JAIPUR NATIONAL UNIVERSITY

SCHOOL OF ENGINEERING AND TECHNOLOGY

Project Development And Seminar

A Project Report On
Mr.Wood : E-commerce Platform

SUBMITTED TO :   **SUBMITTED BY :**

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ABSTRACT

The purpose of this project, titled "Mr.wood : E-commerce Platform for Furniture," is to develop a comprehensive online platform that offers a diverse range of furniture items, including but not limited to sofas, tables, chairs, beds, storage solutions, and decorative accessories. Traditionally, purchasing furniture has been a challenging process, often hindered by limited information and accessibility.

The main function of the system is to register and store product details and retrieve them as and when required. Users, upon accessing the platform, will be able to browse through the extensive range of furniture items, with the ability to view detailed descriptions, high-resolution images, and authentic customer reviews. The platform ensures secure access, requiring a username and password, and only authorized personnel can add data into the database.

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INTRODUCTION

The project "Mr. Wood : E-commerce Platform for Furniture" aims to provide an online platform for the buying and selling of furniture and related services, enhancing accessibility for businesses to reach a global market and allowing customers to shop conveniently from anywhere at any time.

Mr. Wood has revolutionized the way goods and services are bought and sold online. With the advent of technology, it has become easier for businesses to reach a broader audience and for customers to find and purchase products with ease.

The proposed e-commerce platform is designed to provide a seamless shopping experience, ensuring simplicity, speed, and cost-effectiveness. With secure access requiring a username and password, only authorized personnel can add data into the database, ensuring the protection of personal data and making data processing very fast.

The platform is tailored to enhance customer satisfaction and decision-making, offering a wide range of products and services that cater to the unique needs and preferences of each user.

This project seeks to bridge the gap between consumers and high-quality furniture products, ultimately enhancing consumer decision-making in the e-commerce furniture industry.

Introduction of Problem

In the realm of furniture and interior/exterior design, connecting with a skilled carpenter, interior or exterior designer, and architect within a single platform poses a significant challenge. This issue is compounded by the lack of immediate retrievals, delayed information storage, and the difficulties associated with updating information promptly. Manual calculations are error-prone and time-consuming, often resulting in incorrect cost estimations. Moreover, the preparation of accurate and prompt reports becomes a daunting task due to the cumbersome process of collecting necessary information from various sources.

The problem lies in the absence of an efficient platform that can seamlessly address the availability of carpenters, interior and exterior designers, architects, and various other related services. This deficiency not only leads to delays in project completion but also contributes to higher costs and inefficiencies in the furniture and interior/exterior design industries.

To address these challenges, the "Mr. Wood Interior & Exterior - E-commerce Platform for Furniture" project aims to provide a comprehensive solution. This platform will streamline the process, providing immediate retrievals, prompt updating, accurate calculations, and the

preparation of accurate and prompt reports, thereby significantly reducing the higher costs and inefficiencies associated with the furniture, interior, and exterior design industries.

Objective:-

1) Connect Skilled Professionals
2) Ensure Immediate Retrievals and Prompt Updates
3) Implement Accurate Calculations
4) Prepare Accurate and Prompt Reports
5) Streamline Process

Scope of the Project:-

1) **Connection of Skilled Workers:** Develop a user-friendly interface that connects skilled carpenters, interior and exterior designers, and other furniture-related workers with users seeking their services.

2) **Real-time Updates:** Ensure the platform provides real-time updates and notifications to users regarding project progress, appointments, and new services.

3) **Streamlined Communication:** Implement a messaging system to facilitate communication between users and professionals, allowing for seamless collaboration and project management.

4) **Customized Project Management:** Provide tools for users to manage projects, including features such as budget tracking, project timelines, and design feedback.

5) **Integration of Payment System:** Integrate a secure payment system into the platform to handle transactions between users and professionals, ensuring a seamless and secure payment experience.

6) **Accessibility and Scalability:** Ensure the platform is accessible from various devices and scalable to accommodate a growing user base and expanding service offerings.

