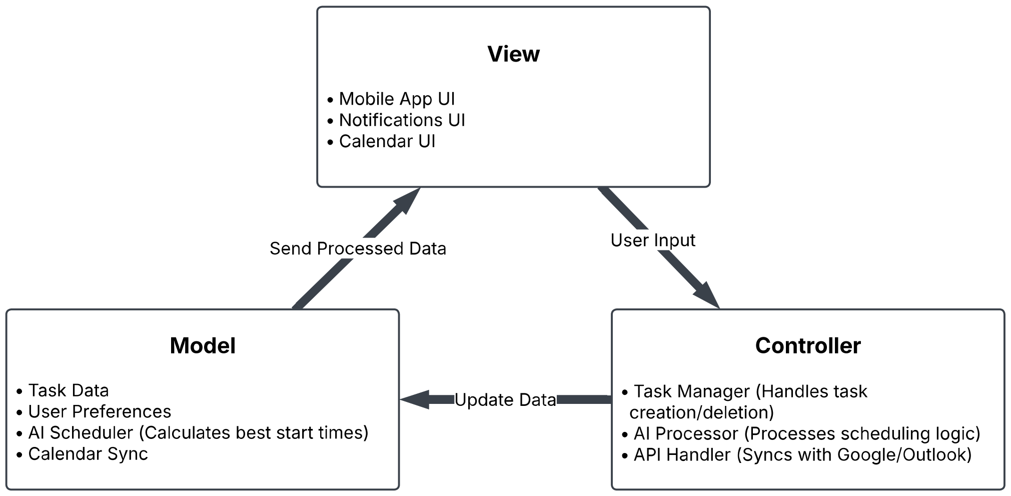
For this project, the Model-View-Controller (MVC) architecture is the best choice due to its clear separation of concerns, flexibility, and maintainability. MVC organizes the application into three components: the Model, which handles data and business logic; the View, which manages the user interface; and the Controller, which processes user inputs and connects the two. This structure is ideal for the scheduling application since it allows independent updates to the UI, scheduling logic, and external integrations like Google and Outlook calendars.

Other architectural styles, such as Data-Flow and Main Program/Subprogram, are less suitable. The Data-Flow model works best for continuous data processing but lacks the flexibility needed for an interactive scheduling tool where user input is dynamic. The Main Program/Subprogram structure, while good for hierarchical designs, tightly couples logic, making updates and UI modifications more difficult.

The application will handle task data, user preferences, AI-generated scheduling, and calendar synchronization. It will input user tasks, store scheduling preferences, process AI-based recommendations, and output optimized schedules and reminders. A database is required to store user information, scheduled tasks, and historical data. A relational database like PostgreSQL or MySQL would be best for structured data, while NoSQL could handle AI learning patterns.

MVC ensures scalability, maintainability, and easy updates. Developers can refine scheduling algorithms, enhance the UI, and add integrations without disrupting the entire system. This modular approach keeps the software efficient, user-friendly, and adaptable to future improvements.


View
• Mobile App UI
• Notifications UI
• Calendar UI
Send Processed Data
User Input
Model
• Task Data
• User Preferences
• AI Scheduler (Calculates best start times)
• Calendar Sync
Update Data
Controller
• Task Manager (Handles task creation/deletion)
• AI Processor (Processes scheduling logic)
• API Handler (Syncs with Google/Outlook)