A Multi-platform Application for Ordering of Building Materials

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Abstract: In a rapidly evolving digital landscape, the construction industry is witnessing a paradigm shift towards online platforms. This application is poised to be a pioneering mobile application designed to streamline and revolutionize the procurement of construction materials. This app aims to connect construction professionals, contractors, and individuals with a user-friendly platform that facilitates the seamless purchase of a wide range of construction materials. This app seeks to reshape the way construction materials are sourced, making the process more convenient, cost-effective, and collaborative. The application boosts the store owners' capacity to present comprehensive details of each product and manage orders seamlessly, irrespective of the quantity of materials requested. Furthermore, the research tackles the recognized challenge of conventional methods in procuring product materials, encompassing the hurdles of locating construction materials, compiling product lists, comparing prices, and seeking product details.

Keywords: Construction industry, Procurement, Construction Materials, Cost Effective, Quantity, Streamline.

1. Introduction

Over the last century, the expansion of industry has been extraordinary, fuelled not just by technological advancements but also by the proliferation of construction projects. Additionally, the development of industrial infrastructure relies heavily on specific construction materials, serving as the cornerstone of all man-made structures. In Davao City, Philippines, a growing number of individuals are enhancing their residences to enjoy a more environmentally friendly atmosphere and increased living space. For those embarking on home improvement ventures, researching products and services, as well as comparing material prices, can be arduous tasks.

To streamline these processes and capitalize on technological advancements, an Android and web application has been developed. This application aims to expedite the retrieval of information about products available at various stores, ultimately saving time and effort. The primary objective of the study is to streamline the procurement process for materials and products from specific stores. Additionally, it seeks to enhance the customer service quality provided by these stores by introducing accessible technology for all.

2. Literature Survey

Before proceeding with the development of our application, it is imperative to conduct a comprehensive review of the E-commerce business landscape, particularly focusing on the market dynamics in Myanmar. This will enable us to intricately configure the website's business model, ensuring a clear understanding of the project's scope. By doing so, we can devise strategies for generating revenue from the application while mitigating unforeseen business risks and potential impacts.

Simultaneously, we will conduct thorough reviews of the user interface design for the website. Adhering to User Interface Design guidelines is paramount to ensuring user satisfaction. Given that the application will be accessed across various devices, we must prioritize responsive and adaptive designs to accommodate different screen sizes and resolutions. In addition, selecting the most suitable development methodology for the project is crucial. Failure to do so could result in significant time wastage and project inefficiencies. Furthermore, it is essential to justify the technology, tools, and techniques required for website development to ensure optimal performance and functionality.

3. Design

System Architecture

Admin: The administrative (admin) process in a website involves managing and overseeing various aspects of the website to ensure its proper functioning, security, and user management. The specific tasks and responsibilities of an admin can vary depending on the type of website, its features, and the goals of the organization. Here's a general overview of the administrative process on a website.
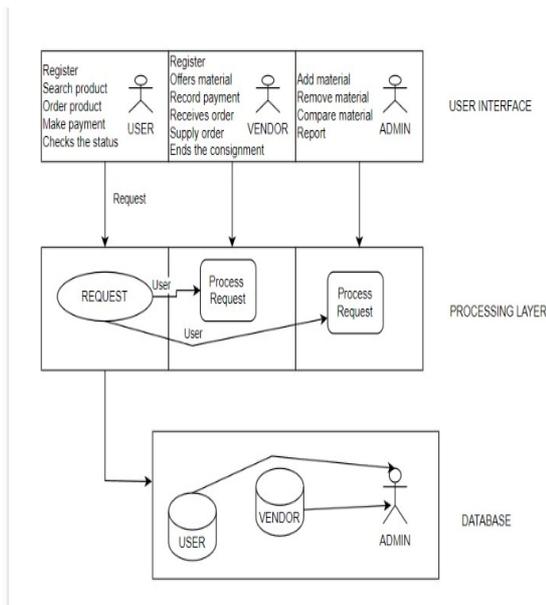

Fig.1 *Work Flow of Proposed System*

User and Vendor Authentication:

Admins manage user access by authenticating users and assigning appropriate roles and permissions. They ensure that users have the necessary access rights based on their roles (e.g., regular user, moderator, and administrator).

Admin can add, edit, or delete user accounts. They handle account recovery and password reset processes.

Monitor and manage user activity and behaviour within the website.

Vendor: Registration: Contractors or sellers sign up on the website. Profile Creation: They build a profile with services/products and relevant information.