MODULES

    a. **Admin Module:**

     i. Manages the entire platform.
    ii. Controls user access and permissions.
   iii. Manages product listings, categories, and suppliers.
   iv. Generates reports and analytics.

b. User Module:
     i. Allows users to browse and purchase furniture products.
    ii. Manages user accounts, including registration, login, and profile management.
   iii. Handles order placement, tracking, and order history.
   iv. Provides customer support and feedback.

c. Carpenter Module:
     i. Allows skilled carpenters to register and showcase their work.
    ii. Manages orders, project details, and deadlines.
   iii. Facilitates communication with clients.

d. Interior Designer Module:
     i. Allows interior designers to register and showcase their work.
    ii. Manages design projects, client preferences, and deadlines.
   iii. Facilitates communication with clients.

e. Exterior Designer Module:
     i. Allows exterior designers to register and showcase their work.
    ii. Manages exterior design projects, client preferences, and deadlines.
   iii. Facilitates communication with clients.

f. Supplier Module:
     i. Manages inventory and supplies.
    ii. Handles product listings, availability, and pricing.
   iii. Tracks orders and shipping.

g. Accountant Module:
     i. Manages financial transactions, invoices, and billing.
    ii. Generates financial reports and analytics.
   iii. Handles payment processing and accounting.

REQUIREMENT ANALYSIS

Hardware Requirements:

1. Server:
  - Processor: Dual-core processor or higher
  - RAM: 4GB or higher
  - Storage: 50GB SSD or higher
  - Bandwidth: 1TB or higher

2. Database Server:
  - Processor: Dual-core processor or higher
  - RAM: 4GB or higher
  - Storage: 50GB SSD or higher
  - Bandwidth: 1TB or higher

3. Client Devices:
  - Desktops, laptops, tablets, and smartphones with internet connectivity.

Software Requirements:

1. Development Tools: Visual Studio Code , Git.

2. Frontend Development (MERN Stack):
  - Framework: React.js
  - State Management: Redux (for state management)
  - User Interface: Tailwind Css
  - Client-Side Routing: React Router
  - Authentication: JSON Web Token (JWT)
  - Payment Integration: Stripe API
  - HTTP Client: Axios

3. Backend Development (MERN Stack):
  - Framework: Node.js
  - API Framework: Express.js
  - Database: MongoDB (Atlas)
  - Authentication: JSON Web Token (JWT)
  - ORM/ODM: Mongoose
  - Payment Integration: Stripe API
  - Testing: postman

4. Deployment: VerceL

ANALYSIS

EXISTING SYSTEM:

The current system lacks a comprehensive digital platform that connects users with skilled professionals in the furniture industry. Finding and hiring professionals is manual, time-consuming, and prone to errors.

PROPOSED SYSTEM:

"MrWood" aims to revolutionize the furniture industry by providing a digital platform that connects users with skilled professionals, streamlining the process and making it efficient, accessible, and convenient.

FEASIBILITY STUDY:

1. Economic Feasibility:
   - Cost-Benefit Analysis: Initial investment includes expenses for website development, hosting, payment gateway integration, and marketing. Revenue streams include product sales, commissions from professionals, and advertising fees.

2. Technical Feasibility:
   - Website Development: The platform will be developed using the MERN stack (MongoDB, Express.js, React.js, Node.js). It will be hosted on platforms like Heroku, AWS, or DigitalOcean. Security measures will be implemented using industry-standard protocols, with Stripe API integration for secure payment processing.

3. Operational Feasibility:
   - Market Analysis:
   - Market Size and Growth: The size and growth trends of the online furniture market will be evaluated regionally or globally.
   - Business Model: Revenue streams will include product sales, advertising, or subscription services.

