



BARBER SHOP MANAGEMENT SYSTEM

Project Manager: Emad Abbasi

Team Members: Emad Abbasi, Sarah Yao, Trinity Klein, Jeremiah Jarina, Anthony Perla, Elias
Moshood, Isiah Morales



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Barber Shop Management System – WBS

Dictionary

CIS 4375 – Capstone Team | Spring 2025

Project Manager: Emad Abbasi

Team Members: Emad Abbasi, Sarah Yao, Trinity Klein, Jeremiah Jarina, Anthony Perla, Elias Moshood, Isiah Morales

Sponsor: Carlos "El Tigre" Zuniga Cuts, Local Barber (*Contact via Product Owner, Anthony Perla*)

WBS Dictionary

1. Decide Team Cadence

- a. **WBS ID:** 1
- b. **Description:** Define how often the team will meet, what platforms will be used for communication (e.g., Microsoft Teams, email), and how collaboration will be managed throughout the project. This task establishes a consistent rhythm for Agile ceremonies such as sprint planning, reviews, and retrospectives. It also includes team alignment on expectations for attendance and communication responsiveness.
- c. **Responsible Resource:** Emad Abbasi
- d. **Dependencies:** None
- e. **Effort Hours:** 5

- f. **Completion Criteria:** A recurring meeting schedule is documented and agreed upon by all team members. Communication platforms are fully set up with working access for all participants. The entire team demonstrates understanding of and commitment to the collaboration structure.

2. Design Team Branding

- a. **WBS ID:** 2
- b. **Description:** Create a unique team identity including a name, logo, and design aesthetic for use in presentations, documentation, and final materials. The branding will reflect the professional image of the team and may incorporate elements from the barber shop industry. A finalized brand kit (logo, colors, font) should be delivered for use throughout the project.
- c. **Responsible Resource:** Jeremiah Jarina
- d. **Dependencies:** None
- e. **Effort Hours:** 6
- f. **Completion Criteria:** A visually appealing and finalized logo and branding guideline document are created and reviewed by the team. The assets must be available in various formats for use in slide decks, reports, and the final demo. Branding should be cohesive and consistent across all project materials.

3. Decide PM Methodology

- a. **WBS ID:** 3

- b. **Description:** Determine the project management methodology that will guide the team, such as Scrum, Kanban, or a hybrid Agile approach. This includes outlining how sprints will be planned, how progress will be tracked, and what roles each team member will assume. The selected methodology must align with both course expectations and team capabilities.
- c. **Responsible Resource:** Emad Abbasi
- d. **Dependencies:** None
- e. **Effort Hours:** 4
- f. **Completion Criteria:** A methodology document is written and distributed to the team outlining ceremonies, responsibilities, tools, and sprint cadence. The team must agree to adopt the framework for consistent execution. The methodology is referenced during sprint retrospectives and planning.

4. Get a Sponsor Strategy

- a. **WBS ID:** 4
- b. **Description:** Develop a communication and engagement plan for the sponsor that includes how feedback will be collected and how expectations will be managed throughout the project lifecycle. The strategy should ensure regular touchpoints and clear methods for presenting deliverables and gathering input. It also defines how the team will handle scope clarification or change requests.
- c. **Responsible Resource:** Anthony Perla
- d. **Dependencies:** None

- e. **Effort Hours:** 6
- f. **Completion Criteria:** A documented strategy including sponsor meeting frequency, communication formats, and feedback protocols is finalized. The sponsor confirms understanding and approval of the strategy. Team members involved in sponsor interactions follow the defined approach consistently.

5. Set Up Technical Infrastructure

- a. **WBS ID:** 5
- b. **Description:** Configure all tools and platforms required for development, including Azure DevOps for backlog management, GitHub for version control, and secure communication tools. This also includes setting up permissions, environments, and cloud resources if applicable. Access and functionality must be validated across all team members.
- c. **Responsible Resource:** Emad Abbasi
- d. **Dependencies:** None
- e. **Effort Hours:** 8
- f. **Completion Criteria:** All necessary technical platforms are accessible and functional for the entire team. Initial project repository, sprint board, and communication channels are tested and operational. Team members are briefed on the use of each tool.

6. Get a GitHub Repository Setup

- a. **WBS ID:** 6

- b. **Description:** Create the team's main GitHub repository, define version control conventions, and set up initial branches for development and deployment. Establish rules for pull requests, issue tracking, and commit message formatting. The repository should be protected and include an appropriate README file.
- c. **Responsible Resource:** Moshood Elias
- d. **Dependencies:** None
- e. **Effort Hours:** 4
- f. **Completion Criteria:** The repository is live, structured according to team conventions, and team members have push/pull access. A branch protection policy is in place, and an initial commit is created.

Development workflows are clearly defined and documented in the repo.

7. Document SDLC Process

- a. **WBS ID:** 7
- b. **Description:** Define the Software Development Life Cycle (SDLC) model the team will follow, including phases like planning, design, implementation, testing, and deployment. This documentation should include tools, roles, and deliverables associated with each phase. The SDLC model must be aligned with the chosen Agile methodology.
- c. **Responsible Resource:** Trinity Klein
- d. **Dependencies:** None
- e. **Effort Hours:** 5

- f. **Completion Criteria:** A complete SDLC document is written and approved by the team. The process is shared in the project documentation repository. It is referenced throughout project execution to guide development decisions.

