CRAFTOPIA

2nd Stage-Project Development Implementation
and Functional Requirements Report

Project Report Presentation by: Group Six (5) Members
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1.0 System Demo

Screen Recording 2024-08-03 at 4.11.11 pm.mov

2.0 Project objectives

1.1 Engage Users with a User-Friendly Interface:

- ·Develop a responsive and visually appealing front end using HTML, CSS, and JavaScript. The interface should include a streamlined navigation bar, a well-structured main menu, and consistent design elements across all pages to ensure ease of use and accessibility.

1.2 Promote Sustainable and Eco-Friendly Crafting Practices:

- Incorporate content and product descriptions that emphasise sustainable practices. A dedicated section for eco-friendly products should be created, and filters should be created to sort items by sustainability criteria. Information on the sustainable materials and processes used by artisans was highlighted.

1.3 Build a Strong Online Community and Presence:

- Integrate social media sharing features and a forum for users to share their shopping reviews. User accounts were implemented to allow for personalised experiences and tracking of community participation.

1.4 Secure storage of user data and information

- All users' data should be securely stored in the database using various methods, such as hashing for passwords.

3.0 Features implemented:

1. Main Menu and Navigation Bar: A comprehensive structure including Home, About Us, Contact Us, Cart, Login, Our Shop, Collections, Gifts, Kitchen, Jewellery, Outdoor, and Bedroom.
2. Security Features: Passwords are hashed using industry-standard algorithms before being stored in the database, preventing unauthorised access even if data breaches occur. Additionally, thorough input validation was carried out to prevent SQL injection, cross-site scripting (XSS), and other common vulnerabilities.
3. User Accounts and Authentication: Secure systems for user registration, login, and profile management. We can keep the user's ID as they navigate the system using

sessions. Users will not be able to access some parts of the system unless they have an account; hence, they will be redirected to Login.

4. Product Listings and Filters: Category-based product listings with advanced filtering options, allowing users to sort products by price, material, artisan, and other criteria.
5. Advanced Filtering: Granular filters enhance product discovery, helping users quickly find specific items. These are on the category details pages, and a user can filter them by price, availability, and many other queries.
6. Shopping Cart and Checkout: A fully functional cart that includes product management and a smooth checkout process. Users will be able to add and remove products from there cart. We shall store their order details in our database for follow-ups.
7. Customer Reviews: This feature enables customers to leave feedback and rate products, which helps build trust and provides valuable insights into product quality and user satisfaction.
8. Discount banner: This is aesthetically designed to be eye-catching and not be missed by our customers. We shall display any specials or discounts we have on this banner.
9. Ticketing system: Users can submit tickets about their queries through this section, and we store them in our database.

4.0 Features planned but not implemented

- Loyalty Program: A rewards system for frequent buyers aimed at encouraging repeat purchases and building customer loyalty. This feature was postponed due to time constraints and is planned for a future phase.
- Enhanced Analytics and Reporting: Advanced analytics for tracking user behaviour, sales metrics, and other key performance indicators. The data would be used to optimize the user experience and improve marketing strategies.
- Mobile Application Development: A companion mobile app to provide a more seamless and accessible shopping experience. This would include push notifications for promotions, new product alerts, and order status updates.
- Augmented Reality (AR) for Product Visualization: This feature uses AR technology to allow users to visualize products in their own space. This would help users make informed purchasing decisions, especially for decor items.
- Improve User Support and Customer Service: Implement a live chat feature, a comprehensive FAQ section, and a dedicated customer support team.
- Advanced and Proper Responsive Design: Implemented media queries to ensure the website is visually appealing and functional on both mobile and desktop devices.

5.0 Potential improvements

1. User Experience and Accessibility—Enhancing user interaction with our website to make it more accessible and make the interface more enjoyable, leading to a satisfying shopping experience.
2. Expanded Payment Options: Support for additional payment gateways, including international options such as cryptocurrencies, digital wallets, and localized payment methods.
3. Improved Personalization: Machine learning algorithms will be implemented to provide personalized product recommendations based on user behaviour, preferences, and purchase history.
4. SEO and Performance Optimization: This involves further optimizing the website for search engines and performance improvements, such as faster loading times and reduced bounce rates.
5. Enhanced User Engagement: Adding gamification elements like badges, achievements, and leaderboards to encourage user interaction and community building.
6. Functionality – improving technologies' capabilities to offer users more product add-on carts.
7. Reliability – reducing failures and downtime in terms of login.

6.0 Framework and technologies adopted

- Front-End Technologies:
  - HTML, CSS, and JavaScript: These are the core technologies for developing the structure, styling, and interactive elements of the website.
  - AJAX: Used for asynchronous communication with the server, enabling smooth user experiences by allowing data fetching and form submission without page reloads.
- Back-End Technologies:
  - PHP: Server-side scripting for dynamic web page generation.
  - MySQL: Relational database management for storing and managing data.
- Tools:
  - Visual Studio Code: The primary IDE for development.
  - GitHub: Version control and collaboration platform.
  - MySQL Workbench: Used to create tables for the database.
  - Figma: A design tool used to create mockups.
  - Draw.io: Used for creating wireframes and sitemaps.

