HTTP 5310 Capstone Project –

Requirements Document Project Name: ForOranges Marketplace

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1. Introduction

The ForOranges **(Name still in works)** is a secure and transparent online marketplace I'm building for refurbished electronics like smartphones, laptops, and tablets. The platform's main purpose is to create a trustworthy environment for users who want to buy or sell second-hand devices without the risks of scams, inaccurate listings, or counterfeit products that are common on other sites. I'm focusing on building user trust through seller verification, providing detailed product diagnostics, and ensuring transparency in all transactions. The goal is to solve the problem of consumer distrust and provide a safer alternative for refurbished electronics.

Why it exists: To create a dedicated, easy-to-use, and secure marketplace just for refurbished tech.

What I hope to achieve: To become a go-to alternative to generic sites, build a brand people trust, and help reduce e-waste by giving devices a second life.

2. Content Evaluation

Navigation:

- **Buyer/Seller:** The main navigation will be simple: browse/search listings, a user dashboard for managing items and profile, and a clear path for listing a new item.
- **Admin:** A separate dashboard for approving sellers, moderating content, and managing disputes. Layout/Wireframe:
- **Home/Listing Page:** A clean layout with a prominent search bar and filters. Listings will display key information upfront like price, condition, and a trust score.
- **Product Details Page:** This is where the core functionality will live. It will prominently feature the item's diagnostics report, multiple high-quality photos, and the market value analysis.
- **User Dashboard:** A simple hub for managing listings, tracking orders, and editing profile details.
- **Authentication Page:** A simple log-in form with clear buttons for social media authentication options. Content:
- **Product Listing:** Title, description, photos, and the critical diagnostics report (battery health, screen condition, etc.).

- **User Profile:** Reputation score, number of verified listings, and a link to their profile to show legitimacy.
- **Price Transparency Feature:** A visual breakdown comparing the listed price to the estimated market value.

3. Functionality (User Stories)

Must Have

- **Verified Listings:** Sellers must be able to upload a hardware diagnostics report for each item, which is then attached to the listing for buyers to view.
- **Authentication:** Users must be able to securely sign in using providers like Google, Facebook, and WeChat.
- **Market Value Feature:** Buyers need to see a clear breakdown of whether an item's listed price is fair based on its condition and current market value.
- **Simple UI:** The interface for both buyers and sellers must be intuitive and easy to navigate.

Should-Haves:

- **Advanced Search & Filter:** A robust search system allowing users to filter listings by key metrics like condition, price range, and battery health percentage.
- **Seller Verification System:** A system that authenticates sellers via social accounts and phone numbers and builds a reputation score based on their history.
- **Dispute Resolution:** An in-app chat or system to help users resolve issues, with an option to escalate to an admin.

Nice to Have

- **Visual Feed:** I'd like to eventually implement a video-based feed, similar to TikTok, where sellers can upload short video clips of their items.

4. Technical Specifications

Technology Stack:

- **Frontend:** React will power the user interface, with Tailwind CSS for fast and flexible styling.
- **Backend:** Node.js and Express will handle the server-side logic and API.
- **Database:** I plan to use Supabase for its flexibility with the unstructured nature of product diagnostics data.

5. Data Design

Database Schema:

- **users table:** Stores user profiles, authentication details, and a reputation score.
- **listings table:** Contains all product details, including the diagnostics report, images, price, and a reference to the seller.
- **reviews table:** Links a product to a user's review and rating.
- **transactions table:** Logs all purchase details and their status.

Data Flow:

- A seller like Raj creates an account and gets verified.
- He uploads a listing with the diagnostic report. This data is saved to the **listings** table.
- A buyer like Delilah searches for an item, querying the **listings** table and using filters.
- She finds a listing and views all the detailed information, including the market value breakdown.
- She contacts Raj to complete the transaction, and the system records the interaction and marks the item as sold.

6. Development Specifications (not decided yet)

Development Specifications (Still planning)

- **Folder Structure:** I'll organize the project with a clean separation between the client (React) and server (Node.js) folders.
- **Responsiveness:** The site will be built using Tailwind CSS.

7. Conclusion

This project will deliver a fully functional online marketplace for refurbished electronics. By the end of the Capstone, users will have a reliable platform to buy and sell used devices, fostering a more sustainable electronics economy. The system is designed to be scalable, secure, and ready for future feature enhancements, such as a seller reputation system or an integrated shipping service.