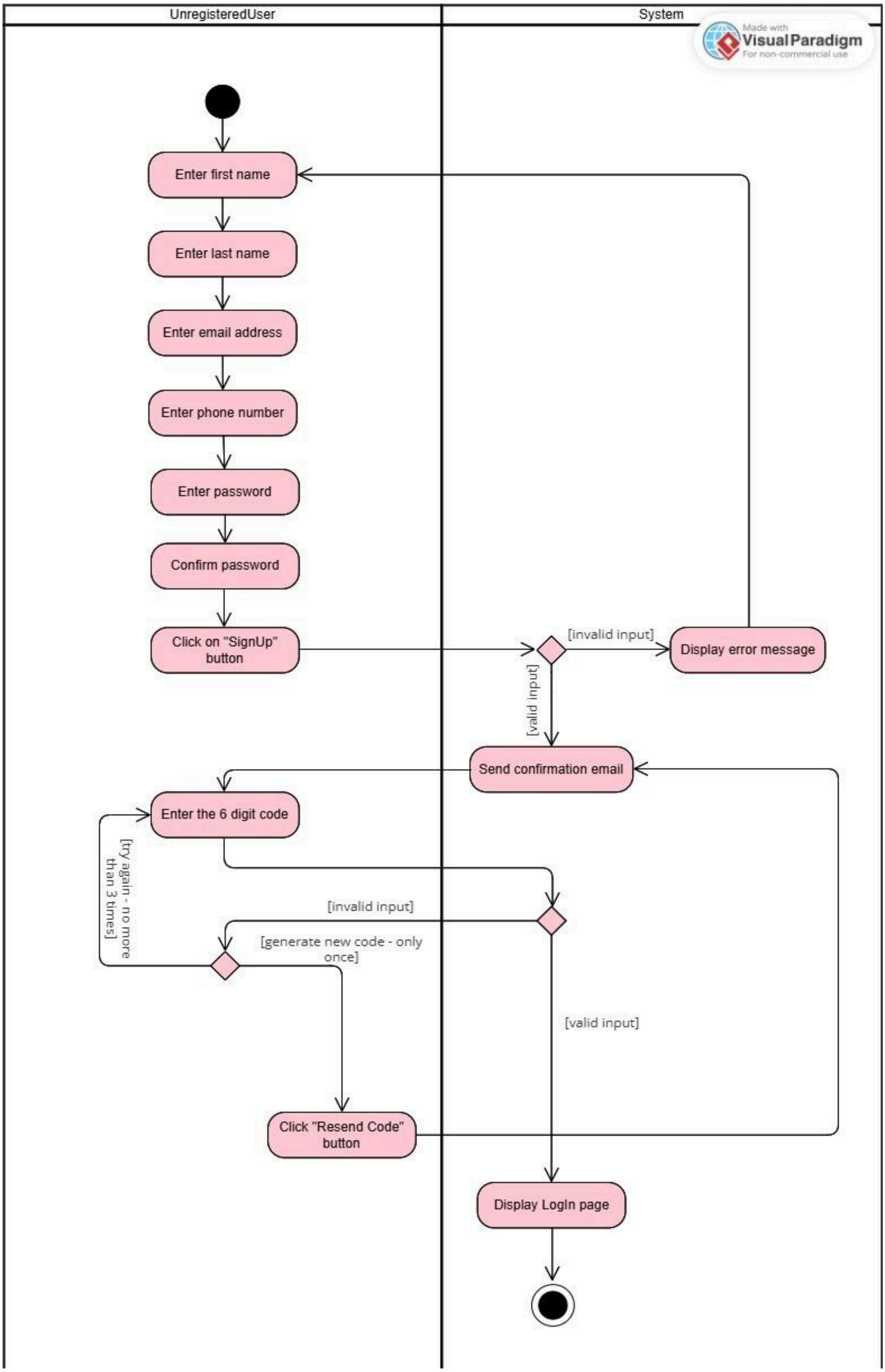
   Acceptance Criteria:

   - APIs for third-party services should be implemented securely and efficiently.
   - The system should be able to retrieve and update external booking data in real time.

