

SFSU Portal Remodeling**Project Phase 4**

SFSU Gateway Remodeling

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Phase 1: Problem Statement

Introduction and Motivation:

The San Francisco State University student portal (Gateway) is one of the most critical pieces of software when it comes to both students and instructors. It provides access to academic records, registration, financial aid, campus resources, campus events and much more. However, many students find the current system unintuitive, outdated, and difficult to navigate. This results in frustration, wasted time, and barriers to essential tasks such as class registration and finding classes or accessing financial aid information. Our team is motivated to remodel the SFSU

student portal into a more user-friendly, accessible, and even a social platform. By addressing usability and accessibility issues, we aim to improve the daily academic experience of thousands of students and support the university's broader commitment to equity and digital inclusion.

Problem Statement:

The main problem is that the current SFSU student portal is not user-friendly or accessible, leading to frequent confusion and inefficiencies. Students are the primary group facing this issue, especially those who are new to the university, less familiar with digital systems, or who rely on accessibility features. The problem arises within the technological context of the web based student portal, which serves as the central gateway for academic and administrative services. The issue is most apparent during high stakes situations such as course registration, tuition payment deadlines, or when navigating to look for a degree progress related class. The lack of clear organization, intuitive navigation, and accessible design features negatively impacts students' ability to complete necessary academic tasks efficiently.

Existing Solutions:

Currently, many universities including SFSU provide student portals that centralize information. However, most existing solutions including the current SFSU portal fall short in several areas. The interface is cluttered, with menus that are not intuitive and important resources buried under multiple layers of navigation. Mobile compatibility is weak, despite the fact that many students primarily access portals through smartphones. While accessibility tools like screen readers can be used, the portal lacks consistent support for accessibility standards such as the web content accessibility guidelines (WCAG). Competing universities have begun

redesigning their portals with modern UX/UI design principles and mobile-first strategies, but SFSU's portal has not yet adopted these improvements. These shortcomings highlight the urgent need for a remodel that focuses on simplicity, accessibility, and usability.

Proposed Solution:

Our proposed solution is to remodel the SFSU student portal with a modern, intuitive design that emphasizes ease of navigation, accessibility compliance, and mobile optimization. The redesigned portal will group related services logically, provide a customizable dashboard for quick access to frequently used tools, and follow accessibility guidelines to ensure inclusivity. Features like smart search, mobile-responsive layouts, and clearer visual hierarchy will streamline user interactions and reduce student frustration. Furthermore, we will be adding features that were never added before such as a degree progress based class search, a quick class registration model, as well as SFSU's own social platform GNET (Gator Net) where you can add/follow friends and classmates, design your class schedule together, take core and general classes together to make one's semester even more enjoyable.

Collaboration Statement:

Project Name: SFSU Gateway Remodel

Assignment: Project Phase 1

Date: 09/14/2025

Ahmed Rashad's Contribution: **Introduction and Motivation, Problem Statement**

Ryan Woo's Contribution: **Existing Solutions**

Majd Alnajjar's Contribution: **Proposed Solution**

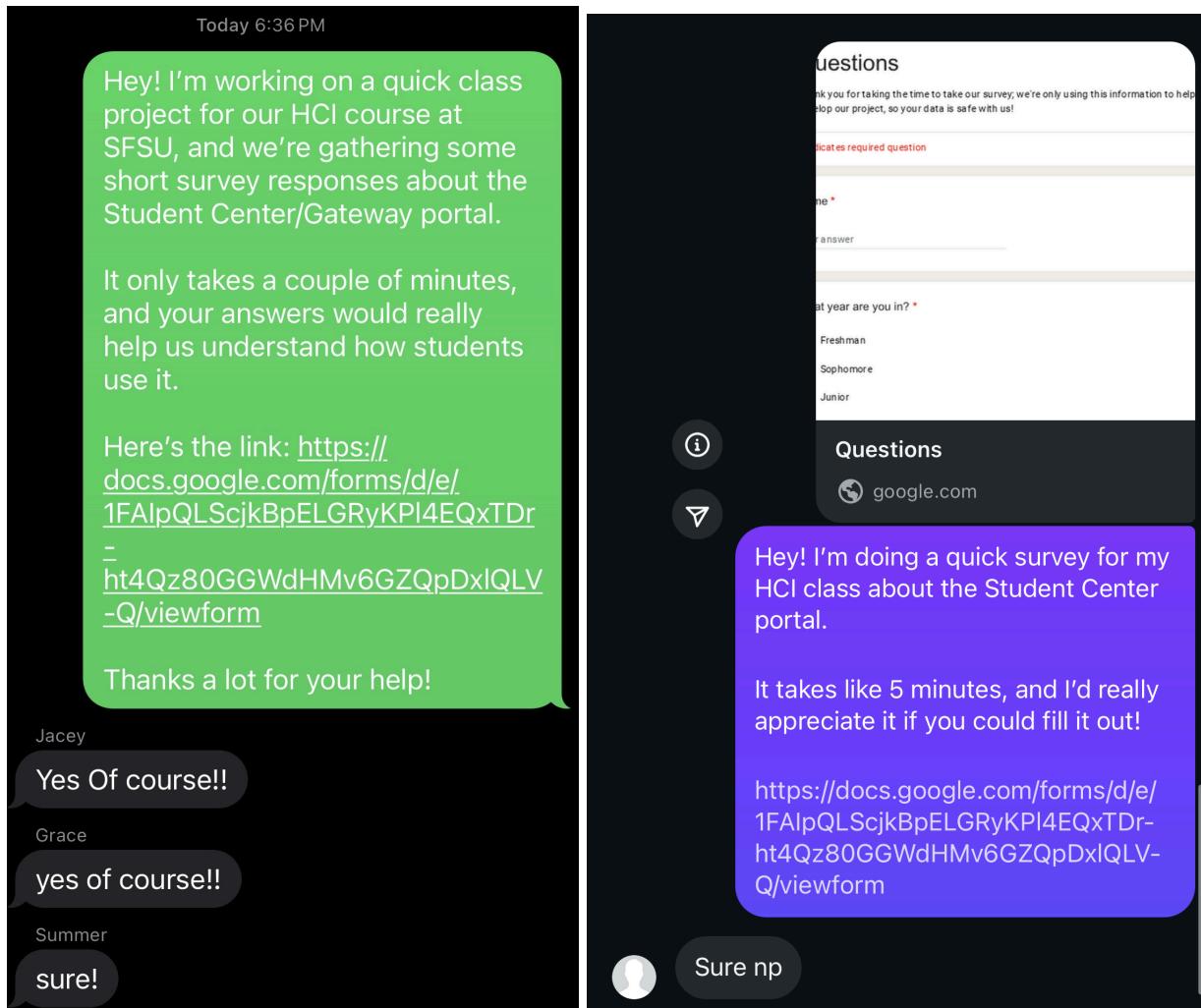
Phase 2: User Needs Research and Initial Analysis

User Group Criteria, Details and Demographics:

The target user group was SFSU students, and the specific criteria was students that had used the Student Gateway/Student Center for at least one year. The sampling criteria used was Convenience Sampling, as we contacted individuals who happened to be the most accessible to us. We decided to use this criteria, because the people who were easily accessible also happened to fit our criteria for a good participant as well as for our own ease of gathering data. As for demographic information collected, we asked our participants to provide their name, email, major, and current academic year. In our research, we included five participants in total.

Recruitment and Outreach:

Our recruitment methods were mainly done through social media. As for the main organizations/groups that were included in our outreach were friends, classmates, and student clubs. Below are examples of the messages we used to reach out to participants:



User Research Procedure:

The main research method we used was to interview our participants one on one through a forum. This is suitable to us, because we wouldn't want the other participants to influence each other, and it also allows everyone to clearly express their own thoughts without outside influence. The forum would be a kind of semi-structured interview and the main kinds of

questions asked were related to the student center and how the participants feel about and currently interact with it. The main challenges of this method were getting people to fill out the forum, however the main success was that the responses we got were well organized. Each session took around 10 minutes, and took place online.

