SE Report

E-Mart Using Agile

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1. Introduction

The purpose of this project was to develop a basic e-commerce website using the Agile software development model. The project aimed to provide a platform for users to browse products, add them to a cart, and make purchases securely. The Agile approach was chosen to facilitate iterative development and continuous feedback.

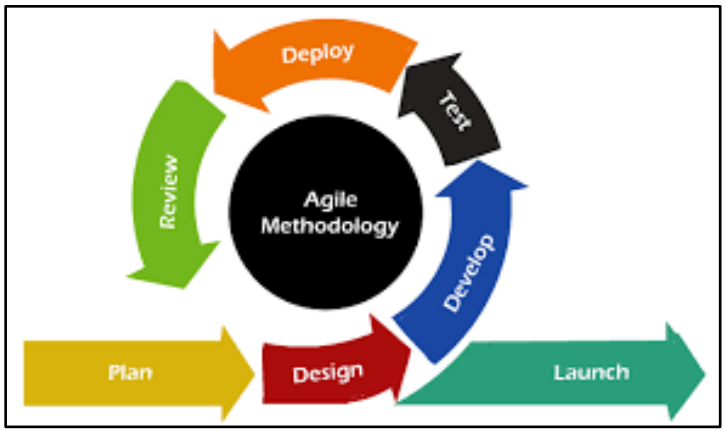
2. Project Objectives

Develop a user-friendly interface for product browsing and purchasing.
Ensure the website is responsive and accessible on various devices.
Implement features like Group Shopping and Social Activity
Use Agile practices to iterate and improve the website based on feedback.

3. Agile Methodology Overview

Agile is an iterative and incremental approach to software development. It emphasizes flexibility, collaboration, and customer satisfaction. Key Agile practices used in this project include:

Sprints: Short, time-boxed periods to complete specific tasks.
Daily Stand-ups: Regular meetings to discuss progress and challenges.
Sprint Reviews: Demonstrations of completed work and gathering feedback.
Retrospectives: Reflection on the sprint to identify improvements.



4. Project Planning

4.1 Initial Requirements Gathering

Initial requirements were gathered through brainstorming sessions and discussions with peers and instructors. Key features identified included:

Product catalog
Shopping cart
User authentication
Group Shopping

4.2 Backlog Creation

A product backlog was created, listing all features and tasks needed to develop the website. Tasks were prioritized based on their importance and dependencies.

5. Sprint Details

5.1 Sprint 1: User Interface Design

Goals: Design the main pages (home, product, cart, checkout).
Tasks: Create wireframes and prototypes.
Outcome: Completed design mockups reviewed with stakeholders.

5.2 Sprint 2: Backend Development

Goals: Set up the server, database, and API.
Tasks: Implement database schema, product management, and user authentication.
Outcome: Basic backend functionality implemented and tested.

5.3 Sprint 3: Frontend Integration

Goals: Integrate backend with frontend UI.
Tasks: Develop dynamic pages using React.
Outcome: Functional frontend with dynamic data display.

5.4 Sprint 4:Group Shopping Features

Group shopping deals and discounts
Group invitations and management
Group checkout process

5.5 Sprint 5: Social Activity Features
Giveaway Events: Implement functionality to manage giveaways for events like World Environment Day and World Reading Day.

- **Application Process:** Allow users to apply for giveaways.
- **Limit Participation:** Limit giveaways to the first 100 applicants.
- **Notification System:** Notify users about their application status (accepted, waitlisted, or rejected).

User Profiles: Create user profiles with activity feeds.

SRS for E-Commerce Website

1. Introduction

- **1.1 Purpose**:
  This SRS describes the functional and non-functional requirements of an e-commerce website that facilitates group shopping and social activities, such as donating books or saplings. The goal is to provide a platform where users can shop, engage in collaborative buying, and participate in socially responsible activities.
- **1.2 Scope**:
  The website allows users to create or join shopping groups, collaborate on purchases, and participate in social activities. Social activity features include

donating saplings or books on special occasions like World Environment Day.

