Project Pitch

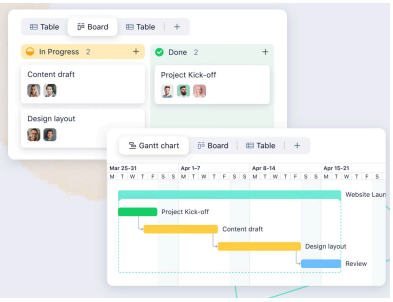
Statement of Purpose

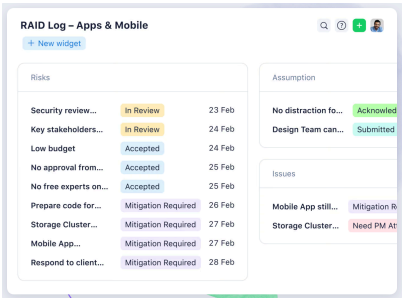
Between interview prep, personal projects, and classes, computer science students have numerous priorities to balance. We aim to create a streamlined dashboard that empowers students to manage their busy schedules effectively, track their goals, and stay on top of their commitments. By centralizing these tasks, the dashboard will serve as a comprehensive tool to help students prioritize and stay organized amidst their demanding academic and career pursuits.

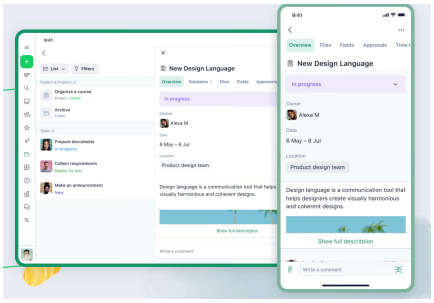
Similar Projects/Research

Wrike – Team dashboards, scheduling, tracking and planning across teams

- Products like ClickUp and Asana are quite similar.

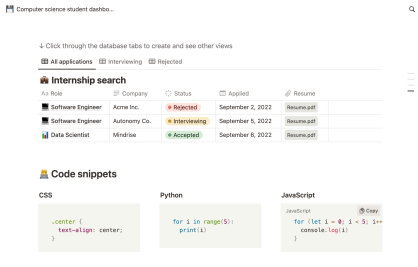


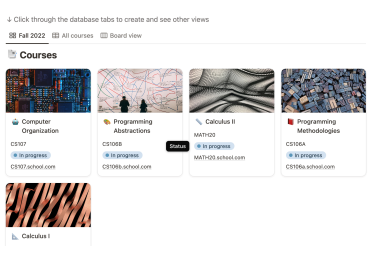


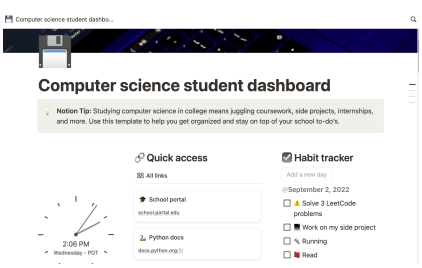


Notion dashboard templates

- Most students primarily use Notion.
- Aside from Notion, there are not many apps specifically designed to help computer science students manage their responsibilities.

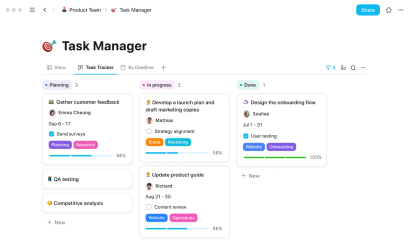


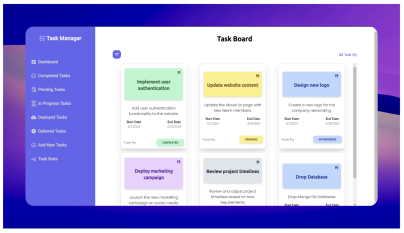


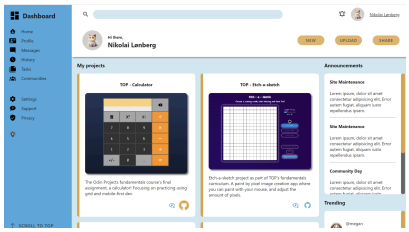


Alternatives to Notion - Developer dashboard, GitHub projects

- More focused around the task management for individual developers.