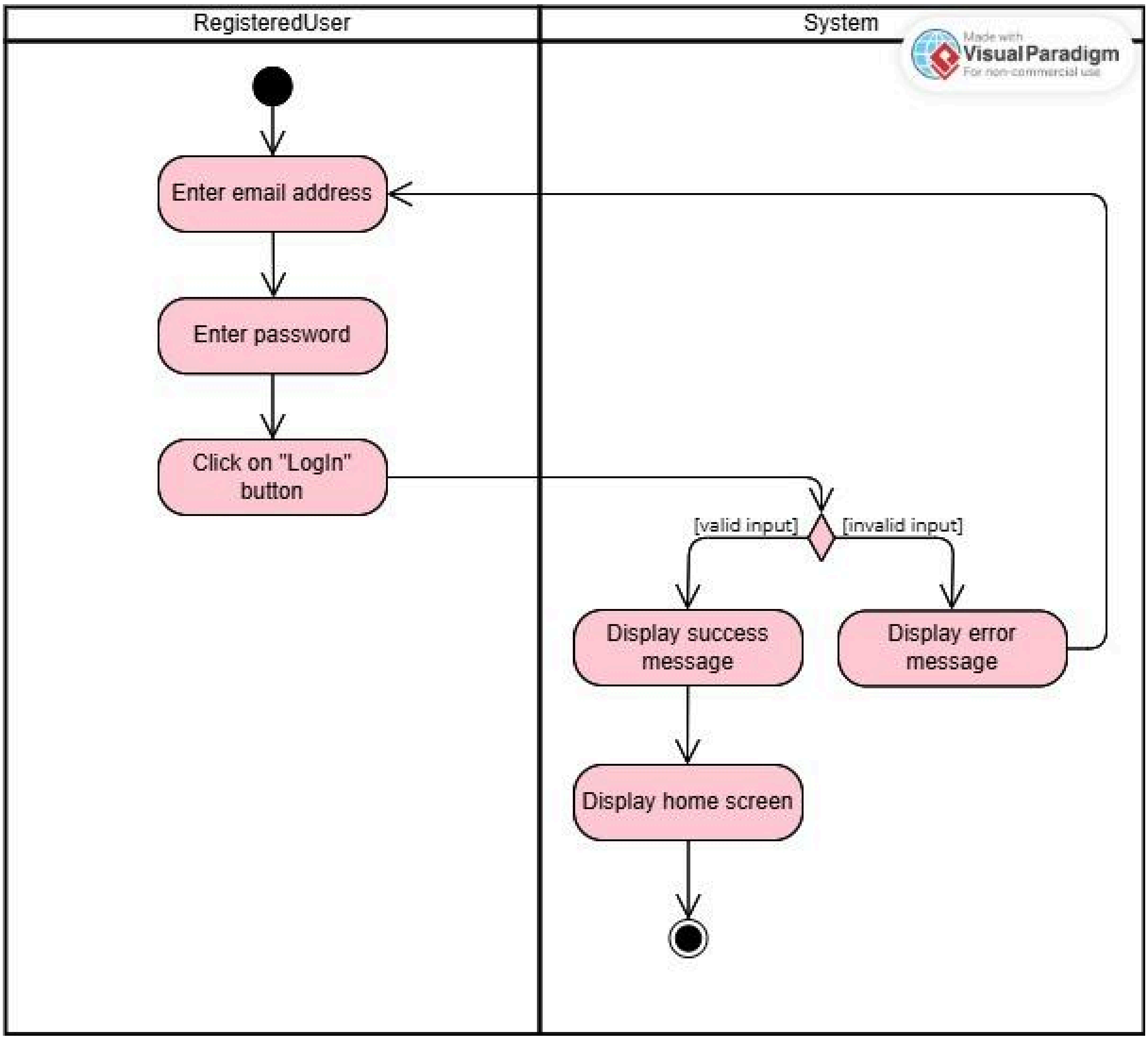
1.4. UML diagrams

1.4.1. Activity Diagrams

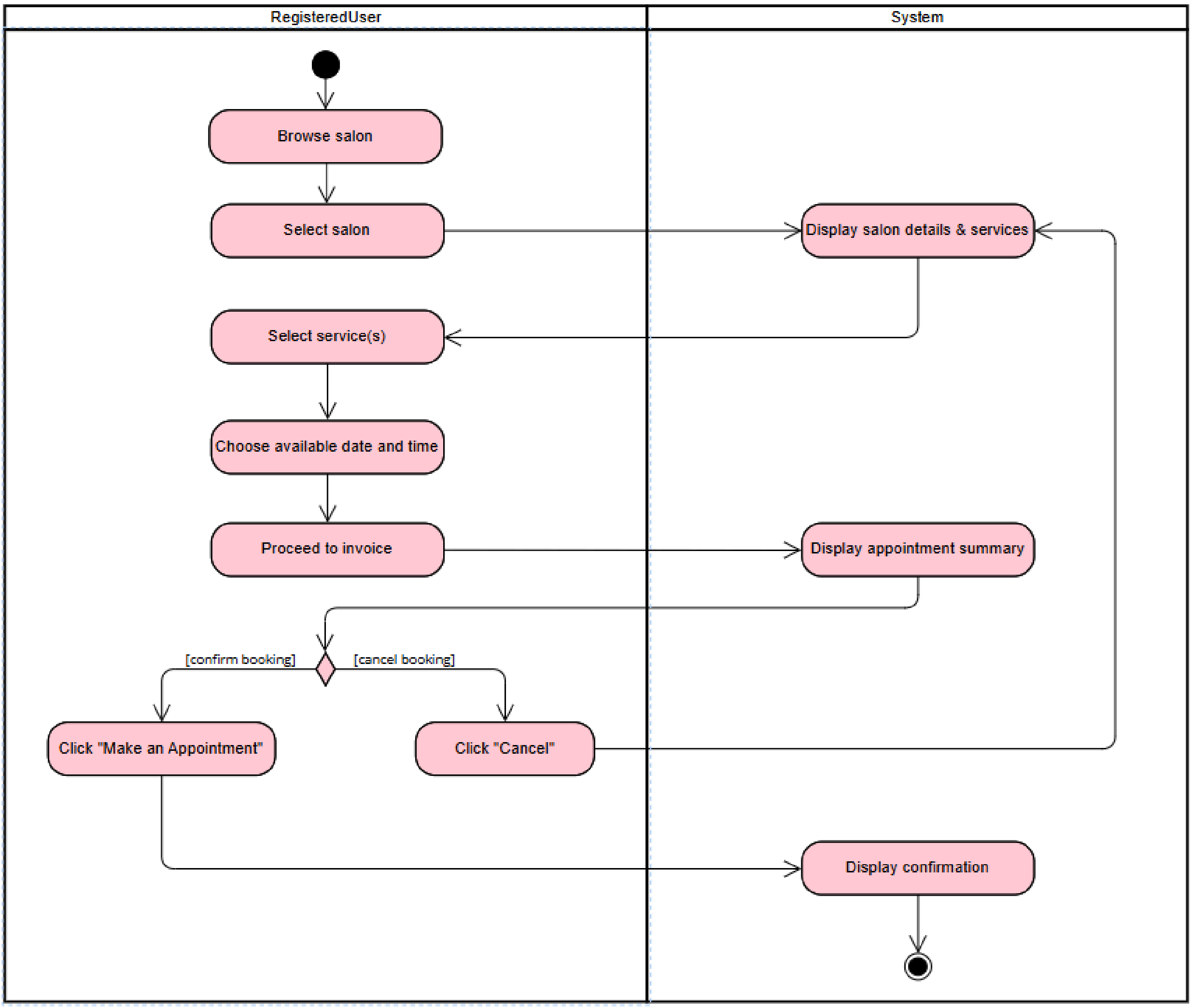
1.4.1.1. Registration Process



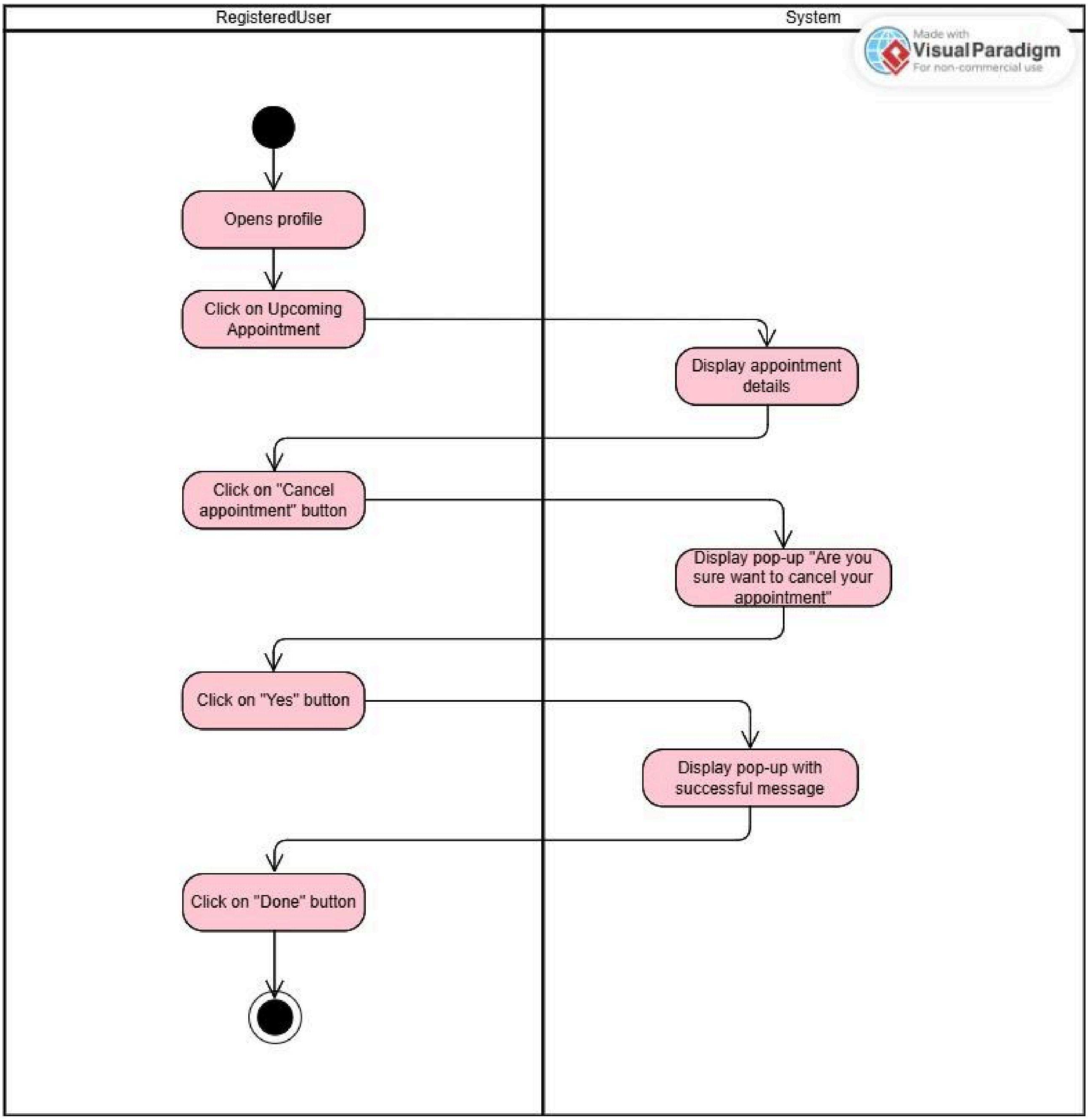
1.4.1.2. LogIn Process



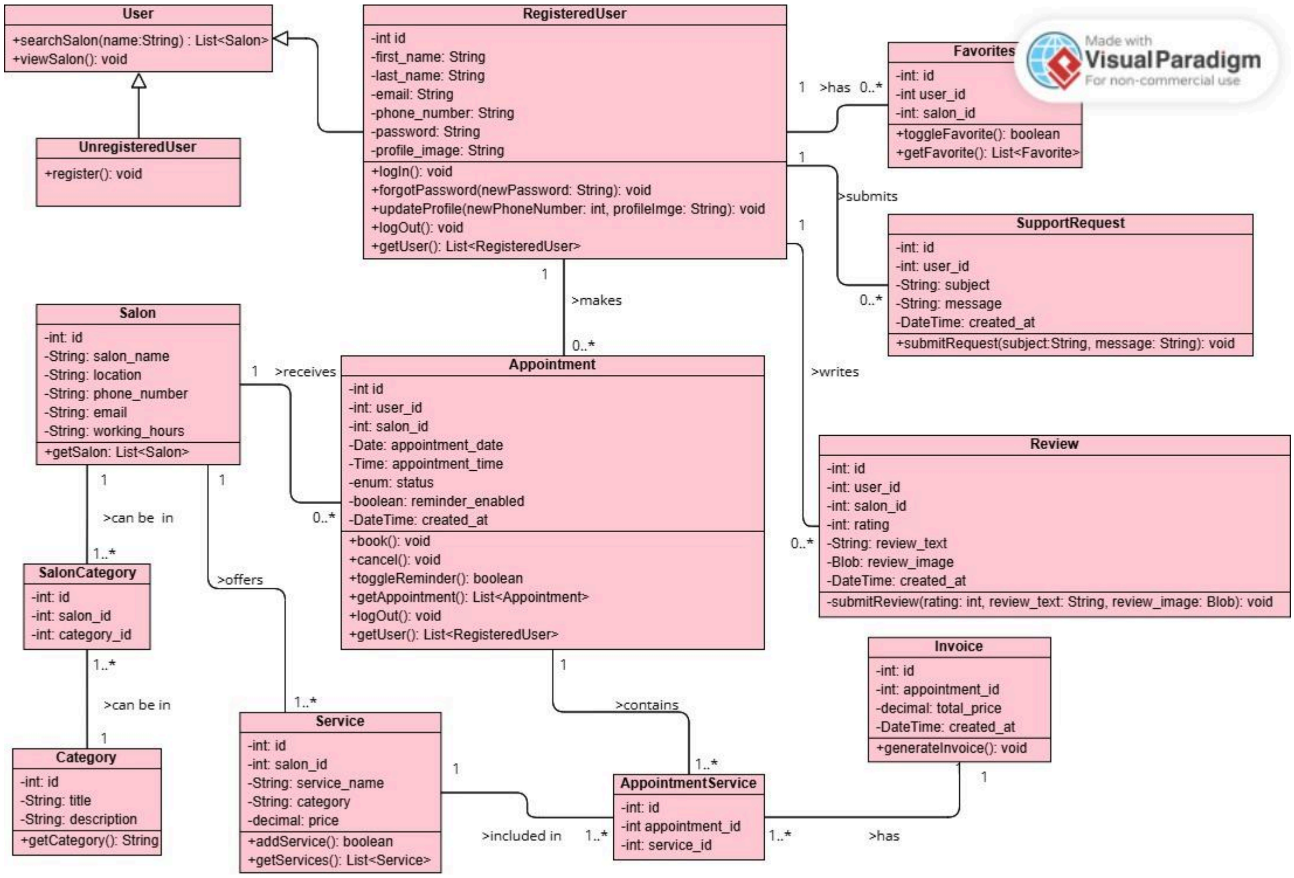
1.4.1.3. Make An Appointment



1.4.1.4. Cancel An Appointment

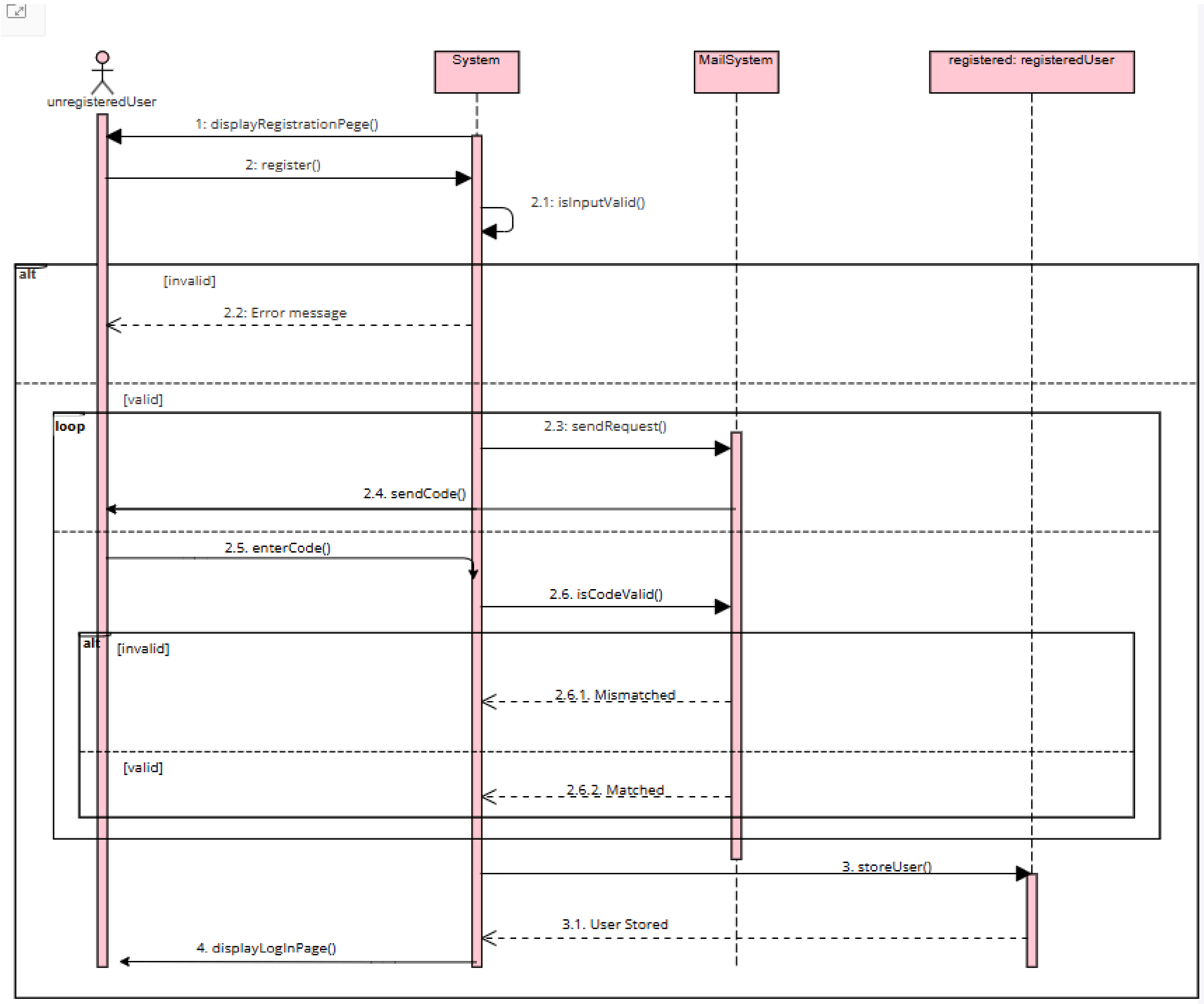


1.4.2. Class Diagram

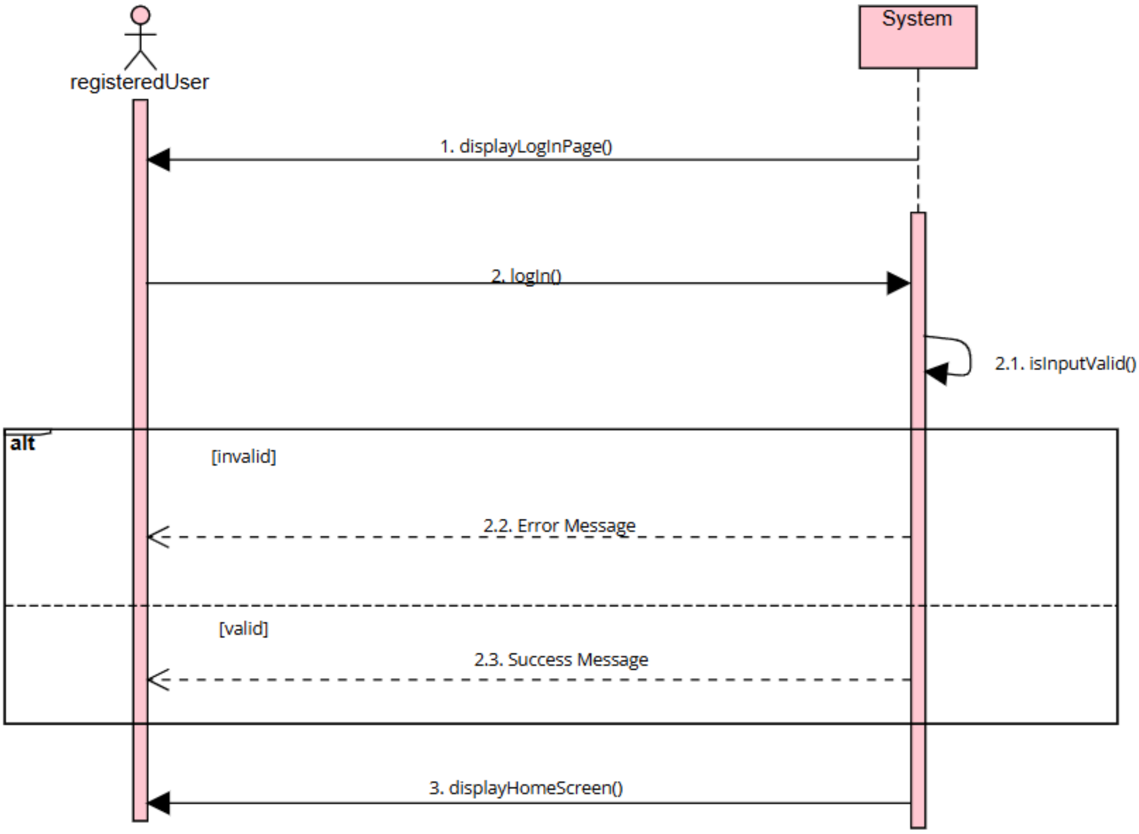


1.4.3. Sequence Diagrams

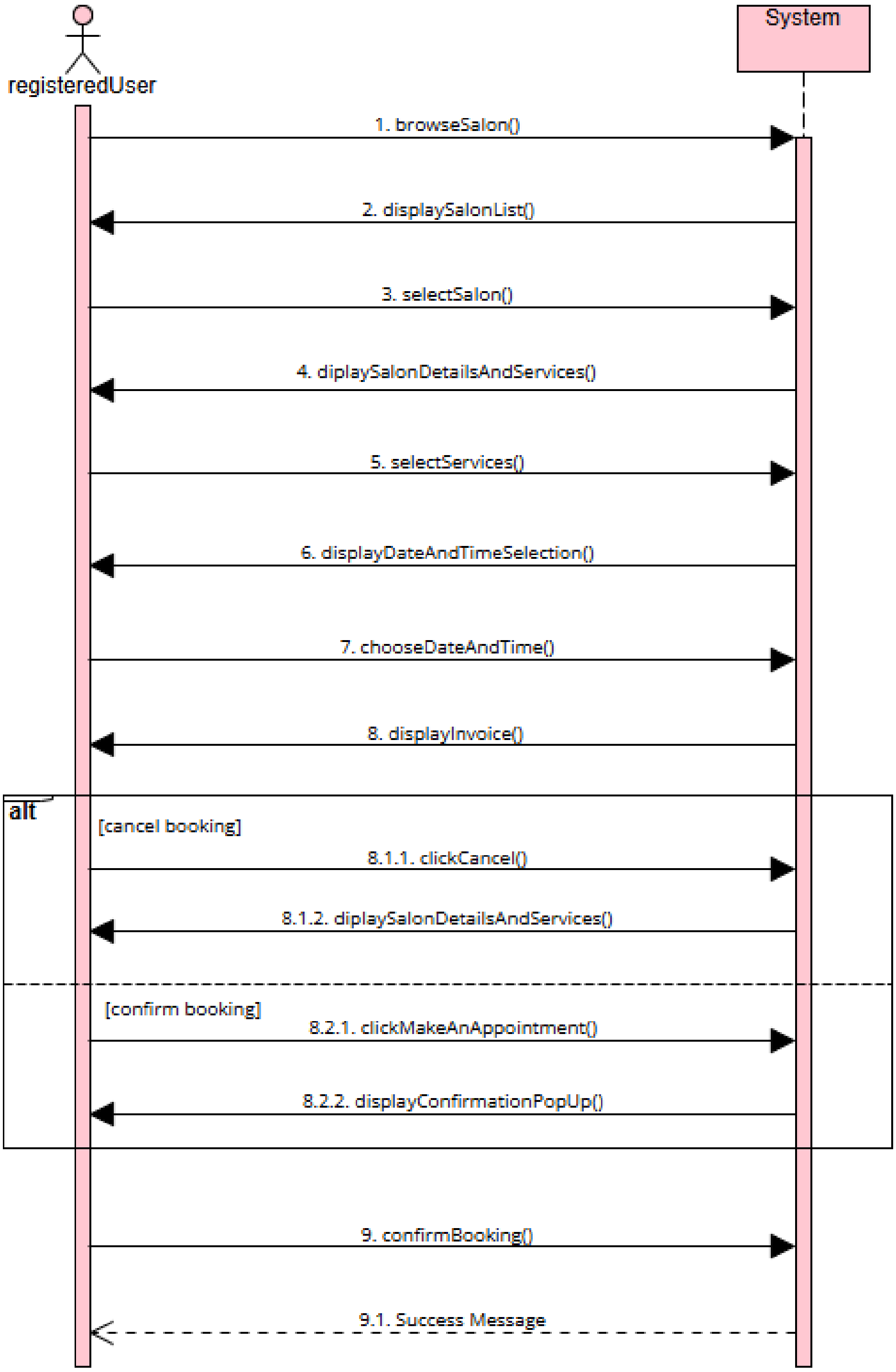
1.4.3.1. Registration Process



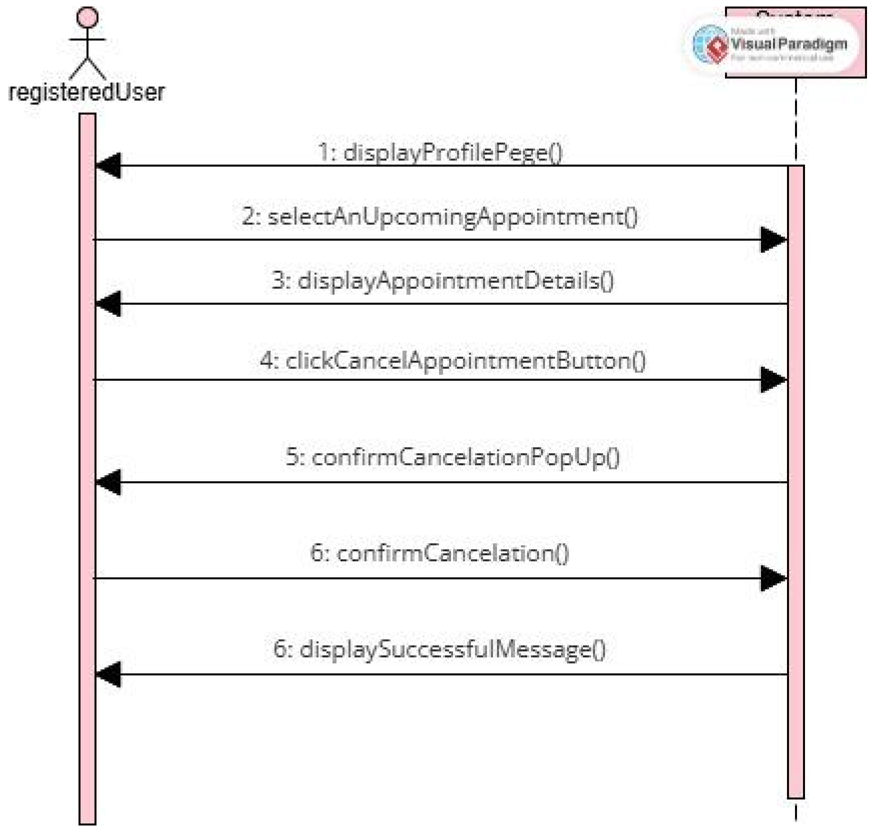
1.4.3.2. LogIn Process



1.4.3.3. Make An Appointment



1.4.3.4. Cancel An Appointment



2. Project Structure

2.1. Technologies

Describe or list *what technologies* (programming languages/frameworks) you used in your project for backend, frontend and the database. If you also used some other technologies or third-party tools, you could list them, as well.

