

Introduction

This phase of the project focused on generating diverse interface design alternatives for *Class Pulse*, an application aimed at improving the visibility of student engagement in online classes. Drawing from insights in Part 1, class discussions, and group brainstorming sessions, our goal was to explore the full design space through creative and informed ideation.

2. Design Process

Our team collaborated in a series of design jam sessions. We started by:

- Reviewing findings from Part 1 (user needs, pain points, task analysis).
- Using sticky-note brainstorming and whiteboard sketches.
- Identifying diverse directions in layout, navigation, and data visualization.

We created three design concepts for the app, each approaching the core problem from different angles.

3. Design Alternative A – “Card-Based Overview”

Mockups & Sketches

(mockups of 3–4 main screens)

Narrative Walkthrough

- Students land on a dashboard filled with **large engagement cards** (e.g., “Login Time”, “Quiz Progress”, “Participation”).
- Tapping a card opens a detailed view with graphs and suggestions.
- Teachers see the student cards they can flip through quickly.
- Navigation is through bottom tabs (Dashboard, Classes, Reports, Settings).

Strengths

- Visually efficient, highly scannable.
- Good for mobile screens (cards fit well).
- Easy for non-tech users.

Weaknesses

- Might get cluttered with too many cards.
- Less room for deep data analysis.

4. Design Alternative B – “Timeline Tracker”

Dashboard shows a **weekly timeline** where students and teachers can scroll through engagement events (logins, quiz attempts, etc.).

- Color-coded icons represent different activities.
- Students reflect on their timeline; teachers see aggregated trends per class.

Strengths

- Shows progression and consistency over time.
- Highlights patterns and behavior gaps.
- Intuitive for visual learners.

Weaknesses

- May overwhelm users with dense information.
- Limited space for numerical summaries.

5. Design Alternative C – “Analytics-First Dashboard”

Narrative Walkthrough

- Home screen is a **real-time dashboard** with graphs (bar, pie, line).
- Teachers can filter by date, class, or individual student.
- Students see personal performance + class average comparisons.
- Action buttons allow teachers to send alerts or feedback.

Strengths

- Ideal for data-savvy users.
- Enables deeper analysis and proactive action.
- Great for tablet/laptop interface.

Weaknesses

- Less accessible for students who are unfamiliar with graphs.
- Not ideal for small screens.

6. Comparison & Reflection

Design	Strengths	Weaknesses	Best For
Card-Based	Easy to use, mobile-friendly	Can become cluttered	General mobile users
Timeline	Intuitive activity tracking	Information can become too dense	Students reflecting daily
Analytics	Powerful data insights	Less beginner-friendly	Teachers and admins

Each design offers a unique approach to improving engagement visibility. We intend to **combine features** from all three in Part 3 to create a hybrid solution balancing simplicity and functionality.

7. Justification of Design Decisions

- **Visual-first** approach was prioritized for clarity and motivation.
- We varied navigation patterns (tabs, timelines, filters) to test user comfort.
- Accessibility, cognitive load, and user roles (student vs. teacher) shaped interface choices.

8. Appendix

Include:

- All mockups/sketches in good quality
- Storyboard sequences (e.g., login → dashboard → analysis)
- Notes from group brainstorming
- User task flow diagrams (optional)