Verification: Identity and business details are verified for legitimacy.

Listing: Contractors list their offerings, including details and pricing.

Communication: Interact with clients through the website's messaging system.

Order Placement: Clients place orders for services or products.

Execution

/Delivery: Contractors fulfill orders or provide services.

Payment: Website processes secure payments, deducting any fees.

Reviews
/Ratings: Clients leave feedback, influencing reputation.
Invoicing: Invoicing may be facilitated within the website.

Customer

Support: Website provides support for post-transaction inquiries.
User: Download and Installation: Users download and install the application
Registration/Account Creation: Users create an account by providing necessary details.

Profile

Setup: Users may customize their profiles with personal information and preferences.

Navigation and Exploration: Users explore the application features and functionalities.

Interaction: Users engage with the application by creating, sharing, or consuming content.

Transactions: Users make purchases, bookings, or transactions within the application.

Settings and Customization: Users adjust settings, notifications, and preferences.

Feedback and Ratings: Users provide feedback and ratings based on their experience.

Updates: Users receive and install application updates for new features and improvements.

Support and Help: Users access customer support or help features for assistance when needed.

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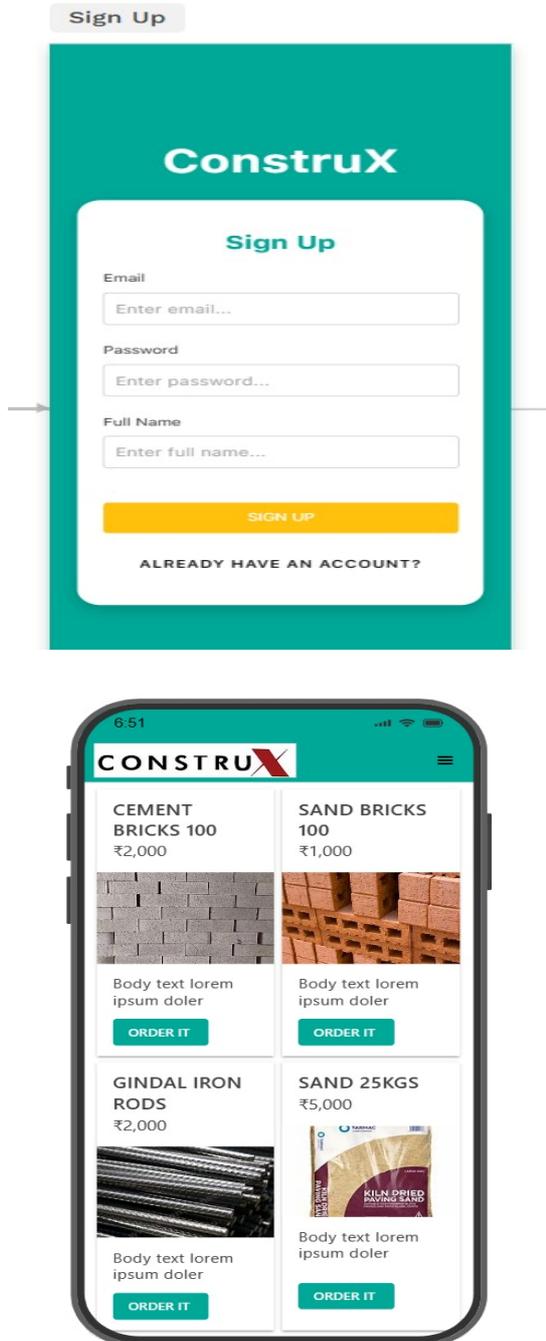
4. Result and Discussion

Fig.2 Output of Execution Results

5. Conclusion and Future Scope

In conclusion, a building materials application serves as a valuable tool for both contractors and buyers in the construction industry. With a user-friendly interface and features tailored to the needs of the construction sector, the application streamlines the process of sourcing and procuring materials. Contractors can easily register, create detailed profiles, and list their offerings, while buyers benefit from a seamless ordering process, secure payment options, and access to a diverse range of building materials. The application verification system ensures trust and transparency, enhancing the overall reliability of transactions. The objective of developing a web and Android-based application is to empower users to effortlessly generate and dispatch purchase orders for construction materials. Additionally, the application will enable users to explore various registered construction stores through an integrated Google Map feature, ensuring ease of navigation. Real-time updates on product availability will be facilitated to ensure accurate and up-to-date information for users. Furthermore, the application will furnish users with a comprehensive list of searched construction products, accompanied by their respective prices and availability status, among other essential functionalities.

6.References

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