~~Afterwards, specify which *coding standard* you used and in which part of your project (was it on the backend, frontend, both, etc.). If you are unclear about coding standards, refer to Week 2 and Week 3 on LMS.~~

2.2. Architectural Pattern

Describe also the architectural pattern that you used and why you chose that pattern. You can put screenshots of your project file organization.

2.3. Database Entities

Provide a list of *tables or entities* you have in your database/schema. If it is not obvious from the name of the table/entity what it is used for, also provide a brief explanation next to it. For example:

- users
- products

- chkt stores order checkouts
- …

2.4. Design Patterns

List the *design patterns* that you used in the project, and where they are in your source code (which files or exact line numbers). For example:

- builder pattern: used in the backend, in the file *rest/v1/OrderBuilder.php*

If you have a lot of design patterns, you can also add a separate subsection for type. Moreover, for each pattern, *briefly explain why* you chose to use that pattern and how it helped you out in that case. For example:

- “Since our orders can contain a multitude of parameters, many of them being optional, putting them all as constructor parameters would make our code messy. Therefore, we decided to use the builder pattern instead to create order objects. This makes it possible to build the order step-by-step, and only using the parameters that are necessary for that specific case…”

If you are not clear on what you need write in this section, refer to Week 5 and Week 6 on LMS, where we covered creational, structural and behavioral patterns, and visit Refactoring.Guru for detailed explanations on design patterns and their use cases.

2.5. Project Functionalities and Screenshots

Describe or list the main features of the application and provide a few screenshots of your project.

2.6. Tests

Describe which kinds of tests you wrote for your application (e.g. unit tests, Selenium tests, etc.) and where they are located inside the project.

3. Conclusion

Provide some closing statements or your final thoughts about the project you implemented. Are you satisfied with the overall implementation you managed to do? Are there any things you think you could improve on in the future? Was there something that was particularly difficult or challenging to implement?