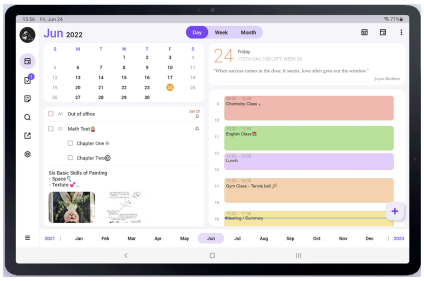


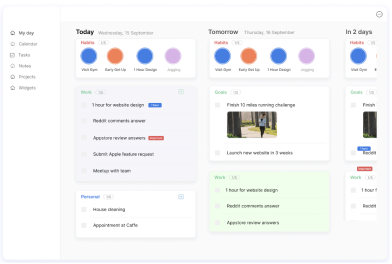


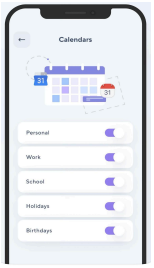


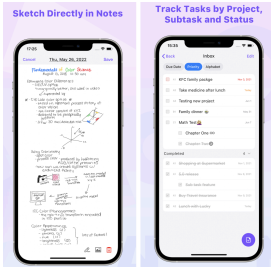
App Store

- App Store provides multiple dashboards to help developers manage their tasks effectively.



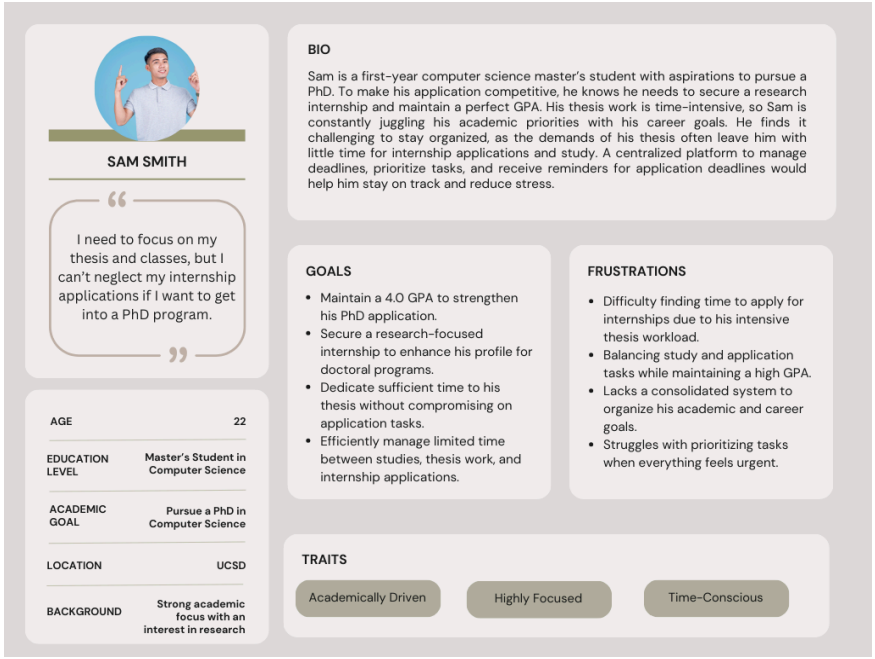






User Personas

[User personas are linked here for a closer view]



SAM SMITH

"I need to focus on my thesis and classes, but I can't neglect my internship applications if I want to get into a PhD program."

AGE	22
EDUCATION LEVEL	Master's Student in Computer Science
ACADEMIC GOAL	Pursue a PhD in Computer Science
LOCATION	UCSD
BACKGROUND	Strong academic focus with an interest in research

BIO

Sam is a first-year computer science master's student with aspirations to pursue a PhD. To make his application competitive, he knows he needs to secure a research internship and maintain a perfect GPA. His thesis work is time-intensive, so Sam is constantly juggling his academic priorities with his career goals. He finds it challenging to stay organized, as the demands of his thesis often leave him with little time for internship applications and study. A centralized platform to manage deadlines, prioritize tasks, and receive reminders for application deadlines would help him stay on track and reduce stress.

