**SubTrack – Subscription Management System**

**Project Report / Documentation**

**1. Project Overview**

SubTrack is a **web-based subscription management system** designed to help users track, manage, and control their various app and service subscriptions in one place. It provides **reminders for upcoming renewals**, insights on spending, and easy management of active or paused subscriptions.

The system is user-friendly, responsive, and integrates dynamic data fetching from a backend API to provide a real-time overview of the user’s subscriptions.

**2. Motivation**

With the increasing number of digital subscriptions (Netflix, Spotify, mobile apps, utilities), users often lose track of renewals and expenses. SubTrack addresses this problem by:

* Showing a **dashboard summary** of all subscriptions.
* Sending **upcoming renewal reminders**.
* Tracking **monthly spending**.
* Allowing users to **pause or renew subscriptions** easily.

**3. Key Features**

**3.1 Dashboard**

* Displays **Active Subscriptions**, **Paused Subscriptions**, **Upcoming Renewals**, and **Monthly Spending** in visually appealing cards.
* Shows **recent activity** for the last 3 subscriptions.
* Real-time update from backend API.

**3.2 My Subscriptions**

* Lists all subscriptions for the logged-in user.
* Users can **pause, resume, or edit** subscription details.
* Integrates **price and expiry calculations** dynamically.

**3.3 Reminders**

* Lists subscriptions expiring within the next 7 days.
* Sidebar shows **animated badge** with the number of upcoming reminders.
* Clicking a reminder redirects immediately to **My Subscriptions** for action.

**3.4 Authentication**

* Users login to access their subscriptions.
* User information is stored in **localStorage** for session management.
* Unauthenticated users are redirected to **Login page**.

**3.5 Responsive UI**

* Modern dark-gradient theme.
* Cards with hover animations.
* Sidebar for navigation across pages.
* Fully responsive for desktop and mobile devices.

**4. Technology Stack**

* **Frontend:** HTML, CSS, JavaScript, Bootstrap 5
* **Backend:** Node.js + Express (or any REST API backend)
* **Database:** JSON file / MongoDB (as per API design)
* **Libraries:** Font Awesome (icons), Bootstrap (UI), Fetch API (data fetching)

**5. System Architecture**

User Browser

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[Frontend Web App]

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REST API Endpoint (/api/subscriptions?email=user.email)

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[Backend Server]

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Database (Subscriptions collection)

* Frontend fetches **user subscription data** from API.
* Backend queries database and returns JSON.
* Frontend dynamically updates **dashboard, reminders, and activity lists**.

**6. Database Design**

**6.1 Users Table/Collection**

| **Field** | **Type** | **Description** |
| --- | --- | --- |
| name | String | Full name of the user |
| email | String | Unique user email |
| password | String | Hashed password |

**6.2 Subscriptions Table/Collection**

| **Field** | **Type** | **Description** |
| --- | --- | --- |
| name | String | Subscription name (e.g., Netflix) |
| email | String | User email (to link with user) |
| price | Number | Subscription price |
| expiryDate | Date | Expiry date of subscription |
| status | String | Active, Paused, Expiring Soon |

**7. Implementation Details**

**7.1 Frontend**

* **Dashboard Page:** Dynamic cards showing subscription stats.
* **My Subscriptions Page:** List with pause/resume buttons.
* **Reminders Page:** Shows expiring subscriptions and redirects to My Subscriptions.

**7.2 JavaScript Logic**

* Fetch subscriptions for logged-in user.
* Calculate:
  + Active, Paused, Expiring Soon subscriptions.
  + Monthly spending.
  + Upcoming reminders count.
* Update dashboard and badges dynamically.
* Animate reminder badge when count changes.

**Example Function for Reminder Badge Animation:**

function updateReminderBadge(count) {

const badge = document.getElementById('reminderCount');

badge.textContent = count;

badge.classList.add('animate');

setTimeout(() => badge.classList.remove('animate'), 500);

}

**7.3 Navigation**

* Sidebar with links: Dashboard, My Subscriptions, Reminders, Profile.
* Clicking a reminder redirects to **My Subscriptions** for action.

**8. User Interface**

* **Dashboard:** Summary cards, recent activity list.
* **My Subscriptions:** Table/list with pause/renew options.
* **Reminders:** Upcoming reminders list with icons.
* **Responsive Design:** Works on both desktop and mobile.

**UI Theme:**

* Dark-gradient background
* Cards with hover effects
* Font Awesome icons for clarity
* Consistent navigation sidebar

**9. Future Enhancements**

* Push notifications or email reminders for renewals.
* Integrate **payment gateway** for direct renewal.
* Graphical analysis of monthly spending trends.
* Multi-user support with roles.
* Dark/Light theme toggle.

**10. Conclusion**

SubTrack is a **practical, user-friendly subscription management system** that centralizes all subscriptions in one place. With automated reminders, spending tracking, and easy management, it ensures users never miss a renewal or overpay for unused services.