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**Project Document For Crafty Corner**

**1. Project Overview**

**1.1 Project Goals**

**Crafty Corner** is an e-commerce platform designed to sell custom-designed clothing and handmade crafts. The main goals of the project are:

* **Empower local creators**: Provide a platform for independent artisans to showcase and sell their handmade works.
* **Sell in-house clothing**: Offer a curated selection of custom-designed clothing produced by Crafty Corner.
* **Customer engagement**: Enable users to discover unique, handmade products and shop online with an intuitive user experience.
* **Facilitate secure transactions**: Ensure a seamless and secure checkout process with multiple payment options.
* **Community growth**: Build a creative community where sellers and customers can interact through product reviews and feedback.

**2. Functional Requirements**

**2.1 Product Search and Browsing**

* **Customers** can search for products by category (e.g., clothing, handmade items), price range, or keywords.
* **Sellers** can filter and manage their submitted items through the Seller Portal.

**2.2 Shopping Cart and Checkout**

* **Customers** can add products to their shopping cart, review items, and proceed through a secure checkout.
* The system will calculate total costs, including taxes and shipping.
* Integration with a **payment gateway** (e.g., Credit Card , Cash on Dilver) to process payments securely.

**2.3 Seller Portal**

* **Sellers** can create accounts, upload handmade products with descriptions and images, and set prices.
* **Product Management**: Sellers can update their products, manage stock levels, and track sales.

**2.4 Admin Functionality**

* **Admins** have the ability to approve or reject products submitted by sellers.
* Admins can manage both **customer** and **seller** accounts and perform site-wide updates (e.g., promotions, content changes).

**2.5 User Management**

* **Registration/Login**: Customers and sellers can register for an account and log in to access their respective dashboards.
* **Account Management**: Users can update their profiles, manage shipping addresses, and view order history.

**2.6 Order Tracking and Notifications**

* After making a purchase, **customers** can track the status of their orders.
* **Email notifications** will be sent to both customers and sellers regarding order updates, product submissions, and payment confirmations.

**2.7 Reviews and Ratings**

* **Customers** can leave reviews and rate products they’ve purchased, contributing to the quality control of items on the platform.

## 3. Non-Functional Requirements

### 3.1 Performance

* The system should respond to user actions (such as loading a product or completing a checkout) within **2 seconds** under normal conditions.
* It must support **250 concurrent users** without significant performance degradation.

### 3.2 Security

* All sensitive data (user credentials, payment details) must be **encrypted in transit and at rest** using industry-standard encryption methods (e.g., SSL).
* Only **authorized users** should be able to access and modify their respective data (e.g., sellers managing their products, customers managing their orders).
* The platform must comply with **GDPR** regulations to ensure proper handling of personal data.

### 3.3 Usability

* The platform will have a **user-friendly interface** with easy navigation, ensuring users can browse and shop without unnecessary complexity.
* It will be accessible to users with disabilities and follow **WCAG 2.1** accessibility standards.

### 3.4 Reliability and Availability

* The platform will have a **99.9% uptime** guarantee, ensuring that users can access the site without major interruptions.
* In case of server failure, the system should recover and be fully operational within **5 minutes**.

### 3.5 Scalability

* The system will be able to scale to handle **800 registered users** and **350 product listings**. It should be flexible enough to accommodate future growth as the platform and community expand.

### 3.6 Compatibility

* The platform will be compatible with **all modern web browsers** (e.g., Chrome, Firefox, Safari, Edge) and support **mobile-friendly browsing** for users accessing the site via smartphones or tablets.

## 4. Implementation Processes

### 4.1 Development Methodology: ****Agile****

The **Agile methodology** will be used for the development of Crafty Corner. Agile is best suited for this project because it encourages **frequent iterations**, **client feedback**, and **collaboration**, ensuring that the project stays on track and meets both business and user requirements.

### 4.2 Phases of Development

#### **Phase 1: Requirements Gathering and Planning**

* During this phase, we will collaborate with key stakeholders to understand and document the functional and non-functional requirements.
* The project will be broken into smaller iterations (sprints) with a focus on delivering core functionalities first (e.g., product browsing and shopping cart).

#### **Phase 2: Design**

* The team will design wireframes and prototypes for the **user interface** (UI), focusing on usability and a seamless user experience.
* The **backend architecture** will also be designed, including how the system interacts with the database, APIs, and payment gateways.

#### **Phase 3: Development**

* **Frontend Development**: The user interface for customers, sellers, and admins will be developed using responsive web technologies (VUE, HTML, CSS, JavaScript frameworks).
* **Backend Development**: The backend will be built using **Node.js** **and Django** with a REST API to handle requests, business logic, and integrations with the database and payment systems.
* **Database Setup**: Using **MySQL**, the database will be structured to store user data, product listings, order histories, and payment records.

#### **Phase 4: Testing**

* **Unit Testing**: Each feature will undergo unit testing to ensure individual components work correctly.
* **Integration Testing**: Testing how different parts of the system work together, especially payment processing, product submissions, and admin approval workflows.
* **User Acceptance Testing (UAT)**: Before launch, UAT will be conducted to ensure the system meets the expectations of stakeholders and end-users.
* **Security Testing**: The platform will undergo security testing to identify and mitigate vulnerabilities, ensuring compliance with data protection regulations.

#### **Phase 5: Deployment**

* After successful testing, the system will be deployed on a **cloud-based server** to ensure scalability and reliability.
* Continuous integration and deployment (CI/CD) pipelines will be implemented to allow smooth future updates.

#### **Phase 6: Maintenance and Updates**

* After launch, the team will monitor the platform for any issues and make improvements based on user feedback.
* Regular security patches and feature updates will be implemented to keep the system secure and aligned with evolving user needs.

**4.3 Team Roles and Responsibilities**

* **Project Leader**: Ensures project milestones are met and manages communication between the development team members and stakeholders. (Wafaa Abdelrazak)
* **Frontend Developers**: Focus on the design and development of the user-facing components. (Al-Habib Ahmed , Mohamed Ehab)
* **Backend Developers**: Handle the server-side logic, database interactions, and API development. (Wafaa Abdelrazak, Bassant Osama , Esraa Magdy)

**4.4 Tools and Technologies**

* **Development**: Node.js,Vue, HTML/CSS, MySQL
* **Version Control**: GitHub for source code management.

## 5. Conclusion

The **Crafty Corner** project aims to deliver a robust, secure, and user-friendly e-commerce platform for selling both in-house designed clothing and handmade crafts from independent sellers. By following Agile methodology, focusing on performance and security, and iterating based on continuous feedback, we are confident the platform will meet the expectations of all stakeholders while delivering an exceptional experience for both customers and sellers.