**Requirements Document: Deadline-Aware To-Do Web App**

**1. Overview**

A single-page web application (SPA) for managing to-do items with deadlines. Users can add tasks, see them color-coded based on their status and due dates, and mark them as completed.

**2. Functional Requirements**

**2.1 Task Management**

* **Add To-Do Item**
  + Fields: Task name (text), Deadline (date).
  + Action: Clicking “Add” will append the item to the task list.
* **Mark as Completed**
  + Each item should have a checkbox/button to mark it as completed.
  + Once marked, the item becomes green and remains in the list.
* **Delete To-Do Item (Optional)**
  + Each task may have a “delete” button to remove it from the list.

**2.2 Display & Styling**

* **Default Appearance**
  + All tasks are listed in a scrollable section.
* **Color Coding**
  + **Red**: Past deadline and not completed.
  + **Blue**: Deadline is today or in the future and not completed.
  + **Green**: Marked as completed (regardless of deadline).
* **Sorting (Optional Enhancement)**
  + Tasks may be sorted by deadline or completion status.

**3. Non-Functional Requirements**

**3.1 Performance**

* Instant responsiveness (no page reloads).
* Real-time update of task colors when marked or when the date changes.

**3.2 Platform Compatibility**

* Should work on all modern browsers (Chrome, Firefox, Edge, Safari).
* Responsive design for both desktop and mobile views.

**4. Technical Requirements**

**4.1 Front-End**

* **Framework**: Vanilla JavaScript.
* **Styling**: CSS (preferably tailwind css).

**4.2 Data Persistence (Optional)**

* Use sqlite to persist tasks across sessions.

**5. UI Mockup (Conceptual)**

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| Task: [\_\_\_\_\_\_\_\_\_\_] Deadline: [\_\_\_\_\_\_/\_\_\_\_\_\_/\_\_\_\_\_] [Add] |

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| [ ] Buy groceries (2025-04-23) [red] |

| [x] Submit report (2025-04-20) [green] |

| [ ] Meeting with team (2025-04-27) [blue] |

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**6. Future Enhancements (Optional)**

* Task editing functionality.
* Notifications/reminders for upcoming or overdue tasks.
* Task categories or priorities.