



ISHOPHUB

E-COMMERCE APP

Submitted by

Fatima Aftab
Basit Iqbal



Submitted To

Mamona Sawati



Comsats University Islamabad Abbottabad Campus

INTRODUCTION

GROUP MEMBERS:

- BASIT IQBAL (FA21-BSE-050)
- FATIMA AFTAB (FA21-BSE-088)

PROJECT NAME:

- ISHOPHUB

COURSE NAME:

- SOFTWARE QUALITY ENGINEERING

SUBMITTED TO:

- MAMONA SAWATI

UNIVERSITY:

- COMSATS UNIVERSITY ISLAMABAD ABBOTTABAD CAMPUS

SUBMISSION DATE:

- 23RD OCTOBER 2023

ASSIGNMENT NUMBER:

- Two

DEVELOPMENT PLAN:

1. Project Products (Deliverables):

- 1.1. Design and Documents:
 - I. Mockup UI's
 - II. Database Schema design
 - III. Test Plan
 - IV. System architecture diagram
- 1.2. Software Products:
 - I. ISHOP HUB ecommerce App (IOS and Android version)
 - II. Server-side backend API
 - III. Admin Dashboard
- 1.3. Training Tasks
 - I. Training for users on how to use App.
 - II. Training the administrator on how to use the App.

2. Project Interface

2.1. Software interface:

The app will interface with a backend API that is written in Node.js and Express. The API will be responsible for storing and retrieving product data, processing orders, and managing customers.

2.2. Hardware interface:

The app will interface with the device's hardware, such as the camera, GPS, and provide features such as product scanning, location-based recommendations.

2.3. Cooperation and coordination links:

The app will need to cooperate and coordinate with other software and hardware development teams that are working on the same system or project. For example, the app may need to integrate with a payment processing system or a customer relationship management (CRM) system.

3. Project methodology and development tools:

The ISHOP HUB eCommerce App will be developed using the Scrum agile development methodology. Scrum is an iterative and incremental approach to software development that focuses on delivering working software in short, regular cycles.

3.1. Process used:

3.1.1. *Requirements gathering and analysis:*

The team will work with the customer to gather and analyze the requirements for the app. This will involve creating user stories and use cases.

3.1.2. Design:

The team will design the architecture of the app and create wireframes and mockups of the UI.

3.1.3. Development:

The team will implement the backend API and admin dashboard using Node.js and Express. They will also implement the iOS and Android apps using React Native.

3.1.4. Testing:

The team will conduct unit testing, integration testing, system testing, and user acceptance testing to ensure that the app meets the requirements and is ready to be shipped.

3.1.5. Deployment:

The team will deploy the app to the app stores.

3.2. Tools / environment needed:

- Development workstations
- Access to the internet
- Access to the app stores
- Testing devices
- Jira (project management tool)
- Git (version control system)
- Android Studio (Android IDE)
- React Native (mobile app development framework)

3.3. Requirements capture and technologies used:

The team will use a variety of techniques to capture the requirements for the app, including user interviews, surveys, and focus groups. They will also use Jira to prioritize and track the requirements.

3.4. Design approaches:

The team will use a user-centered design approach to design the app. This will involve working with users to understand their needs and to create a design that is easy to use and navigate.

3.5. Interface; communications; database....

The app will use a REST API to communicate with the backend server. The database will be used to store product data, order data, and customer data.

3.6. Programming methodology:

The team will use an object-oriented programming methodology to develop the backend API and the mobile apps.

3.7. Testing Approaches:

The team will use a variety of testing approaches, including unit testing, integration testing, system testing, and user acceptance testing.

3.8. Deployment:

The team will use a staged deployment approach. This will involve deploying the app to a development environment first, then to a testing environment, and finally to the production environment.

3.9. Deployment one shot; parallel; incremental...

The team will use an incremental deployment approach. This will involve deploying the app in small increments, rather than deploying the entire app at once. This will allow the team to get feedback from users and to make changes to the app as needed.

4. Software Development standards and Procedures:

4.1. Coding standards:

The team should agree on a set of coding standards to follow. This will help to ensure that the code is consistent and easy to read and maintain.

4.2. Code review:

The team should implement a code review process. This involves having another developer review the code before it is checked in to the version control system. Code review can help to identify and fix bugs early on.

4.3. Unit testing:

The team should write unit tests for all of the code in the project. Unit tests are small tests that verify the functionality of individual units of code. Unit testing can help to prevent bugs from being introduced into the code.

4.4. Integration testing:

The team should conduct integration testing to ensure that the different parts of the system work together correctly. Integration testing can be done manually or using automated tools.