GOALS

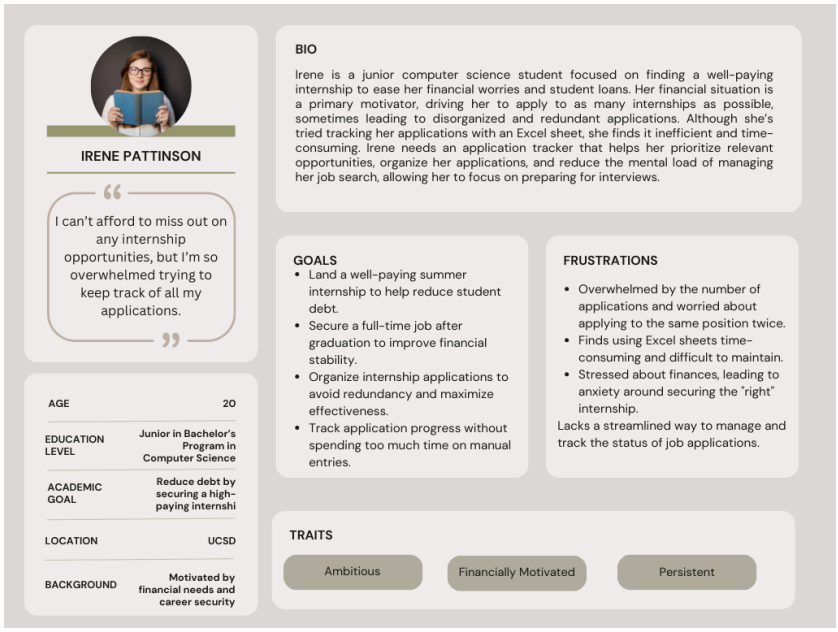
- Maintain a 4.0 GPA to strengthen his PhD application.
- Secure a research-focused internship to enhance his profile for doctoral programs.
- Dedicate sufficient time to his thesis without compromising on application tasks.
- Efficiently manage limited time between studies, thesis work, and internship applications.

FRUSTRATIONS

- Difficulty finding time to apply for internships due to his intensive thesis workload.
- Balancing study and application tasks while maintaining a high GPA.
- Lacks a consolidated system to organize his academic and career goals.
- Struggles with prioritizing tasks when everything feels urgent.

TRAITS

Academically Driven | Highly Focused | Time-Conscious



Features

We know our features may exceed the scope of this class. We aim to complete the features highlighted in green by the deadline, but we hope to complete at least all primary features along with some secondary features. We will reevaluate features after our first sprint.

Primary Features

- **Authentication**
    - **Sign-in/Authorization**: Login/auth using Google

- **Class Management**
    - **Schedule & Assignment Calendar**: Displays all class schedules, assignment deadlines, and events. Integrates with Google Calendar.
- **Internship Applications**
    - **Application Tracker** (Status, Applied Roles, Online Assessments, etc.)
- **Project Management**
    - To-Do List (Dashboard Overview, Personal Projects, Assignments)
    - Project Tracker (Milestones, Deadlines)
    - **Quick Access Links for Projects**: Frequently used links to documents, repositories, and collaboration tools for easy navigation
- **Dashboard Overview**
    - **Central To-Do List**: Summarizes all tasks from classes, projects, and personal goals.
    - **Quick Links**: Customizable links to key pages, such as commonly used study resources, IDEs, and tools.
    - **Calendar View**: Monthly, weekly, and daily views to track classes, deadlines, and personal events.

Secondary Features (If time permits)

- **Customizable Dashboard**
    - **Personalized Layout on Sign-In**
        - Allows users to save preferred widget layouts based on the importance of tasks.
    - **Drag & Drop Widgets**
        - Users can reorganize the layout based on personal priorities.
        - Option to hide widgets they don't regularly use.
    - **Code Snippets & Learning Resources**
        - Allows users to save reusable code snippets for quick reference.
        - Resource library with categorized learning materials (e.g., Data Structures, System Design, etc.).
- **LeetCode Integration**
    - **Problem Tagging and Retrying**
        - Enables users to tag problems they struggled with or couldn't solve.
        - Displays reminder notifications to retry these problems after a few days.
    - **Problem Suggestion Engine**
        - Suggests new problems based on previous history and skill level.
- **Team Collaboration Tools**
    - **Assignment Sharing and Tagging**
        - Allows users to add peers to assignments or tasks.
        - Tagging feature for easy filtering and searching based on assigned roles or team members.
    - **Team Project View**
        - A shared dashboard for team projects, showcasing project milestones and task assignments.

- **Progressive Web App**
    - Access features offline
    - Push notifications to device

Requirements

Primary

- **Performance**
    - Meets RAIL metrics (process events in <50ms)
    - Smooth transitions between views
    - Efficient data caching
    - Real-time updates for collaborative features
- **Accessibility**
    - Proper color contrast for readability
    - Responsive design for different screen sizes
    - Dark mode/light mode
- **Security**
    - Secure user authentication
    - Role-based access control
    - Session management

Secondary (if time permits)

- **Accessibility**
    - Keyboard navigation support for all features
    - Clear visual hierarchy and consistent layout
    - Screen reader compatibility

Risks/Rabbit Holes

Interface Complexity

- **Problem**: Different students have different priorities and needs, such as course management, internship preparation, and personal projects. We want to allow students to track information, deadlines, and goals across these areas in parallel, but we risk a complex interface and visual confusion.
- **Solution:**
    - We will prioritize a simple interface with an option to view course management, internship prep, and projects separately.
    - In the combined view, we will use a grouped and color-coded design to differentiate between academic, career, and project tasks.
    - To minimize technical implementation risks, we will focus on simple ways of displaying progress, such as task completion percentages and spreadsheets, rather than complex charts.
    - If time permits, we will add functionality for users to adjust their display, so they only use the dashboards they need (i.e. disabling the personal projects page).

Calendar API

- **Problem**: Google Calendar integration may be more complex than anticipated. Building our own calendar would likely be time consuming and may not actually add a lot of value to the end user, without integration.
- **Solution**: As a backup, we may want to use a simple list of deadlines and important dates, and display alerts as important dates approach.

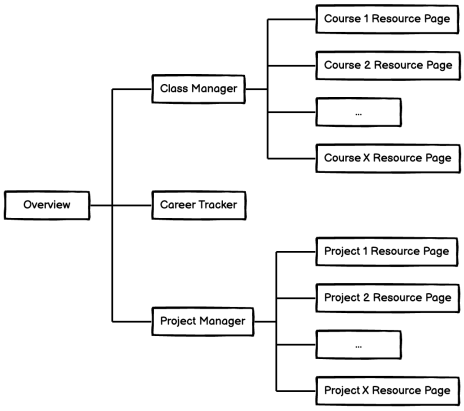
Robust Primary Features

- **Problem**: Although the pages we want to create have many overlapping features, we may be too ambitious with our scope given the time constraints.
- **Solution**: We will first focus on getting a polished internship tracker and class manager, and although the dashboard and project pages are primary features, we are willing to nyx them in favor of a more simple, polished project compared to a more robust yet unpolished result.

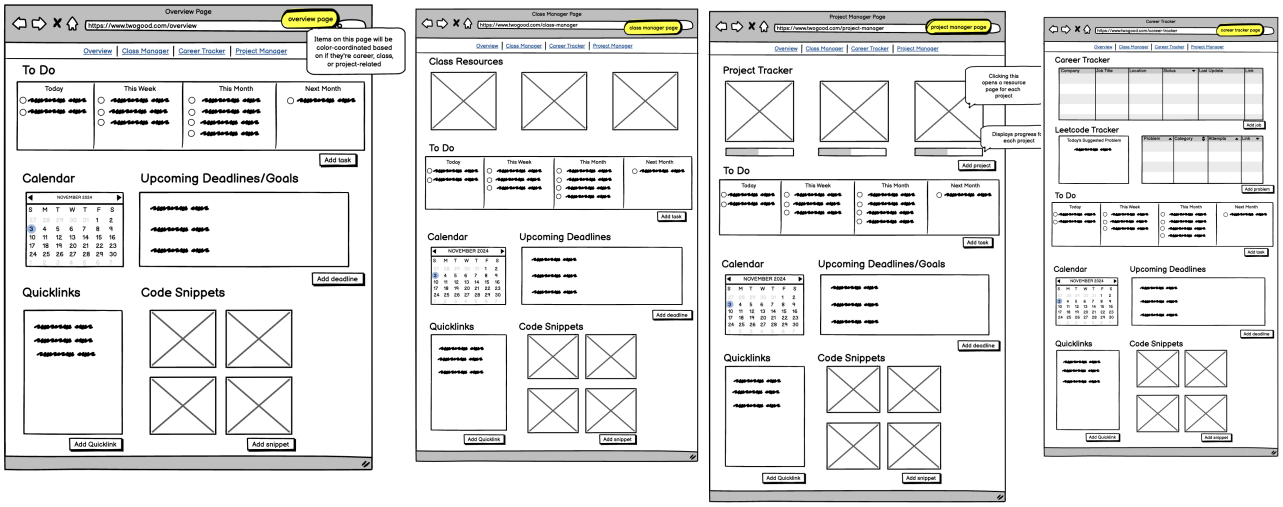
Wireframes

[Wireframes are linked here for a closer view]

Site Map (Closer View)