- **1.3 Definitions, Acronyms, and Abbreviations**:
  - **Group Shopping**: A feature that allows multiple users to form a group and make collaborative purchases.
  - **Social Activity**: Initiatives related to donating saplings and books.
- **1.4 References**:
  IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications.
- **1.5 Overview**:
  This document outlines the system's overall description, functional requirements, and non-functional requirements to guide development.

2. Overall Description

- **2.1 Product Perspective**:
  The e-commerce website integrates group shopping and social responsibility features, enhancing both the shopping experience and user engagement through environmental and educational contributions.
- **2.2 Product Functions**:
  - Standard e-commerce functionalities (user registration, product browsing, checkout, etc.).
  - Group shopping feature: Create or join groups, invite friends, add products to a shared cart, and collaboratively complete purchases.
  - Social activity feature: Option to donate saplings or books on special occasions.
  - Notifications for special events related to social activities.
- **2.3 User Characteristics**:
  The users will include:
  - **General Shoppers**: Looking for products and group shopping.
  - **Socially Active Users**: Interested in participating in social activities.
- **2.4 Operating Environment**:
  The website will be hosted online and accessible via all major web browsers (Chrome, Firefox, Safari, etc.), with both desktop and mobile compatibility.
- **2.5 Constraints**:

    - Group shopping limited to a maximum of 5 users per group.
    - Social activities capped based on availability (e.g., first 100 users can donate saplings/books).
- **2.6 Assumptions and Dependencies**:
    - The system depends on external APIs for WhatsApp integration to invite friends to group shopping.

3. Specific Requirements

3.1 Functional Requirements

- **User Registration & Authentication**:
  Users must be able to register, log in, and manage their profiles.
- **Product Browsing & Search**:
  Users can search and browse products, apply filters, and view details.
- **Group Shopping**:
    - **Create Group**: Users can create shopping groups.
    - **Invite Friends**: Invite up to 4 friends using WhatsApp or email.
    - **Shared Cart**: A group cart where all members can add products.
    - **Approval Mechanism**: All group members must approve items in the cart before proceeding to checkout.
- **Social Activity**:
    - **Participate in Social Events**: On specific dates, users can participate in campaigns like sapling or book donations.
    - **Track Participation**: Users can view their history of donations.
- **Checkout Process**:
  Standard checkout process including payment gateway integration.
- **Notifications**:
  Users receive notifications for group approvals, social activity events, and special offers.

3.2 Non-Functional Requirements

- **Performance**:
  The website should load within 3 seconds for standard use cases.

- **Scalability**:
  The system should be able to handle up to 10,000 concurrent users.
- **Security**:
  All user data must be encrypted during transit and stored securely. Two-factor authentication for login is recommended.
- **Usability**:
  The user interface must be intuitive and accessible on both mobile and desktop devices.
- **Reliability**:
  Uptime of 99.9% must be maintained.
- **Compliance**:
  Must comply with relevant data protection regulations (GDPR, CCPA, etc.).

4. Requirement Elicitation

- **Interviews with stakeholders**: Discussions with business owners and users to understand group shopping needs.
- **Questionnaires**: Gather user expectations for social activity involvement.
- **Observation**: Analyze similar e-commerce sites for feature gaps and improvements.

5. Requirement Analysis

- **Feasibility Study**:
  Analysis shows the group shopping and social activity features are technically feasible within the platform constraints.
- **Use Case Diagrams**:
  Develop use case diagrams for key functionalities like creating groups, adding products, and completing social donations.

6. Requirement Specification

A detailed list of all functional and non-functional requirements will be documented and maintained in this section. Requirements will be organized based on priority and necessity.

7. Requirement Validation

- **Peer Review**:
  Review requirements with key stakeholders for accuracy and completeness.
- **Prototyping**:
  Develop prototypes to ensure the group shopping and social activities meet the expectations of end-users.

8. Requirement Management

- **Version Control**:
  Maintain version control of requirements documentation.
- **Change Management**:
  Implement a formal process to request, review, and approve changes to the requirements.

Gantt Chart