<u>SYSTEM DESIGN:</u>

UML Design

The Unified Modeling Language (UML) is a standard language for specifying, visualizing, constructing, and documenting the software system and its components. It is a graphical language , which provides a vocabulary and set of semantics and rules. The UML focuses on the conceptual and physical representation of the system. It captures the decisions and understandings about systems that must be constructed. It is used to understand, design, configure, maintain, and control information about the systems.
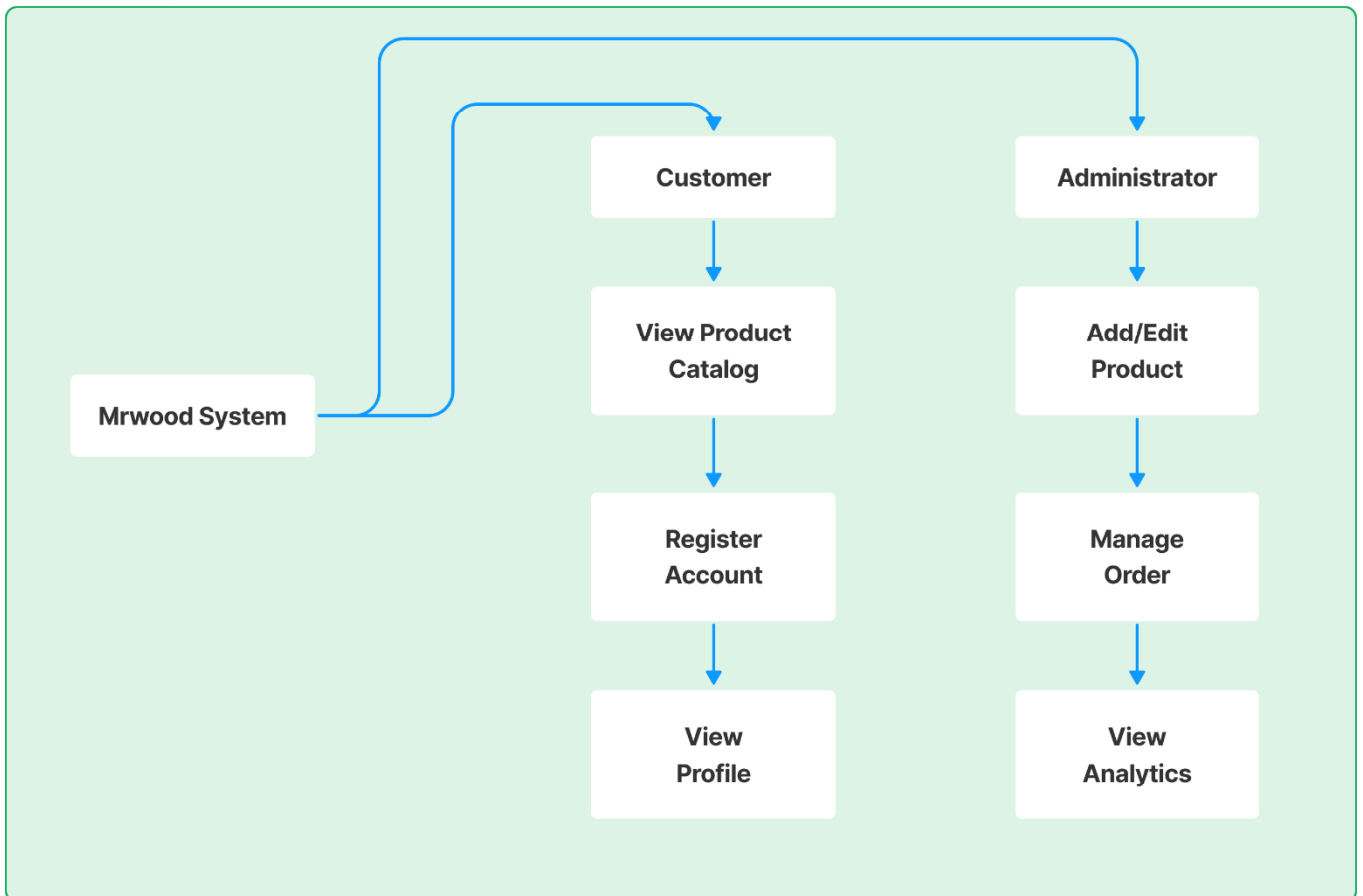
The UML is a language
- for: Visualizing
- Specifying
- Constructing
- Documenting

UML Diagram

A diagram is the graphical presentation of a set of elements, most often rendered as a connected graph of vertices and arcs . you draw diagram to visualize a system from different perspective, so a diagram is a projection into a system. For all but most trivial systems, a diagram represents an elided view of the elements that make up a system. The same element may appear in all diagrams, only a few diagrams , or in no diagrams at all. In theory, a diagram may contain any combination of things and relationships. In practice, however, a small number of common combinations arise, which are consistent with the five most useful views that comprise the architecture of a software- intensive system

