
COMP 3059 – Capstone Project I**Software Requirements Analysis and Design Assignment**

This assignment is an overview to gather the software needs with requirements analysis and help to proceed with the design.

The requirements analysis helps to break down functional and nonfunctional requirements to a basic design view to provide a clear system development process framework. It involves various entities, including business, stakeholders and technology requirements.

The design is the activity following requirements specification and before programming. Software design usually involves problem solving and planning a software solution.

To work on this assignment you could use the references and a sample template given below. The sample template can be customized to suit the nature of your project.

Reference Readings/Example:

http://www.uacg.bg/filebank/acadstaff/userfiles/publ_bg_397_SDP_activities_and_steps.pdf

www.cse.msu.edu/~chengb/RE-491/Papers/SRSEExample-webapp.doc

Reference template:

www.tricity.wsu.edu/~mckinnon/cpts322/cpts322-srs-v1.doc

1.0 Introduction

1.1 Purpose

The purpose of this barber shop management mobile app is to modernize and optimize the various aspects of running a barber shop. It provides a centralized platform for both barbers and customers to enhance the overall experience. The app's objective is to enhance the operational efficiency, customer satisfaction, and profitability of a barber shop. It restructures administrative tasks, improves customer engagement, and provides valuable insights to support the growth and success of the business.

1.2 Scope

| In Scope | Out of Scope |
|---|--|
| Mobile App Development: The primary focus of the project is the development of a user-friendly mobile app for Central Studios. | Major App Updates: Major updates or overhauls of the app beyond the initial development phase are not included. |
| Online Booking System: The app will feature an online booking system that allows clients to schedule appointments with barbers. | Payment Processing: While the app may facilitate bookings, payment processing for grooming services is excluded from the project scope. |
| Barber Portfolio Showcase: The app will showcase profiles of the shop's barbers, highlighting their skills and expertise. | Inventory Management: Managing grooming product inventory is not part of this project's objectives. |
| Consultation Feature: The app will include a consultation feature, allowing clients to discuss their grooming preferences and needs with their chosen barber before the appointment. | Grooming Product Sales: Selling grooming products or merchandise through the app is not within the project's boundaries. |
| Customer Feedback and Reviews: The app will enable clients to provide feedback and leave reviews about their grooming experiences. | Internationalization: Adapting the app for use in multiple languages or regions is not part of the project's objectives. |
| Appointment Reminder System: An automated appointment reminder system will be integrated into the app to reduce no-shows. | Integration with Third-Party Systems: Integrations with external systems or platforms are out of scope. |
| User Registration and Profiles: Clients can create profiles and manage their appointments through the app. | |

2.0 System Overview

The System Overview section introduces the system context and design.

2.1 Project Perspective

The Barber Shop Management System is a new self-contained system. It's not a replacement for an existing system, nor is it a follow-on member of a system family. Central Studios is venturing into the realm of digital management, and this project is an innovative step forward in that direction.

2.2 System Context

The system context involves Central Studios' transition into a more tech-savvy operation. It addresses strategic issues related to customer engagement and business growth. The system aims to enhance the customer experience, increase operational efficiency, and attract a broader customer base, ultimately contributing to the growth of Central Studios. It also reflects the changing landscape of barber shops and businesses adapting to digital transformation.

2.3 General Constraints

Resource Availability: The project is constrained by the availability of skilled development teams, designers, and project managers.

Customer Data Access: The project depends on access to customer data for user profiles and appointment history.

Time Constraints: The project must adhere to a set timeline, ensuring that it is completed within the specified time frame.

Technological Dependencies: The system may rely on specific technologies or software libraries, which must be available and compatible for development.

Stakeholder Involvement: The success of the project depends on active involvement and cooperation from Central Studios' management and staff.

User Adoption: The project's success is reliant on customers adopting and using the mobile app, so user-friendliness is a key constraint.

Training: If Central Studios' staff members need training to support the app, scheduling and conducting these training sessions are constraints.

Testing Environment: Access to a suitable testing environment is vital for thorough testing and quality assurance.

2.4 Assumptions and Dependencies

2.5

Availability of Skilled Development Team: We assume that a skilled development team is accessible for the design and development of the mobile app.

Customer Demand: We assume that there is sufficient demand for the mobile app among Central Studios' existing and potential customers.

Timely Feedback and Collaboration: We rely on customers providing timely feedback for app improvement and effective collaboration between the development team and Central Studios' management.

3.0 Functional Requirements

This section describes specific features of the software project. If desired, some requirements may be specified in the use-case format and listed in the Use Cases Section.

Functional Requirement 3.1.1: User Registration

Inputs:

- User-provided registration information, including name, email, and password.

Processing:

- Validate user-provided information for accuracy and completeness.
- Store user data securely in the app's database.
- Assign a unique user ID upon successful registration.

Outputs:

- Display the user's profile information.
- Enable users to manage their appointments through their profiles.

Functional Requirement 3.1.2: Online Booking

Inputs:

- Client-selected service, date, time, and preferred barber (if desired).

Processing:

- The app should check the availability of the selected service, date, time, and barber.

- Ensure that multiple clients do not book the same appointment slot.

Outputs:

- Confirm the appointment and display the appointment details in the client's profile.

Functional Requirement 3.1.3: Barber Portfolio Showcase

Inputs:

- Barber profile information, including name, photo, skills, and available time slots.

Processing:

- The app should display barber profiles with relevant information in a user-friendly and appealing manner.

Outputs:

- Users should be able to browse and select a barber based on their profiles.

Functional Requirement 3.1.4: Consultation Feature

Inputs:

- Client's grooming preferences, questions, or comments to be shared with the chosen barber.

Processing:

- The app should facilitate a secure and private chat interface for clients and barbers to engage in pre-appointment consultations.

Outputs:

- Clients and barbers should be able to exchange messages and

information for a better understanding of the appointment.

Functional Requirement 3.1.5: Customer Feedback and Reviews**Inputs:**

- Client-provided ratings and written reviews of their experiences with barbers.

Processing:

- The app should collect and store feedback and ratings for reference.

Outputs:

- Ratings and reviews should be visible for other clients to make informed decisions.

Functional Requirement 3.1.6: Appointment Reminder System**Inputs:**

- Appointment information, including date, time, and location.

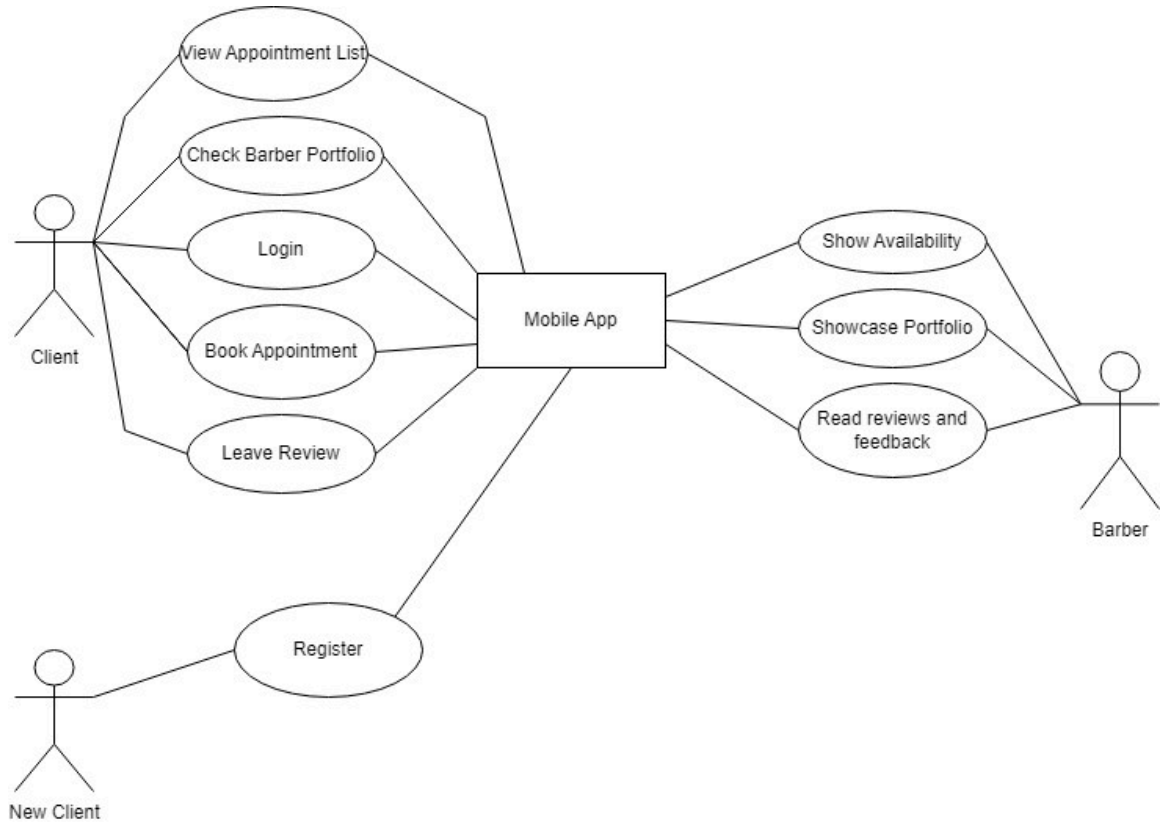
Processing:

- The app should send timely reminders, via push notifications or emails, to clients about their upcoming appointments.

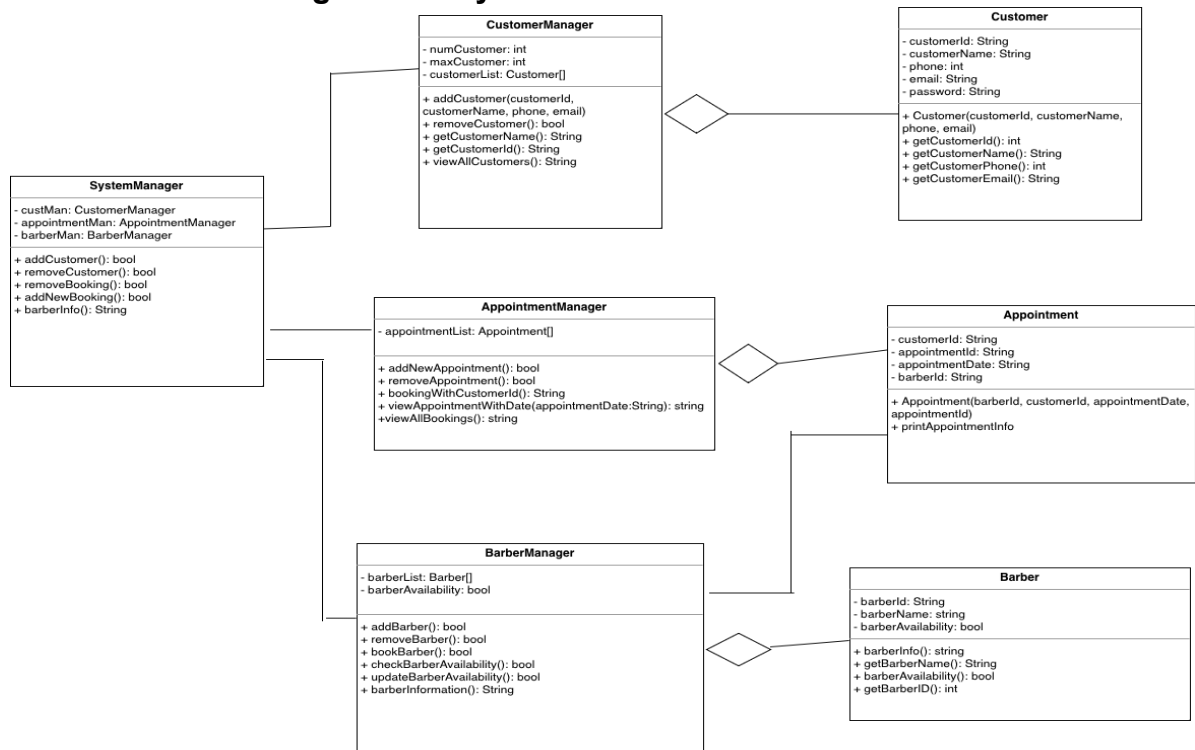
Outputs:

- Clients should receive reminders in advance to reduce the likelihood of no-shows.

