---------------------- Project Requirement -----------------------

For the Brain Dump Application, a comprehensive set of project requirements focused on database design and system functionality will ensure that the application meets the needs of users for task management, idea storage, event scheduling, and activity logging. Here are the detailed project requirements:

### 1. \*\*System Overview\*\*

The Brain Dump Application is designed to be a comprehensive productivity and organizational tool that allows users to manage tasks, store ideas, schedule events, and log activities within a secure and user-friendly environment.

### 2. \*\*User Management\*\*

#### Requirements:

- \*\*R2.1:\*\* The system must support user account creation with secure storage of credentials, including the use of hashing and salting techniques for password storage.

- \*\*R2.2:\*\* It must offer a secure login mechanism, including options for multi-factor authentication.

- \*\*R2.3:\*\* User profiles should include customizable settings for notifications, privacy, and interface customization.

- \*\*R2.4:\*\* Users should be able to recover forgotten passwords securely through email verification or security questions.

- \*\*R2.5:\*\* Implement role-based access control (RBAC) to differentiate between regular users and administrators, with administrators having the ability to manage user accounts and system settings.

### 3. \*\*Task Management\*\*

#### Requirements:

- \*\*R3.1:\*\* Users must be able to create, view, edit, and delete tasks.

- \*\*R3.2:\*\* Tasks should be categorizable by custom user-defined tags or categories.

- \*\*R3.3:\*\* Each task must have assignable priorities and deadlines.

- \*\*R3.4:\*\* The system should provide reminders for upcoming deadlines and notifications for overdue tasks.

- \*\*R3.5:\*\* Support for task dependencies and subtasks to allow complex task management.

### 4. \*\*Idea Storage\*\*

#### Requirements:

- \*\*R4.1:\*\* Users must be able to quickly add notes or ideas with a simple interface.

- \*\*R4.2:\*\* Notes should be organizable into notebooks or categories for easy retrieval.

- \*\*R4.3:\*\* Support for tagging notes with keywords for improved searchability.

- \*\*R4.4:\*\* Implement full-text search capabilities to allow users to find ideas based on content.

### 5. \*\*Event Scheduling\*\*

#### Requirements:

- \*\*R5.1:\*\* Users must be able to create, edit, and delete events in a calendar view.

- \*\*R5.2:\*\* Events should have titles, descriptions, start and end times, and customizable reminders.

- \*\*R5.3:\*\* Support for recurring events and the ability to invite other users to events.

- \*\*R5.4:\*\* Integration with external calendar services (e.g., Google Calendar, Outlook) for synchronization.

### 6. \*\*Activity Logging\*\*

#### Requirements:

- \*\*R6.1:\*\* The system must automatically log user actions such as adding, editing, or deleting tasks, notes, and events.

- \*\*R6.2:\*\* Use database triggers to capture and store log entries for each significant user action.

- \*\*R6.3:\*\* Administrators should have access to the activity logs for auditing and analysis purposes.

- \*\*R6.4:\*\* Implement analytics tools to analyze user engagement and feature usage based on the activity logs.

### 7. \*\*Database Design\*\*

#### Requirements:

- \*\*R7.1:\*\* Design the database schema to efficiently support the above functionalities with considerations for scalability and performance.

- \*\*R7.2:\*\* Employ normalization practices to eliminate data redundancy and ensure data integrity.

- \*\*R7.3:\*\* Use foreign keys and indexes appropriately to enhance data retrieval speeds and maintain referential integrity.

- \*\*R7.4:\*\* Plan for secure storage of sensitive information, including encryption of personally identifiable information (PII) and user credentials.

### 8. \*\*Security and Compliance\*\*

#### Requirements:

- \*\*R8.1:\*\* Ensure compliance with relevant data protection regulations (e.g., GDPR, CCPA) for user data.

- \*\*R8.2:\*\* Implement secure data transmission protocols (e.g., HTTPS) and data encryption at rest.

- \*\*R8.3:\*\* Regularly update and patch software dependencies to protect against known vulnerabilities.

- \*\*R8.4:\*\* Conduct security audits and penetration testing to identify and mitigate potential vulnerabilities.

These requirements aim to guide the development of the Brain Dump Application towards creating a robust, secure, and user-friendly platform for personal productivity and organization.

