**Frontend Documentation for Smart Spending System**

This document provides a detailed description of the frontend design and functionality for the **Smart Spending** system using traditional web development methods without employing frameworks like React or libraries such as Bootstrap. The focus is on delivering a structured and user-friendly experience using **HTML**, **CSS**, and **JavaScript**.

**1. Overview**

The frontend is the user interface of the **Smart Spending** system, designed to provide an intuitive and responsive platform for users to:

1. Analyze and monitor spending habits.
2. Log expenses and income.
3. Plan budgets and savings.
4. Access investment recommendations.

It includes dynamic web pages and interactive features to ensure an engaging and functional user experience.

**2. Functional Requirements**

**1. User Authentication**

* **Signup**: Users create accounts with their email/phone and password.
* **Login**: Authenticate users with email/phone and password.
* **Password Reset**: Users can reset passwords via email/phone verification.

**2. Dashboard**

* Displays a summary of:
  + Monthly income.
  + Spending trends.
  + Savings progress.
* Provides quick navigation buttons to key features:
  + Log Expense.
  + Update Budget.
  + View Reports.

**3. Log Expense**

* A form where users input:
  + Product/Service Name.
  + Amount spent.
  + Payment method (Mpesa or bank).
* After submission:
  + The product is recorded in the system for analysis.
  + The user is shown a confirmation message.

**4. Spending Analysis**

* Categorizes user spending into:
  + Necessary (e.g., rent, food).
  + Unnecessary (e.g., luxury items, entertainment).
* Provides visual insights into spending trends:
  + Bar charts for monthly expenses.
  + Pie charts for category distribution.
* Suggestions to cut down on unnecessary spending.

**5. Budgeting and Savings**

* Allows users to:
  + Set monthly budgets for essential and discretionary spending.
  + Track savings goals (e.g., emergency funds, vacation plans).
* Features a progress bar for savings goals:
  + Displays percentage completion.
  + Includes reminders for savings deadlines.

**6. Investment Recommendations**

* Suggests personalized investment options based on:
  + Income.
  + Spending habits.
  + Risk tolerance.
* Includes an educational guide explaining the risks and benefits of options like stocks, bonds, and cryptocurrencies.

**3. User Interface Design**

**1. Layout**

* **Homepage**:
  + Includes a welcome message, highlights of the system’s features, and signup/login buttons.
  + A footer with links to the Privacy Policy, Terms of Service, and Contact Information.
* **Dashboard**:
  + **Header**: A navigation bar with links to Home, Log Expense, Spending Analysis, Budget Planner, and Profile.
  + **Main Content**:
    - Summary cards for income, expenses, and savings.
    - Buttons for quick actions (e.g., Log Expense, Set Budget).

**2. Forms**

* **Signup and Login Forms**:
  + Simple input fields for user credentials.
  + Validation to ensure correct email/phone format and password strength.
* **Log Expense Form**:
  + Input fields for:
    - Product Name.
    - Amount.
    - Payment method (Mpesa or bank).
  + Confirmation message after submission.
* **Budget Planner**:
  + Input fields for income and category allocations (e.g., essentials, savings, discretionary spending).
  + A button to calculate and display the remaining balance.

**3. Visual Elements**

* **Spending Analysis Charts**:
  + **Bar Chart**: Monthly spending trends.
  + **Pie Chart**: Expense category distribution.
* **Progress Bars**:
  + Represent savings goals visually.
  + Change color to indicate status (e.g., green for on track, red for lagging).

**4. Key Design Principles**

**1. Simplicity**

* Minimalistic design to ensure ease of use.
* Clear labels and intuitive navigation for all features.

**2. Responsiveness**

* Web pages adapt to different screen sizes (desktop, tablet, mobile).
* Use percentage-based layouts for flexibility.

**3. Accessibility**

* Use readable fonts and sufficient contrast between text and background.
* Ensure all interactive elements (buttons, links) are large enough to click easily.

**4. Feedback**

* Show loading animations for actions like form submission.
* Provide confirmation messages for successful actions and error messages for invalid inputs.

**5. Frontend Features and Structure**

**Homepage**

* **Purpose**: Introduce users to the system.
* **Content**:
  + Welcome message.
  + Brief descriptions of system features.
  + Buttons for Signup/Login.

**Dashboard**

* **Purpose**: Act as the central hub for the system.
* **Content**:
  + Overview of financial stats (income, expenses, savings).
  + Buttons for accessing other features.
  + Charts showing spending patterns.

**Log Expense**

* **Purpose**: Allow users to record their expenses.
* **Content**:
  + A simple form for entering product name, amount, and payment method.
  + A submit button to save the entry.

**Spending Analysis**

* **Purpose**: Provide insights into spending habits.
* **Content**:
  + Charts for spending trends and category breakdown.
  + Suggestions for reducing unnecessary expenses.

**Budget Planner**

* **Purpose**: Help users allocate their income effectively.
* **Content**:
  + Fields for entering income and category budgets.
  + Progress bars for tracking savings.

**Investment Suggestions**

* **Purpose**: Educate and guide users on investment opportunities.
* **Content**:
  + List of investment options with descriptions.
  + Links to external resources for more information.

**6. Implementation Steps**

**1. Design Mockups**

* Create mockups using tools like Figma or Adobe XD to visualize the layout and structure.

**2. HTML Development**

* Build the skeleton of the website using clean and semantic HTML.
* Structure content hierarchically (e.g., header, main, footer).

**3. CSS Styling**

* Style the pages to match the mockups.
* Use a consistent color scheme and typography.

**4. JavaScript Interactivity**

* Add event listeners for form submissions and button clicks.
* Implement dynamic updates (e.g., updating charts, showing progress bars).

**5. Testing**

* Test the interface on various devices and browsers.
* Ensure the layout adapts to different screen sizes.

**7. Deliverables**

1. Fully functional and responsive web interface.
2. Interactive forms for logging expenses and planning budgets.
3. Visual tools (charts, progress bars) for financial insights.
4. Smooth user experience with clear navigation and feedback mechanisms.