Use case diagram of our project

Customer

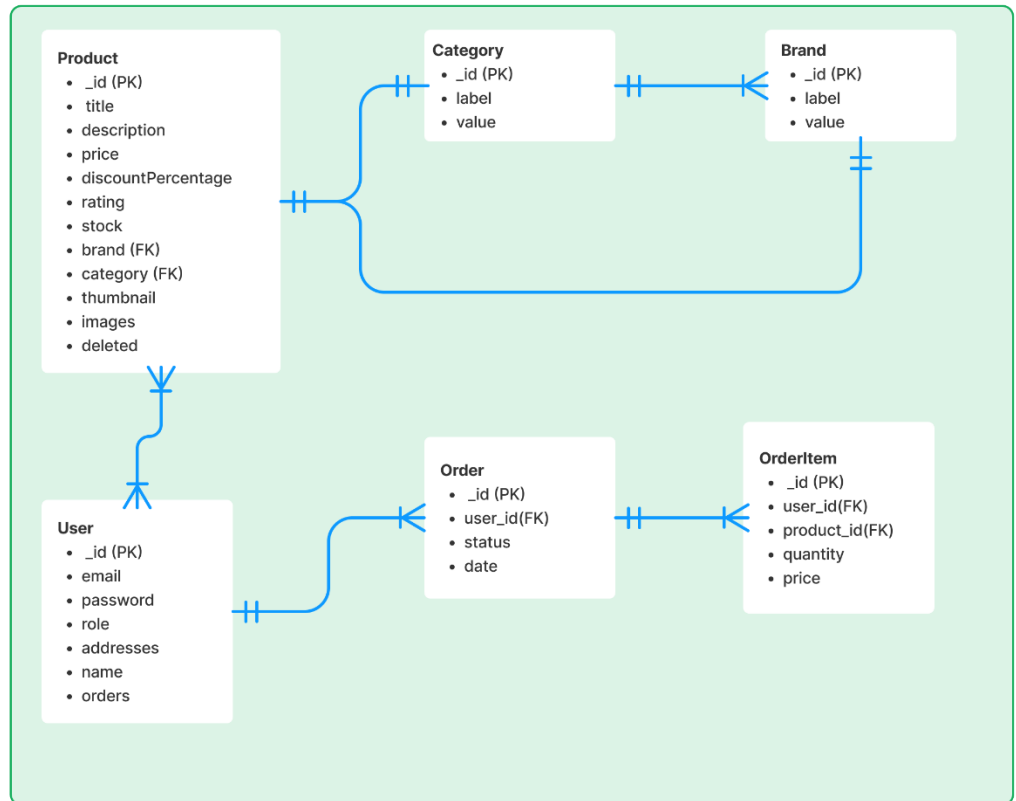Administrator

View Product
Catalog

Add/Edit
Product

Mrwood System

Register
Account

Manage
Order

View
Profile

View
Analytics

ER diagram of our project :

Components

One	──┤├──
One or May	──┤<──
Zero or One	──○┤──
Zero or Many	──○<──

Mrwood Web App

Product
- _id (PK)
- title
- description
- price
- discountPercentage
- rating
- stock
- brand (FK)
- category (FK)
- thumbnail
- images
- deleted

Category
- _id (PK)
- label
- value

Brand
- _id (PK)
- label
- value

User
- _id (PK)
- email
- password
- role
- addresses
- name
- orders

Order
- _id (PK)
- user_id(FK)
- status
- date

OrderItem
- _id (PK)
- user_id(FK)
- product_id(FK)
- quantity
- price

IMPLEMENTATION

Implementation is the stage of the project when the theoretical design is turned out into a working system. Thus it can be considered to be the most critical stage in achieving a successful new system and in giving the user, confidence that the new system will work and be effective.

The implementation stage involves careful planning, investigation of the existing system and it's constraints on implementation, designing of methods to achieve changeover and evaluation of changeover methods.

TESTING

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionality of components, subassemblies , assemblies and/or a finished product It is the process of exercising software with the intent of ensuring that the Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of test. Each test type addresses a specific testing requirement.