7.0 Team review on individual contributions of each member

Individual Names	Contribution done
1. Lydia Bagonza Karungi	Set up and managed the GitHub repository, ensuring smooth collaboration among team members. Lydia was pivotal in setting up the development environment and configuring essential tools. She was responsible for the database setup and creation, ensuring the database schema was properly structured and optimised for performance. Additionally, Lydia contributed to reviewing teammates' code before reviewing. She was also involved in testing, ensuring the implemented features met the project requirements and worked seamlessly.
2. Brenda Chelimo	Contributed significantly to implementing Backend features. She was also heavily involved in data entry, adding relevant data to the database tables and assisting in setting up the database infrastructure. Furthermore, Brenda contributed to the thorough testing to ensure the website's functionality and usability. She carried out reviews on GitHub for the code pushed by other teammates to make sure it met the standards required. Her efforts in testing were crucial in identifying and resolving issues, ensuring a smooth user experience.
3. Sasi Kumar Hechu	Also focused on the front-end development of various pages in greater collaboration with Chyndee, specifically working on the Login and Signup among others. Played a key role in project management, coordinating tasks and ensuring deadlines were met. Sasi developed the Gantt chart to track project progress and milestones. He also helped acquire and resize product images and other visuals for the site, ensuring they were optimized for web use. Additionally, Sasi participated in the testing process, focusing on verifying the correct display and functionality of images and other media elements.
4. Glenys Hannah Daniel	Led the Design team, creating the main wireframes and overall visual design of the front end. Glenys was instrumental in defining the website's aesthetic and user experience (UX) aspects. She specifically designed the Index page, Product details page, Contact Us, Cart and Checkout page, among others, ensuring it was visually appealing and user-friendly. Her contributions greatly enhanced the website's interface, making it engaging and easy to navigate. Glenys also participated in the testing phase, focusing on UI/UX elements to ensure visual and functional consistency.
5. Chyndee Petrus	Focused on the front-end implementation of the Category pages together with Sasi, we have many pages, including the About Us page, among others, creating a compelling and informative section highlighting the team's vision and mission.

	She was also in charge of all the content on the website, including the text, ensuring consistency and accuracy across all pages. Her work delivered a consistent and engaging narrative throughout the website's informational sections. Chyndee was actively involved in testing, particularly in validating content accuracy and the overall responsiveness of the pages she developed.

8.0 Actual implementation schedule

According to our project schedule outlined in the initial idea documentation, development was planned to begin in Week 6. Below are the detailed activities and milestones from Week 6 through to the submission in Week 9.

Week	**Activities**	**Context**
Week 6 - This phase focused on laying the groundwork for the project, including design planning and technical setup.	Initial Design Mockups and Setup	Created initial wireframes and mockups for the website, ensuring consistent design elements across pages.
	Setup Development Environment	Established version control and configured necessary tools for development. All team members prepared their workstations for the project.
Week 7 - Focused on building core functionalities and integrating key components.	Backend Development	Developed the backend systems, including secure data management and user authentication.
	Frontend Development	Built essential front-end components, ensuring a seamless user interface and experience.
	Testing and Debugging	Performed comprehensive testing to identify and resolve issues, ensuring a smooth user experience.

Week 8	Final Adjustments and Polishing	Finalized the project features, design, and overall polish.
Week 9 - Concluded the project with final documentation and released it to the repository.	Final Project Report	Documented the entire project, detailing each phase and contribution.
	Usability Manual	Added this in the form of a video in the report. It showcases navigation across the application.

9.0 Project setup instructions

Project Setup Instructions

- Clone the Repository:
  - Clone the project from GitHub using.
    - `git clone https://github.com/lydia-karungi/craftopia.git`

- Navigate to the Project Directory:
  - Move into the project directory where the codebase is located.
    - cd craftopia

- Install Dependencies:
    - Python: Install required Python packages using pip with the requirements.txt file `pip install -r requirements.txt`

    - Front-End: Install JavaScript dependencies using npm.
      `npm install`

    - Back-End: Use Composer to install PHP dependencies.
      `composer install`

- Database Setup:
  - Start MySQL Service: Ensure MySQL is running by starting the service using brew services start MySQL.

- If MySQL is already running and needs to be restarted, use:
  brew services restart MySQL

- Import Database Schema: Import the provided SQL file into MySQL to set up the database schema(or just import in MySQL workbench).

```
MySQL -u root -p < Dump20240803.sql
```

- Environment Configuration:
  - Set up environment variables for database connections.
  - Create a .env file and put the share credentials.

- Run the Development Server:
  - PHP Server: Start the PHP built-in server to host the application locally.
    php -S localhost:8000
  - Navigate to http://localhost:8000 in your web browser to view the application.

- Testing and Verification:
  - Perform thorough testing to ensure all components work correctly. Verify database connections, form submissions, and other critical features.

APPENDIX B: KEY TERMS

Listed below are definitions for terms relevant to this Functional Requirements document.

KEY TERMS	
TERM	**DEFINITION**
PIP	Preferred installer program
PHP	HyperText Preprocessor
MySQL	My Structure Query Language
CD	Change Directory
IDE	Integrated Development Environment