**Project Proposal for Capstone Project: Digital Planner for Stay-at-Home Parents**

**Submitted by:**

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**Application Name:**

Family Organizer Pro

**Technology Stack:**

* **Front End:** React
  + **Justification:** Chosen for its component-based architecture which facilitates the development of a dynamic and responsive user interface. React is also widely supported and integrates seamlessly with numerous third-party libraries and APIs, enhancing the development process.
* **Back End:** Node.js + Express
  + **Justification:** These technologies provide a lightweight, yet powerful, framework for building efficient APIs. Node.js coupled with Express enhances the server-side capabilities, enabling quick development and easy maintenance.
* **Database:** MongoDB
  + **Justification:** A NoSQL database that allows flexible schema design, ideal for the customizable nature of a digital planner. It supports rapid development and can scale as user growth occurs.

**Initial Features and User Stories:**

1. **Digital Calendar**
   * **User Story:** As a stay-at-home parent, I want to view my entire family's schedule in one place, so I can easily manage appointments and events without conflicts.
2. **Task Management**
   * **User Story:** As a user, I need to add and categorize tasks, so that I can prioritize daily responsibilities effectively.
3. **Customizable Views**
   * **User Story:** As a user, I want to switch between daily, weekly, and monthly views, so that I can plan according to different time frames.
4. **Push Notifications**
   * **User Story:** As a busy parent, I want to receive reminders for important tasks and events, so I do not forget them.
5. **Family Sharing**
   * **User Story:** As a family member, I want to access a shared family calendar, so we can coordinate schedules seamlessly.
6. **Sync Across Devices**
   * **User Story:** As a user, I need to access my planner from any device, ensuring I can view and update my schedule on the go.
7. **Offline Functionality**
   * **User Story:** As a user, I want to access my planner without internet access, so I can view my tasks and calendar anytime.

**Source Control Technology:**

* **Git and GitHub**
  + **Justification:** Git will be used for version control to manage and track changes in the project, facilitating collaborative development and ensuring that all project history is preserved. GitHub serves as the remote repository and collaboration platform.

**Deployment Platform:**

* **Amazon Web Services (AWS)**
  + **Justification:** AWS will host both the application and database, providing scalability, reliability, and a broad set of cloud-based services that support application deployment and operation.

**Compliance with Minimum Project Requirements:**

* **Front End Framework:** React
* **Back End Framework:** Node + Express
* **Database:** MongoDB (NoSQL)
* **Styled with CSS:** The application will be fully styled using CSS to ensure it is responsive and aesthetically pleasing.
* **Responsive Design:** The application will be optimized for various devices, ensuring functionality across mobile, tablet, and desktop.

**Stretch Goals (Optional Enhancements):**

* **Cloud Server Deployment:** Fully deploy the application on AWS to maximize availability and performance.
* **API Integration:** Integrate the Google Calendar API to sync with existing calendars users might already use.
* **Many-To-Many Relationship:** Implement a feature where users can tag and organize tasks that involve multiple family members, requiring complex database relationships.
* **User Registration and Login:** Add user authentication to personalize and secure user data.
* **JWT Authentication:** Implement JWT for secure and efficient user authentication across sessions.