Software Design Document (SDD) – (Shatabha)House Plumbing Website

1. Introduction

The House Plumbing Website (Shatabha) aims to provide a platform for users to find plumbing supplies for their houses. It facilitates users in browsing, ordering, and managing plumbing products conveniently. The system ensures security, user-friendly interface, and high performance.

2. Project Overview

The project enables users to search for and purchase plumbing supplies for their houses. It caters to individuals who are building or renovating their homes and require plumbing materials.

3. Functional Requirements

- **User Authentication:** Users and admins can log in, log out, and sign up.
- **User Dashboard:**
    - Users can view their orders, favorite items, and account information.
    - Users can filter products by price and category.
    - Users can message the admin via WhatsApp.
    - Users can search for products.
- **Admin Dashboard:**
    - Admins can view user details, products, orders, and categories.
    - Admins can add, edit, or delete users, products, categories, and brands.
    - Admins can block users and update user information (excluding address).
- **Shopping Cart:** Users can add items to their cart and view their bills.
- **Order Management:** Users can view their orders, and admins can manage orders.
- **Security:** The website ensures secure user authentication and data transmission.

4. Non-Functional Requirements

- **Security:** The website implements robust security measures to protect user data and transactions.
- **User Interface:** The UI is designed to be user-friendly and intuitive.
- **Performance:** The system is optimized for high performance to ensure a smooth user experience.

5. Data Model

The system includes entities such as Users, Products, Orders, Brands, and Categories. Relationships between these entities are established to maintain data integrity.

6. User Interface Design

- The UI design focuses on simplicity, ease of navigation, and clear communication of information.
- Mockups and wireframes will be created to visualize the user interface.

7. System Modules

- **Authentication Module:** Manages user authentication and authorization.
- **Dashboard Module:** Provides user and admin dashboards for managing accounts, orders, and products.
- **Shopping Cart Module:** Handles shopping cart functionality.
- **Order Management Module:** Manages order processing and fulfillment.
- **Security Module:** Implements security measures to protect user data.

8. Implementation Details

- **Programming Languages:** HTML, CSS, JavaScript
- **Frameworks:** React for front-end, SpringBoot for back-end
- **Database:** MongoDB for data storage

9. Testing Strategy

- **Unit Testing:** Testing individual modules for correctness.
- **Integration Testing:** Testing interactions between modules.
- **User Acceptance Testing:** Involving users to validate the system's functionality.