You can note whatever concluding thoughts you have about the project here, but please *do try* to write something, and not leave this section blank.

4. Individual Contributions

In this section, each team member should describe their specific contributions to the project. This includes the tasks they were responsible for, and the work they completed. Be as detailed as possible to clearly outline your role and efforts in the project.

Consider mentioning:

- The specific features, research, or components you worked on.
- Collaboration with other team members and how you contributed to the team's overall progress.

This section helps document the contributions of each member, ensuring transparency and recognition of individual efforts. Please make sure to provide a thoughtful and comprehensive summary rather than leaving this section empty.

Example:

Student 1 (50%)

He was primarily responsible for the backend development and overall system architecture. His contributions included:

- **System Analysis and Design (SAD) Diagrams**: Created detailed SAD diagrams, including Use Case Diagrams, Sequence Diagrams, and ER Diagrams, to ensure a clear understanding of system requirements.
- **Backend Development**: Designed and implemented the database using MySQL and built the server-side logic using Node.js and Express.
- **API Development**: Developed RESTful APIs for data retrieval and manipulation, ensuring smooth communication between the frontend and backend.
- **Roadmap and Release Plan**: Worked on the project roadmap by setting milestones and defining sprints, ensuring an organized development process.
- **Collaboration**: Coordinated with another student to ensure the frontend design aligned with the backend functionalities, regularly testing and debugging API responses.

Student 2 (40%)

He focused on the frontend development and user experience aspects of the project. Her contributions included:

- **Frontend Development**: Designed and developed the user interface using React.js, ensuring a responsive and intuitive experience.
- **Integration with Backend**: Connected frontend components with the API endpoints created by John, ensuring seamless data flow between client and server.
- **Release Planning**: Assisted in structuring the release plan, defining different versions of the application, and prioritizing feature rollouts.
- **Collaboration**: Worked closely with the second other to ensure UI elements correctly displayed the data retrieved from the backend, conducting joint debugging sessions when necessary.

The highest percentage each student can have is 50%.