4.5. System testing:

The team should conduct system testing to ensure that the entire system meets the requirements. System testing can be done manually or using automated tools.

4.6. User acceptance testing (UAT):

The team should conduct UAT with users to ensure that the system meets their needs and is easy to use. UAT can be done in person or remotely.

5. Map the Development Process

Phases	Inputs	Outputs	Activities	Duration	Sequence	Resources
Requirements gathering and analysis	Customer requirements	User stories, use cases, requirements specification	Conduct user interviews, surveys, and focus groups. Analyze the requirements to identify the features and functionality of the app.	2 weeks	1	Project manager, business analyst, software developers
Design	User stories, use cases, requirements specification	Wireframes, mockups, system architecture diagram, test plan	Design the architecture of the app and create wireframes and mockups of the UI. Develop a test plan to ensure that the app meets the requirements.	2 weeks	2	Project manager, UI/UX designer, software developers
Development	Wireframes, mockups, system architecture diagram, test plan	Backend API, mobile apps, database, documentation	Implement the backend API and admin dashboard using Node.js and Express. Implement the iOS and Android apps using React Native. Migrate the database to production. Write documentation for the app.	8 weeks	3	Project manager, software developers
Testing	Backend API, mobile apps, database, test plan	Test results, deployment plan	Conduct unit testing, integration testing, system testing, and user acceptance testing to ensure that the app meets the requirements and is ready to be shipped.	4 weeks	4	Project manager, QA engineers, users
Deployment	Backend API, mobile apps, database, deployment plan	Deployed app	Deploy the app to the app stores.	2 weeks	5	Project manager, software developers

6. Project Milestones

Milestones	Completion Time	Project Product
Requirement Gathering and analysis	2 weeks	User stories, use cases, requirements specification
Desing	2 weeks	mockups, system architecture diagram, test plan
Development	8 weeks	Backend API, mobile apps, database, documentation
Testing	4 weeks	Test results, deployment plan
Deployment	2 weeks	Deployed app

7. Project Staff Organization

7.1. Organizational structure:

The project team will be organized as follows:

1. Project manager: Responsible for the overall planning, execution, and monitoring of the project.
2. Business analyst: Responsible for gathering and analyzing the requirements for the app.
3. Software developers: Responsible for developing the backend API and the mobile apps.
4. QA engineers: Responsible for testing the app to ensure that it meets the requirements.
5. UI/UX designer: Responsible for designing the user interface and user experience of the app.

7.2. Professional requirements:

The project team will need to have the following professional skills and experience:

1. Project manager: Experience in managing software development projects.
2. Business analyst: Experience in gathering and analyzing requirements.
3. Software developers: Experience in developing Node.js, Express, React Native, and CSS.
4. QA engineers: Experience in testing mobile apps.
5. UI/UX designer: Experience in designing user interfaces and user experiences.

7.3. Number of Team Members Required for Each Period of Time:

Phase	Number of Team Members
Requirement and analysis	2
Design	2
Development	2
Testing	2
Deployment	2

7.4. Name of Team Leader and Team Members:

Team Leader: BASIT IQBAL

Other Members: Fatima Aftab

8. Development Facilities:

Facilities	Specific Items	Period
Hardware	i. Development Workstation, ii. Testing Devices	Throughout the Project
Software	i. Jira (project management tool) ii. Git (version control system) iii. Android Studio (Android IDE) iv. React Native (mobile app development framework)	Throughout the Project
Development Tools	i. Code Editor (i.e., Vs Code) ii. Debugger, iii. Test Runner.	Throughout the Project
Office Space	Where they can work together and communicate effectively	Throughout the Project
Other Facilities	i. White board ii. Marker iii. Sticky Notes iv. Paper v. Printer	May vary time to time

9. Development Risks

Risk 01: Technical challenges in implementing the app

Risk management action: Have a team of experienced developers and QA engineers.

Risk 02: Changes in the requirements

Risk management action: Have a clear and well-defined change management process.

Risk 03: Delays in development

Risk management action: Have a realistic project schedule and identify and mitigate potential risks early.

10. Control Methods:

- ❖ Regular status meetings with the project team.
- ❖ Use of Jira to track progress and identify issues early.
- ❖ Use of continuous integration and continuous delivery (CI/CD) to automate the build, test, and deployment process.

11. Project Cost Estimate:

The cost of developing the ISHOP HUB eCommerce App will vary depending on the size and complexity of the app, the experience of the development team, and the location of the development team. However, as a rough estimate, the cost of developing the app could range from \$100,000 to \$500,000.

Development Plan approver's Signature:
