

Part 1: Data Analysis & Insight Generation (50 Points)

Summary of Findings & Identified User Problem

My analysis of the FlowState user log data has revealed several key insights into user behavior. The most frequent action is the creation of subtasks, which suggests that users are actively breaking down larger tasks. A particularly strong pattern emerged in the actions immediately following the creation of a task. In most cases, users immediately create a series of subtasks, indicating a common workflow of defining a high-level objective and then breaking it down into smaller steps. This repetitive, manual creation of subtasks presents a clear opportunity for improvement.

Furthermore, the behavior of user `user_108`, who rapidly cycles through different project views in a very short session, highlights a potential usability issue. This "view-churn" suggests that the user may be struggling to find a view that presents the project information in a way that meets their immediate needs, leading to inefficient interaction with the application.

Based on this analysis, the key user problem I have identified is that **the process of breaking down large tasks into smaller subtasks is manual, repetitive, and time-consuming for FlowState users**. This is the problem my proposed AI feature will aim to solve.

Part 2: AI Feature Mockup & Justification (50 Points)

AI Feature: "AI Task Decomposer"

The **AI Task Decomposer** is an intelligent feature designed to streamline the project planning process within FlowState. When a user creates a new, high-level task, the AI analyzes the task title (e.g., "Launch new marketing campaign," "Develop Q4 sales report") and recommends the list of relevant, actionable subtasks. This feature directly solves the user problem identified in the data analysis: the manual, repetitive, and time-consuming process of breaking down large tasks into smaller ones. By augmenting this step, the AI Task Decomposer saves users time, reduces manual data entry, and helps them build more comprehensive task plans with less effort.

1. Based On the Main task, User can write the custom task on their own or get AI recommended Subtasks.

The screenshot shows a dialog box titled "Task Created: Draft Q3 Report" with a close button (X) in the top right corner. Inside the dialog, there is a section titled "AI Task Decomposer" with a small icon. Below this title, there is a text input field containing the placeholder text "Write a custom subtask..." and an "Add" button to its right. Below the input field is a button labeled "Show Recommended Subtasks". At the bottom of the dialog, there is a blue button labeled "No Subtasks Selected" and a "Dismiss" link.

2. After getting the AI generated recommendations, user can choose which one to add.

The screenshot shows the same dialog box "Task Created: Draft Q3 Report" but with updated content. The "AI Task Decomposer" section now includes a "Hide Recommended Subtasks" button below the "Add" button. Below this, there is a section titled "Choose from recommendations:" containing a list of six subtasks, each with a checkbox: "Gather Q3 sales data" (checked), "Outline report structure" (unchecked), "Write initial draft" (checked), "Review with management" (unchecked), "Collect team feedback" (checked), and "Create executive summary" (unchecked). At the bottom, the blue button now says "Add 3 Subtasks" and the "Dismiss" link remains.

3. After adding the subtasks, user can see the main task and subtasks at the dashboard.

The screenshot displays a 'Project Dashboard' interface. At the top left, there is a button labeled '← Back to Task Creator'. Below this, the title 'Project Dashboard' is centered. The main content area is divided into two sections. The first section, titled 'Main Task:', contains a single task card labeled 'Draft Q3 Report'. The second section, titled 'Subtasks (3):', contains three task cards. Each card has a checkbox on the left, a text label in the middle, and a 'To Do' button on the right. The subtasks are: 'Gather Q3 sales data', 'Write initial draft', and 'Collect team feedback'.

[← Back to Task Creator](#)

Project Dashboard

Main Task:

Draft Q3 Report

Subtasks (3):

☐ Gather Q3 sales data

To Do

☐ Write initial draft

To Do

☐ Collect team feedback

To Do

Design Justification

Each design element of the "AI Task Decomposer" is a direct response to the user behavior patterns discovered in our data analysis.

Our analysis revealed a crucial user workflow: the most frequent action immediately following a `create_task` event was `create_subtask`. This indicates a repetitive, manual process that is ideal for automation. The "AI Task Decomposer" directly targets this inefficiency by generating relevant subtask suggestions, saving users time and effort.

Justifying the Optional Trigger

The decision to make AI recommendations optional, triggered only by clicking the **"Show Recommended Subtasks"** button, comes directly from the data. While the `create_task` -> `create_subtask` sequence was the dominant pattern, it was not universal. Forcing suggestions after every single task creation would disrupt simpler workflows (e.g., a task like "Call John Doe"). This design supports the primary workflow we identified without obstructing users who do not fit that pattern, ensuring the feature remains helpful and not a hindrance.