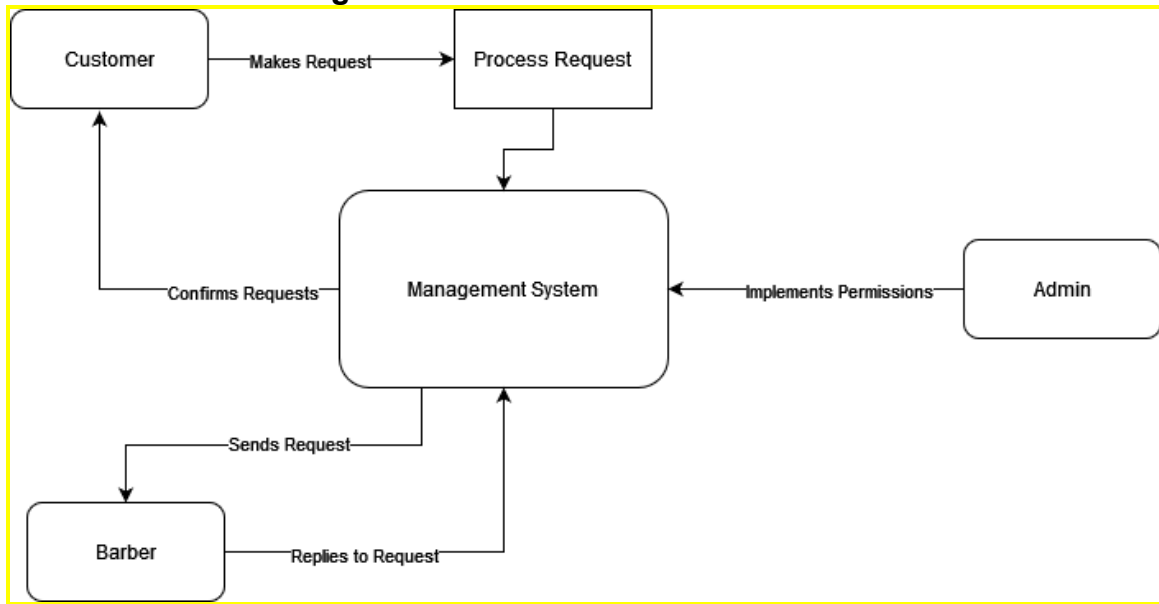
3.2 Use Cases



3.3 Data Modelling and Analysis



3.4 Process Modelling



4.0 Non-Functional Requirements

Performance: User interactions such as booking appointments, and checking availability should result in a response time of less than 5 seconds. Live barber consultation response time should be between 3-5 minutes.

Reliability: The application should have no more than 10 minutes of planned downtime per month for maintenance.

Availability: The application should be available 99% of the time, excluding scheduled maintenance.

Security: Ensure that user access control is in place, requiring strong password policies and role-based access control. All sensitive data, such as customer and payment information, must be encrypted in transit and at rest.

Maintainability: Keep up-to-date technical documentation for system components and APIs. Implement a change management process to track and approve modification requests to the system.

Portability: The application should be accessible and functional on major web browsers (e.g., Chrome, Firefox, Safari) and mobile platforms (iOS and Android).

5.0 Logical Database Requirements

Databases will be used in the application considering the large amount of information we would have to store.

Customer Information: Data includes names, contact information, appointment history, and payment history.

Staff Information: Data includes names, positions, contact details, and work schedules.

Appointment Information: Data includes date and time for appointments, services requested, and customer details.

6.0 Other Requirements

Additional requirements, if any.

7.0 Approval

The signatures below indicate their approval of the contents of this document.

| Project Role | Name | Signature | Date |
|--------------|------|-----------|------|
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