----------------- User stories and journeys ------------------------

Based on the detailed project requirements for the Brain Dump Application, we can create a series of user stories and journeys that align with the needs outlined in the requirements. These narratives will help us ensure the development process focuses on providing value to the users by addressing their needs and pain points. Here’s how these requirements translate into user stories and journeys:

### \*\*User Story 1: Account Creation and Management\*\*

- \*\*As a\*\* new user,

- \*\*I want to\*\* create an account securely,

- \*\*So that\*\* I can start managing my tasks, ideas, events, and activities within the app.

\*\*Journey:\*\*

1. The user visits the application and selects the option to create a new account.

2. They are prompted to enter their email, create a password (with guidelines for secure passwords), and optional multi-factor authentication setup.

3. After submitting the form, they receive a verification email to ensure the security of their email address.

4. Upon verifying their email, they are taken to their new account where they can customize their profile settings.

### \*\*User Story 2: Task Management\*\*

- \*\*As a\*\* registered user,

- \*\*I want to\*\* create, categorize, and manage my tasks efficiently,

- \*\*So that\*\* I can stay organized and meet my deadlines.

\*\*Journey:\*\*

1. The user logs into their account and navigates to the task management section.

2. They create a new task, assigning it a title, deadline, priority level, and custom tags.

3. The user receives reminders for upcoming deadlines and notifications for overdue tasks.

4. They can edit or delete tasks as needed and mark tasks as complete when finished.

### \*\*User Story 3: Idea Capture and Organization\*\*

- \*\*As a\*\* creative individual,

- \*\*I want to\*\* quickly jot down my ideas and organize them,

- \*\*So that\*\* I can easily retrieve and build on them later.

\*\*Journey:\*\*

1. The user opens the idea storage feature and clicks to add a new note.

2. They enter their idea and assign it to a notebook or category, adding tags for easy retrieval.

3. The user uses the full-text search feature to find specific notes based on content.

4. They can edit or delete notes as their ideas evolve.

### \*\*User Story 4: Event Scheduling and Management\*\*

- \*\*As a\*\* busy professional,

- \*\*I want to\*\* schedule and manage my events within the app,

- \*\*So that\*\* I can organize my time effectively and sync with my other calendars.

\*\*Journey:\*\*

1. The user accesses the event scheduling feature and creates a new event, detailing the title, times, description, and reminders.

2. They invite other users to the event and set it as recurring if needed.

3. The user views their events in a calendar view, editing or deleting them as plans change.

4. Events are synced with external calendar services for seamless integration.

### \*\*User Story 5: Activity Logging and Analysis\*\*

- \*\*As an\*\* administrator,

- \*\*I want to\*\* view and analyze application usage and user activities,

- \*\*So that\*\* I can understand engagement and improve the application.

\*\*Journey:\*\*

1. The administrator accesses the backend to view activity logs, filtered by user action or time period.

2. They use analytics tools within the application to analyze trends in user engagement and feature usage.

3. Based on the analysis, the administrator identifies areas for improvement or new features to develop.

4. They can export the activity logs and analysis for further review or compliance purposes.

These user stories and journeys will guide the development team in creating features that align with the users’ needs and expectations from the Brain Dump Application, ensuring a focus on functionality, security, and user satisfaction throughout the development process.

**Wireframes, UI/UX**

### **Home/Dashboard Page**

**Input Controls:**

* "Add New" button with dropdown options for task, idea, or event, triggering respective creation modals.
* Search bar for quickly finding tasks, ideas, or events.

**Display Controls:**

* Overview widgets for tasks, ideas, and upcoming events with summary information.
* Quick access buttons for detailed views of tasks, ideas, and calendar.

**Views:**

* Main view: A composite summary of upcoming tasks, recent ideas, and next events.
* Sidebar or top navigation bar for quick navigation to main application areas (tasks, ideas, calendar, settings).

### **Tasks Page**

**Input Controls:**

* "Add Task" button to open task creation modal.
* Filters for viewing tasks by priority, deadline, or custom tags.
* Checkbox for marking tasks as completed.

**Display Controls:**

* List or grid view of tasks, showing title, deadline, and priority.
* Edit and delete buttons on each task entry.

