

Project Proposal Final

Group 2

CompareCart

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CS673 A1



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Title

CompareCart

Purpose

The purpose of Compare Cart is to provide users with a streamlined shopping experience by enabling them to compare products across multiple platforms. This platform is especially valuable for users unfamiliar with the local market, helping them quickly discover accessible stores and integrate into new environments. By offering detailed comparisons, personalized recommendations, and real-time price alerts, Compare Cart empowers users to make informed purchasing decisions, saving them both time and money while expanding their shopping choices.

Benefits

1. Enhanced Shopping Efficiency:

Compare Cart streamlines the shopping process by allowing users to compare products across multiple e-commerce platforms in one place. This reduces the time spent manually visiting different websites, searching for similar items, and checking for price variations. Users can quickly find the best deals and product options, improving both convenience and efficiency.

2. Comprehensive Local Information:

The platform will provide detailed information on local and online stores. Users can access our integrated store contact details, locations, and user reviews, which will help them make more informed decisions. This is particularly useful for people who are unfamiliar with local shops, for example international students, allowing them to quickly find trusted shopping service providers.

3. Ratings and Sorting Options:

Just like Yelp's system of reviews and ratings, our platform will feature a robust rating system where users can rate products based on their experiences. Users will have the ability to sort products by price, rating, or source of product, making it easier to find options that fit their budget or preferences. This feature will give users an easy way to identify the best-rated and most affordable services in their area.

4. Informed Decision-Making:

With detailed product comparisons, including price, reviews, source, and location, users can make well-informed purchasing decisions. The platform aggregates product information from trusted sources, enabling users to select the best product that fits their budget and needs. The integration of user reviews and ratings further empowers confident decision-making.

5. Wide Range of Product Sources:

Compare Cart pulls product listings from multiple trusted online retailers and brands, offering users a diverse selection to choose from. This not only expands the variety of products but also gives users access to global marketplaces they may not usually explore, enhancing the overall shopping experience.

6. Seamless User Experience:

The intuitive design and user-friendly interface ensure that users, regardless of technical skill, can easily navigate the platform. Features such as a smart search, filters, and comparison tools make the shopping experience smoother and more enjoyable.

Features and Functionality

Compare Cart aims to streamline the online shopping experience by providing a comprehensive platform for comparing products across multiple e-commerce sites. The following features and functionalities are designed to enhance user experience and facilitate informed purchasing decisions:

1. Product Search

- Users can search for products using keywords, product categories, or specific attributes (e.g., brand, price range). The search engine will suggest relevant products and categories in real-time.

2. Search Filters and Sorting

- Filtering Options: Users can apply filters to narrow down search results based on parameters like price, brand, rating, and availability.
- Sorting Options: Search results can be sorted by criteria such as price, rating, and source of product, enabling users to view products according to their preferences.

3. Product Comparison

- Users can select multiple products and compare their features side-by-side. The comparison will display critical details such as price, ratings, specifications, and availability.

4. Product Details and Links

- Each product listing provides detailed information including product descriptions, images, source, and reviews.
- Direct Purchase Links: Users can click on links to view the product on the original e-commerce site, facilitating a seamless transition to the purchase process.

5. Integration with E-commerce Platforms

- The platform integrates with major e-commerce sites via APIs to fetch real-time data on product availability, pricing, and reviews.

6. Rating System

- Users can view and leave reviews for products, providing insights and feedback based on their shopping experiences, helping future buyers make informed decisions.

7. Responsive Design

- The platform is designed to be fully responsive, ensuring an optimal user experience across various devices including desktops, tablets, and smartphones.

Target Users

1. The primary target users of Compare Cart are individuals who are new to a location and unfamiliar with the local market, such as international students, recent movers, and expatriates. These users often face challenges in identifying reliable online and offline stores, comparing prices, and making informed purchasing decisions in an unfamiliar environment. Compare Cart helps them quickly navigate the local shopping landscape, providing them with comprehensive options and recommendations to meet their needs.
2. Additionally, the platform is designed for users who have a strong demand for price comparison and value efficiency in their shopping experience. This includes budget-conscious shoppers, deal hunters, and individuals who prioritize finding the best possible options before making a purchase. By offering a convenient comparison tool, real-time price alerts, and curated recommendations, Compare Cart addresses their need for informed, cost-effective shopping decisions.

Technical Approach:

We plan to use modern web development technologies which include but are not limited to the following:

- **Front-End:** React.js, HTML, CSS, JavaScript, Ant Design
- **Back-End:** Python: Django
- **Database:** MongoDB as NoSQL database and MySQL/Postgres as SQL database. (May vary depending on technical changes, performance, and complexities.)
- **Cloud Hosting:** AWS (using the AWS Educate plan) or Google Cloud Platforms. (Subject to change as the project progresses in varying needs and capabilities.)