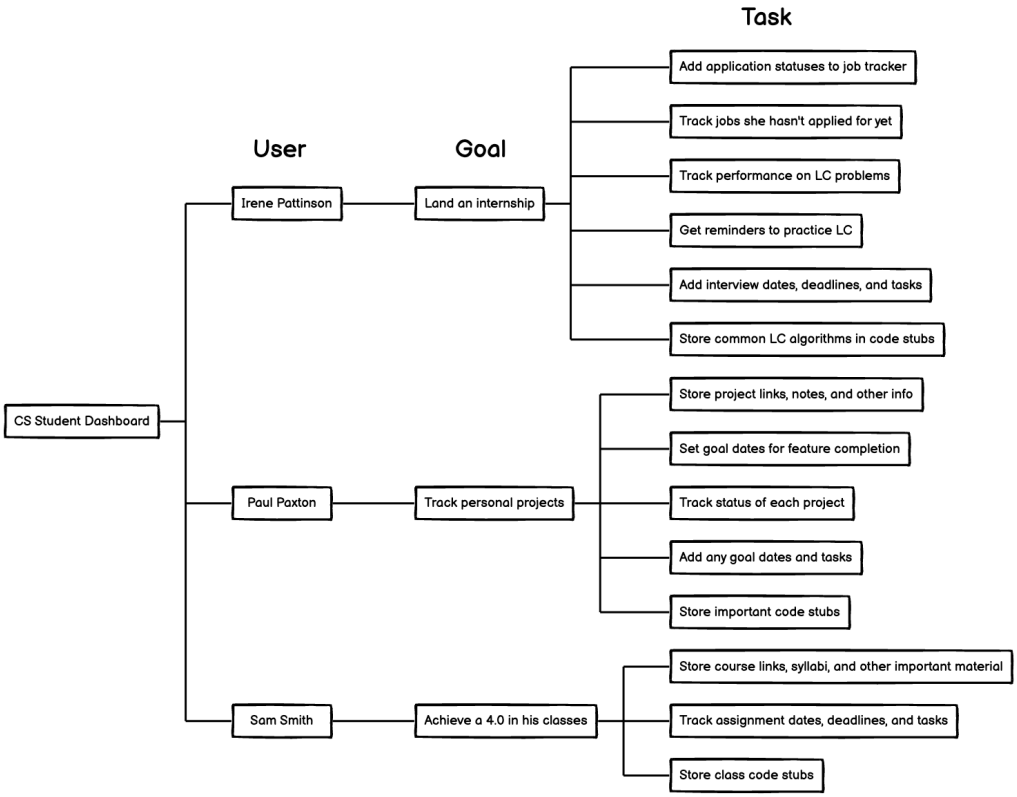


Overview, Class Manager, Project Manager, and Career Tracker Pages (Closer View)



User Journey

[User Persona and Journey are linked here for a closer view]



Tech Stack

- Frontend: HTML, CSS, JavaScript
- Bachend: Python, Flask or FastAPI, MongoDB
- APIs: Google OAuth, Google Calendar

Timeline

- **Nov 6-Nov 11**
  - First step must be code architecture (he said he'll go over this in class), alignment document, and github standards/best practices, UML diagrams
  - Backend team: Setting up server, database, and getting all the technology set up
  - Everyone: get all the technology working on personal devices
  - Frontend team: come up with end design
- **Nov 11-Nov 18**
  - Backend team: sign/authorization

    - Internship tracker:
        - Application tracker
        - To-do list
    - Classes
        - schedule/assignment calendar
        - To-do list
    - Reevaluate features after our first sprint
- **Nov 18-Nov 25**
    - Testing internship tracker, get outside feedback
    - Testing classes/finishing classes, get outside feedback
    - Personal projects
        - Project tracker
        - to-do list
        - Project quicklinks
- **Nov 25-Dec 2 (Thanksgiving)**
    - Testing classes, get outside feedback
    - First page/overview
        - To-do list
        - Quicklinks
        - Calendar
- **Dec 2-Dec 9**
    - Testing, getting feedback, polishing and making it look really nice
    - Adding in secondary features
- **Dec 9-Dec 13**
    - Polishing, working on presentation, adding in any secondary features by dec 11
- **Deadline for project presentation: December 13**

References

- https://www.notion.com/templates/notion-software-developer-os?srsltid=AfmBOoprPB3de9MS5rNDQgGnmLfgOwU8PeijgpfOW3fgkCPXkhZaSQOZ
- https://www.notion.com/templates/developer-os?srsltid=AfmBOooA53KgqCIHJ_0WRDp9WqRn8uLGVhnvc0ZhhPRC0lZfkFdDfdZA
- https://niklonberg.github.io/TOP-admin-dashboard/
- https://github.com/Puskar-Roy/Task-Management-Web
- https://www.wrike.com/templates/software-template/