SAMPLE SCREENSHOT
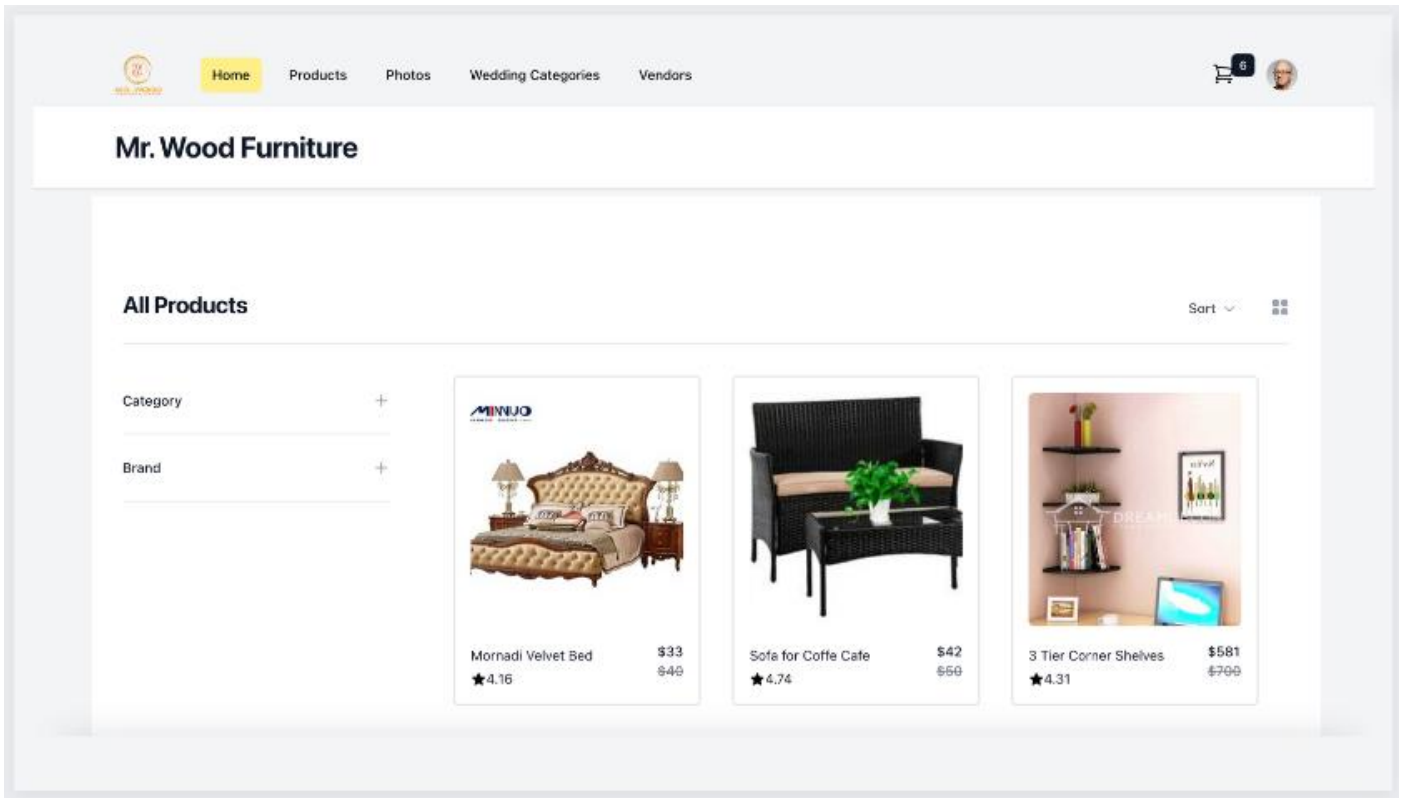
CONCLUSION

The "MrWood" e-commerce platform for furniture is poised to revolutionize the industry by providing a comprehensive digital solution that seamlessly connects users with skilled professionals. Through the analysis, it's evident that the existing system lacks the efficiency, accessibility, and convenience that a digital platform could provide. Therefore, the proposed system, "MrWood," aims to bridge this gap by offering a user-friendly interface that enables users to browse, select, and order furniture products and services while connecting them with skilled professionals such as carpenters, interior and exterior designers, and other furniture-related workers.