8. Implement User Authentication

- a. **WBS ID:** 8
- b. **Description:** Develop and integrate a secure login system using token-based authentication, with encrypted password handling and validation logic. This functionality will support future features requiring secure access. Authentication endpoints must be tested for reliability and security vulnerabilities.
- c. **Responsible Resource:** Sarah Yao
- d. **Dependencies:** None
- e. **Effort Hours:** 10
- f. **Completion Criteria:** Users are able to securely log in and log out using encrypted credentials and access tokens. The authentication logic has been tested and documented. The feature integrates cleanly into the broader application without errors.

9. Implement Role-Based Access Control

- a. **WBS ID:** 9
- b. **Description:** Create a system to restrict and manage access based on user roles such as Admin, Barber, and Customer. This includes backend validation and front-end access controls. Roles must be enforced consistently across all application features.

- c. **Responsible Resource:** Moshood Elias
- d. **Dependencies:** Task 8
- e. **Effort Hours:** 12
- f. **Completion Criteria:** Each user role can access only its permitted functions. Tests confirm access control is enforced across endpoints and UI. Security review ensures no privilege escalation is possible.

10. Set Up Database Schema

- **WBS ID:** 10
- **Description:** Design and deploy the SQL-based relational database, including tables for appointments, customers, users, and services. Ensure all relationships and constraints are properly defined. Use ER diagrams and database scripts to support documentation.
- **Responsible Resource:** Moshood Elias
- **Dependencies:** Task 8
- **Effort Hours:** 15
- **Completion Criteria:** The schema is deployed to the development environment and verified through testing. Documentation includes ERD and SQL DDL statements. All necessary relationships, indexes, and constraints are present.

11. Create Appointment Scheduling UI

- **WBS ID:** 11
- **Description:** Build a user-friendly interface for booking, rescheduling, and canceling appointments. The interface should reflect real-time availability and

follow modern UX standards. Front-end should communicate seamlessly with back-end services.

- **Responsible Resource:** Jeremiah Jarina
- **Dependencies:** Task 10
- **Effort Hours:** 12
- **Completion Criteria:** Users can interact with the scheduling system with no errors or UI bugs. Functionality includes selection of date, time, and service. The interface passes usability testing.

12. Develop Appointment CRUD Operations

- **WBS ID:** 12
- **Description:** Implement the backend logic for creating, reading, updating, and deleting appointments. This will serve as the core of appointment management functionality. Endpoints must handle business rules such as no overlapping appointments.
- **Responsible Resource:** Sarah Yao
- **Dependencies:** Task 10
- **Effort Hours:** 14
- **Completion Criteria:** All CRUD operations are functional and integrated with the database. API endpoints are tested using Postman or similar tools. Error handling and validation are in place.

13. Customer Profile Management

- **WBS ID:** 13
- **Description:** Create features to manage customer profiles including contact information, service history, and preferences. This data must be stored

securely and accessible only to authorized users. Interfaces and APIs should allow for updates and record browsing.

- **Responsible Resource:** Sarah Yao
- **Dependencies:** Task 10
- **Effort Hours:** 10
- **Completion Criteria:** Customer data is stored, retrieved, and updated without errors. The feature includes secure forms, data validation, and audit logs. User permissions are enforced.

14. Appointment Notifications

- **WBS ID:** 14
- **Description:** Develop functionality to send appointment reminders via email or SMS using a third-party API (e.g., Twilio). Ensure messages are sent based on scheduled times. Include logic for reminder configuration and opt-out options.
- **Responsible Resource:** Moshood Elias
- **Dependencies:** Task 11
- **Effort Hours:** 8
- **Completion Criteria:** Messages are reliably sent to test numbers/emails at appropriate times. Users can toggle notification preferences. Delivery logs are tracked and reviewed.

15. Reporting Dashboard

- **WBS ID:** 15

- **Description:** Build a dashboard displaying visual reports on appointment trends, customer count, and revenue insights. Charts and metrics must pull real-time data. Use charts (e.g., bar, line, pie) for intuitive analysis.
- **Responsible Resource:** Jeremiah Jarina
- **Dependencies:** Task 11
- **Effort Hours:** 12
- **Completion Criteria:** Dashboard displays live, accurate metrics in a clean UI. Stakeholders can filter data by date, service type, or staff. Performance is optimized for fast rendering.

16. Conduct User Acceptance Testing (UAT)

- **WBS ID:** 16
- **Description:** Collaborate with the sponsor and end users to test system features in real-world scenarios. Collect structured feedback and log any issues. Ensure the application performs as intended before deployment.
- **Responsible Resource:** Anthony Perla
- **Dependencies:** Task 12
- **Effort Hours:** 10
- **Completion Criteria:** Testing is completed with minimal critical issues. Feedback is reviewed and logged for resolution. Sponsor signs off on tested features.

17. Finalize Documentation & Presentation

- **WBS ID:** 17
- **Description:** Prepare the final documentation packet including the user manual, technical specifications, and project presentation. Organize visual

assets, walkthrough scripts, and rehearsal materials. Ensure materials are consistent with branding and easy to follow.

- **Responsible Resource:** Emad Abbasi & Trinity Klein
- **Dependencies:** Task 16
- **Effort Hours:** 8
- **Completion Criteria:** All documentation is organized, formatted, and submitted. Presentation materials are finalized and rehearsed by the team. Team is ready for capstone presentation day with backup files and talking points.