Team Members, Roles, and Responsibilities:

We have split all the different tasks into teams to ensure that every team member is hands-on during the different stages of development. We are making sure that there is an equal division of labor, keeping in mind the different challenges each sub-team will face.

Members	Roles	Responsibilities
Sifat Singh Khalsa	Project Manager, Front end developer.	Development of the product view, front end features and functionalities. Development of the system design and architecture
Siming Zhao	Quality Assurance, UI-UX Design	Quality assurance and testing. Creates user experience design. Creates software documents like design, plan, requirements, and analysis.
Zichen Wang	Back-End developer	Implements robust backend APIs and functionalities in Python.
Yifei Wang	Back-End developer	Implements robust backend APIs and functionalities in Python.
Jingwei Ma	Front-End developer	Implements a responsive web interface in React.js.

Documentation - The whole team would work on the documentation report based on the work done by them for the week. This includes all required software engineering documents such as design, plan, requirements, and analysis.

Software Configuration Management Plan(SCMP):

The purpose of this SCMP is to ensure proper management and control of the project artifacts, codebase, and documentation. It covers version control, documentation, team collaboration, release management, and configuration control. This document will also ensure consistent management of changes, and streamline the process of implementing updates or bug fixes.

1. Configuration Items:

- **Code (Production and Test):**
The project's source code will be managed through Git and systematically organized within a dedicated repository. Best practices such as version control and structured branching strategies will be adhered to in order to ensure code integrity and collaboration efficiency.
- **Specification Documentation:**
All project-related documentation will be securely stored in Google Drive with comprehensive revision histories to track changes. All key documents, including design specifications, requirement definitions, project plans, analysis reports, and user-facing documents such as guidelines will also be stored.
- **User Documentation:**
A document to help users navigate through the web-app will be created .

2. Source code version control:

- We will use git version controlling architecture to maintain our code base. Appropriate branching techniques will be followed. The naming convention will be defined.
- Each change will be submitted in the form of a pull request which will be reviewed and merged if expectations are met.
- The project owner/lead will have access to the repository and will be responsible for reviewing the pull request and merging it.

3. Change Management:

- Changes requested will follow a process of request, review, and approval.
- Each change request should be documented with revised plans taking into consideration possible delays.

4. Progress Tracking:

- Jira will be used to assign tasks and create any change requests. This method will be employed to ensure transparent communication.
- Team members are expected to regularly update the status of their assigned tickets, ensuring full visibility of progress for the entire team.

5. Build and Release Management:

- Build will be released at decided intervals to test the functioning of the web-app.
- The build must be approved by the Quality assurance team and Product Owner before the final send-off is done.

6. Reviews:

- Before any release, various checks will be done on the configuration to maintain SCM compliance.

7. Tools and Resources:

- Git: Source code management.
- Jira: Tracking work progress and issues.
- Whatsapp: Communication among team members.

Risk Identification

- Developmental delays: Due to any unforeseen technical issues or complexities there can be possible delays.
- Interaction effect: Any possible program changes may affect multiple parts of the program, causing unnecessary delays.
- Team member Unavailability: Members because of various issues can affect the development process of the project.
- Data Loss: Caused by various problems, loss of codebase scripts and other configuration data will make the processing delay.
- Inefficient development process: Development efficiency depends on multiple factors, but all of them cause delays in the project process.
- Lack of experience: Team members have no experience developing software, which makes development more difficult.

Risk Mitigation strategies

- Developmental delays: Thorough research and understanding should be done to avoid any such risk.
- Interaction effect: Modularizing programs avoids interactions between programs.
- Team member Unavailability: Flexible work arrangements need to be ensured through timely communication to ensure the progress of software development.
- Data Loss: Setting access limits and keeping copies can effectively prevent data loss.
- Inefficient development process: For team structure: By dividing members into smaller groups according to their responsibilities, members can ensure more flexible communication and cooperation. For group meetings: we have weekly group meetings to gather issues and discuss them.
- Lack of experience: The experience of software development can be learned through videos and forums, and team members can also learn together by exchanging experience.

Conclusion:

Compare Cart is designed to simplify and enhance the shopping experience for users, particularly those unfamiliar with a new location and those who value price comparisons. By providing easy access to both online and offline store options, personalized recommendations, and real-time pricing, the platform empowers users to make informed, efficient purchasing decisions, saving time and money.