**Specification**

ESRP-

Group organisation

|  |  |
| --- | --- |
| Role | Name |
| Dev | Tianpeng Xu |
| Dev | Qianfang Shi |
| Dev | Haoyue Zhao |
| Dev | Shiji Zhang |
| Dev | Gang Zhu |

Customer/Stakeholder

|  |  |  |
| --- | --- | --- |
| Module  convenor | Hsi-Ming Ho | hsi-ming.ho@sussex.ac.uk |

**Project brief**

Create an app software for mobile Android and a web version of the software, which is used to collect the official website offers of various commonly used brands, help users to buy the items they need with the least price, and achieve the goal of helping people save money.

**Project Scalability and Reliability**

Django framework

Master app

Account app

Interface app

Gateway app

Interface app

Price app

…(might be more app)

To achieve scalability and reliability for the project, we will adopt a microservices architecture for development. This project can deploy applications to different machines.

Application responsibility:

1. Interface app

Responsible for handling User Interface (UI) logic, including receiving user inputs, data display, and user interactions. It is the front-end part through which users interact with the system.

1. Gateway app

As the system's entry point, it handles requests from the Interface App and routes them to the appropriate backend services. It is responsible for cross-cutting concerns such as authentication, authorization, monitoring, and logging of requests.

1. Master app

Handles core business logic, such as data processing, storage, and interactions with other services. It will be divided into more functionally specific app, including Account app (Manages user registration, login, permission management, and CRUD (Create, Read, Update, Delete) operations for user information.) and Price app (Manages product price information, including the original price of products, discount strategies, and notifications of price changes.)

Requirements

Functional (Core/Extended Requirements)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | C/E | Requirements | Requirements description | Notes |
| 1 | C | GitHub | Each group gets a GitHub account and creates a repo where the project is hosted. Each group emails a link to the repo to the module convenor | N/A |
| 2 | C | Landing page | Should have a login page to allow users to log into the app or website. | N/A |
| 3 | C | Registration page | Allows users without an account to register. After this, they can use the service | N/A |
| 4 | C | CAPTCHA verification | Verifies whether the registration is being performed by a real person. | N/A |
| 5 | C | Product categorization | The software should have product categorization options to allow users to select based on the products they need. | N/A |
| 6 | C | Brand categorization | The software should have brand categorization to enable users to filter based on the brands they like | N/A |
| 7 | C | Maximum discount promotions | Provide users with the maximum discounts on various types of products. | N/A |
| 8 | C | System notifications | Notify users through in-app notifications or email alerts when there are new product updates, price changes, or other important information. | There should be a toggle button set up, allowing users to decide for themselves whether to turn notifications or push messages on or off. |
| 9 | C | message push | Supports customizable push settings, allowing users to choose which types of message notifications they wish to receive. | There should be a toggle button set up, allowing users to decide for themselves whether to turn notifications or push messages on or off. |
| 10 | C | Price tracking | Allows users to set price tracking for products they are interested in and sends notifications when price changes meet the conditions set by the user. | N/A |
| 11 | C | Historical price query | Displays the history of price changes for products, helping users to determine the best time to buy. | N/A |
| 12 | C | Product details | Displays detailed information about the product, including the official website price, specifications, user reviews, and more. | N/A |
| 13 | C | Permission management | Distinguishes between regular users and premium users, providing different levels of permissions. | N/A |
| 14 | C | Personal information management | Allows users to edit personal information such as name, password, contact information, etc. | N/A |
| 15 | C | Data encryption | Ensures the security of user data, particularly through encrypting sensitive personal information. | N/A |
| 16 | C | Privacy Policy | Clearly outlines the privacy policy, informing users how their data is collected, used, and protected. | N/A |
| 17 | C | User reviews | Allows users to evaluate products, share their purchasing experiences, and provide feedback on product usage. | N/A |
| 18 | C | Community interaction | Setting up a community forum where users can post threads to discuss products or exchange shopping tips. | N/A |
| 19 | C | User feedback | Provides a feedback channel where users can report issues, provide suggestions, or inquire about services. | N/A |
| 20 | E | Data backup | Provides data backup functionality to prevent data loss. | N/A |
| 21 | C | Quick access | Provides links to various shopping platforms for different types of products, enabling users to quickly access various shopping platforms for shopping. | N/A |
| 22 | C | Product search | Provides keyword search functionality, supporting filtering by brand, model, price, and other criteria. | N/A |
| 23 | C | Favorites | Allows users to bookmark products for easy review and purchase in the future. | N/A |
| 24 | C | Wishlist | create Wishlist of product users like | N/A |
| 25 | E | Accessibility support | Ensures that the application interface and functionality are user-friendly for individuals with visual, auditory, and other disabilities, providing features such as screen reader support for voice navigation. | N/A |
| 26 | E | Online customer service | Provides an online customer service system to offer users immediate after-sales service and technical support. | N/A |
| 27 | E | User guide | Creates a page that allows users to easily view how the application operates. | N/A |
| 28 | E | Budget management | Users can view the budget for items in their Wishlist or favorites list. | N/A |
| 29 | E | Environmental Consumption Guidance | Provides environmental information about products, such as sustainable production and eco-friendly materials, encouraging users to make environmentally friendly choices. | N/A |
| 30 | E | Intelligent Recommendation | Based on user browsing history and purchase behavior, intelligently recommends products or brands that users may be interested in. | N/A |

Non-Functional requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | Mandatory/Desirable | Requirements | Requirements description | Notes |
| 1 | Mandatory | Response Time | The application and web version should have a response time of no more than 3 seconds when loading discount  information to ensure a good user experience. | N/A |
| 2 | Desirable | High concurrency support | The system should be able to support at least 1,000 concurrent users browsing at the same time without affecting performance. | N/A |
| 3 | Mandatory | Security requirements | Rights management system to ensure access control of user data. | N/A |
| 4 | Desirable | Compatibility requirements | The application should be compatible with mainstream Android operating system versions, and the web version should support mainstream browsers (such as Chrome, Firefox, Safari, Edge). | N/A |
| 5 | Mandatory | Compliance with data protection laws | Applications must comply with the EU General Data Protection Regulation (GDPR) and data protection laws in other applicable regions to ensure the legal collection, use and storage of users' personal | N/A |