**Views:**

* Main view: List of tasks with applied filters.
* Task creation/edit modal: Form inputs for task details including title, description, priority, deadline, and tags.

### **Ideas Page**

**Input Controls:**

* "Add Idea" button to quickly capture new ideas.
* Category or notebook selection for organizing ideas.
* Search bar for full-text search of ideas.

**Display Controls:**

* List or grid view of idea snippets, clickable to expand or edit.
* Side panel or dropdown for selecting notebooks or categories.

**Views:**

* Main view: A flexible, scrollable list or grid of ideas.
* Idea capture/edit modal or sidebar: Simple text input for idea content, dropdowns, or checkboxes for categories and tags.

### **Events Calendar Page**

**Input Controls:**

* "Add Event" button for creating new events.
* Date picker for navigating the calendar and selecting dates.
* Event detail inputs within the creation/edit modal, including title, description, times, and reminders.

**Display Controls:**

* Calendar view displaying events, with different colors or icons for event types.
* Clickable events opening an edit modal or side panel.

**Views:**

* Main view: Full calendar with a month, week, or day view options.
* Event creation/edit modal: Detailed form for entering event information.

### **Settings/Profile Page**

**Input Controls:**

* Form fields for editing user profile information, including email, password, and notification preferences.
* Toggle switches or checkboxes for privacy settings and interface customization options.

**Display Controls:**

* Tabs or sections dividing account settings, notification settings, privacy settings, and interface options.
* "Save" or "Apply Changes" button to confirm modifications.

**Views:**

* Main view segmented into different settings categories, each with its own form or toggle controls.

### **Admin Activity Log Page**

**Input Controls:**

* Filters for viewing logs by user action, user ID, date range, or specific features used.
* Export button for downloading log reports.

**Display Controls:**

* Tabular display of log entries, showing user action, timestamp, user ID, and action details.
* Pagination controls for navigating through large datasets.

**Views:**

* Main view: A detailed, filterable table of user activities and system events.
* Side panel or modal for viewing analytics and usage trends, if applicable.

These interface details for each page provide a foundational guide for wireframe development, emphasizing the importance of intuitive navigation, clear input and display mechanisms, and responsive layouts to enhance user engagement and productivity within the Brain Dump Application.

Types of Brain Dump

### **1. Text Notes**

* **Description:** Users can add plain or formatted text notes for ideas, reminders, task details, or event descriptions. This feature is foundational for quick notetaking and idea capture.
* **Input Controls:** Text input fields, possibly with rich text formatting options for bold, italics, lists, and links.

### **2. URLs/Links**

* **Description:** Storing URLs allows users to keep track of useful web resources related to their tasks, projects, or ideas.
* **Input Controls:** A dedicated URL input field with auto-formatting to recognize and validate web addresses.

### **3. Images and Screenshots**

* **Description:** Users can upload images or screenshots for reference, which is particularly useful for visual idea capture, task illustration, or saving web content.
* **Input Controls:** File upload functionality with support for common image formats (JPEG, PNG, GIF). An optional feature could include taking screenshots directly within the app.

### **4. Videos**

* **Description:** For more comprehensive content capture, users can add videos. This could include links to video content or uploading video files directly.
* **Input Controls:** Video URL input or file upload capability, with embedded video players for inline viewing.

### **5. Documents and Files**

* **Description:** Users might want to attach documents (e.g., Word, PDF) or other files related to tasks, ideas, or events for easy access and organization.
* **Input Controls:** File upload functionality supporting various document formats, with preview capabilities for common file types.

### **6. Audio Recordings**

* **Description:** Capturing voice memos or audio notes can be a quick and convenient way for users to store ideas or reminders.
* **Input Controls:** An audio recording feature within the app, allowing users to record directly or upload pre-recorded audio files.

### **7. Checklists**

* **Description:** For task management, users can create checklists to keep track of sub-tasks or items to remember.
* **Input Controls:** Checklist creation with options to add, edit, and check off items.

### **8. Sketches or Drawings**

* **Description:** A feature for users who prefer drawing or sketching their ideas or for those who need to annotate images or screenshots.
* **Input Controls:** A drawing tool within the app, offering basic drawing capabilities (pens, colors, erasers).