This was the script we used:

1. Name
2. What year are you in? (Freshman / Sophomore / Junior / Senior / Grad / Other)
3. Email
4. What would you rate the Student Center on a scale of 1–5? (1 = Poor, 5 = Excellent)
5. What do you feel is missing from the Student Center?
6. What areas do you think the Student Center lacks in?
7. What would make the Student Center better for you?
8. What kind of features would you like to see in your Student Center?
9. What would you remove from the Student Center?
10. What do you currently like about the Student Center?

Google Form Link:

<https://docs.google.com/forms/d/e/1FAIpQLScjkBpELGRyKPj4EQxTDr-ht4Qz80GGWdHMv6GZQpDxlQLV-Q/viewform>

The tools that were used to record and transcribe the session were Discord and google forums.

Initial Findings:

The initial analysis of the Student Center survey reveals several recurring themes and opportunities for improvement. The five respondents, consisting of 3 juniors and 2 seniors,

generally expressed dissatisfaction with the platform, rating it between 2 and 3 out of 5. The most prominent issue identified is poor mobile accessibility. Students repeatedly mentioned that the Student Center is difficult or nearly impossible to use on their phones, emphasizing the need for a mobile-friendly version. Another recurring concern is the outdated and cluttered interface. Participants described the system as text-heavy, visually unclear, and overloaded with unnecessary links that make navigation confusing. Additionally, respondents noted that important features like class enrollment are spread across multiple pages, suggesting that the platform could be improved by consolidating related tasks into a single, streamlined interface. Beyond functionality, students also expressed a desire for more personalized features, such as advisor messages, reminders, or notifications to help manage deadlines and tasks. Overall, the feedback suggests that while the Student Center serves its basic purpose, it lacks user-friendliness, visual appeal, and modern accessibility. The main opportunities for improvement lie in redesigning the interface for clarity, optimizing it for mobile devices, simplifying navigation, and integrating personalized communication tools to enhance engagement and usability.

Category	Problem	Example
Accessibility	Not Mobile Friendly	“It’s pretty unusable on my phone.”
Design	Cluttered and Outdated	“Everything’s text-heavy and cramped.”
Navigation	Too many Links that aren’t needed	“Remove links that just take up space.”
Usability	Inefficient enrolment	“Show all class sections in one screen.”

Category	Problem	Example
Engagement	Lacks Personalization	“Personalized reminders or advisor messages.”

Collaboration Statement:

Project Name: SFSU Gateway Remodel

Assignment: Project Phase 2

Date: 10/15/2025

Ahmed Rashad's Contribution: **Initial Findings, Recruitment and Outreach.**

Ryan Woo's Contribution: **User Group Criteria, Details and Demographics, Recruitment and Outreach.**

Majd Alnajjar's Contribution: **Google Forum, Recruitment and Outreach.**

Chaewon Mun's Contribution: **Compiled recruitment and outreach details.**

Project Phase 3 - Low/High-Fidelity Prototyping

Part 1: Low-Fidelity Prototyping:

For our SFSU Student Portal redesign, we selected four key features to prototype in low-fidelity.

These features were chosen based on recurring pain points identified during our Phase 2 research, such as difficulty planning classes, confusing registration steps, lack of campus wayfinding, and fragmented access to class-related notifications. Together, these features directly support our overarching solution: creating a more unified, student-centered portal that reduces mental load and improves academic navigation.

1. Class Scheduling Assistance

This feature automatically shows students the required courses for their major, minor, or both. By displaying real-time progress toward degree requirements, students can plan upcoming semesters more efficiently. This directly supports our goal of reducing confusion around course sequencing and graduation planning.

2. Integrated Registration from Class Search

Instead of viewing a class, memorizing the CRN, and navigating back to the registration page, students can register directly from the class search screen. This eliminates unnecessary back-and-forth steps and streamlines one of the most stressful tasks students face each semester.

3. Class Directions & Campus Navigation

This feature provides visual guidance for where classes are located, including both campus map routes and real photos of SFSU buildings. This reduces first-week confusion, helps transfer and freshman students navigate campus, and increases accessibility.

4. Canvas-Style Assignment Notifications

Assignments from all classes appear directly in the student portal, color-coded by course. Students can see due dates, points, and short assignment summaries without having to open Canvas separately. This makes the student portal a true “one-stop hub” and supports student success.

Low-Fi Prototyping Tool/Technique:

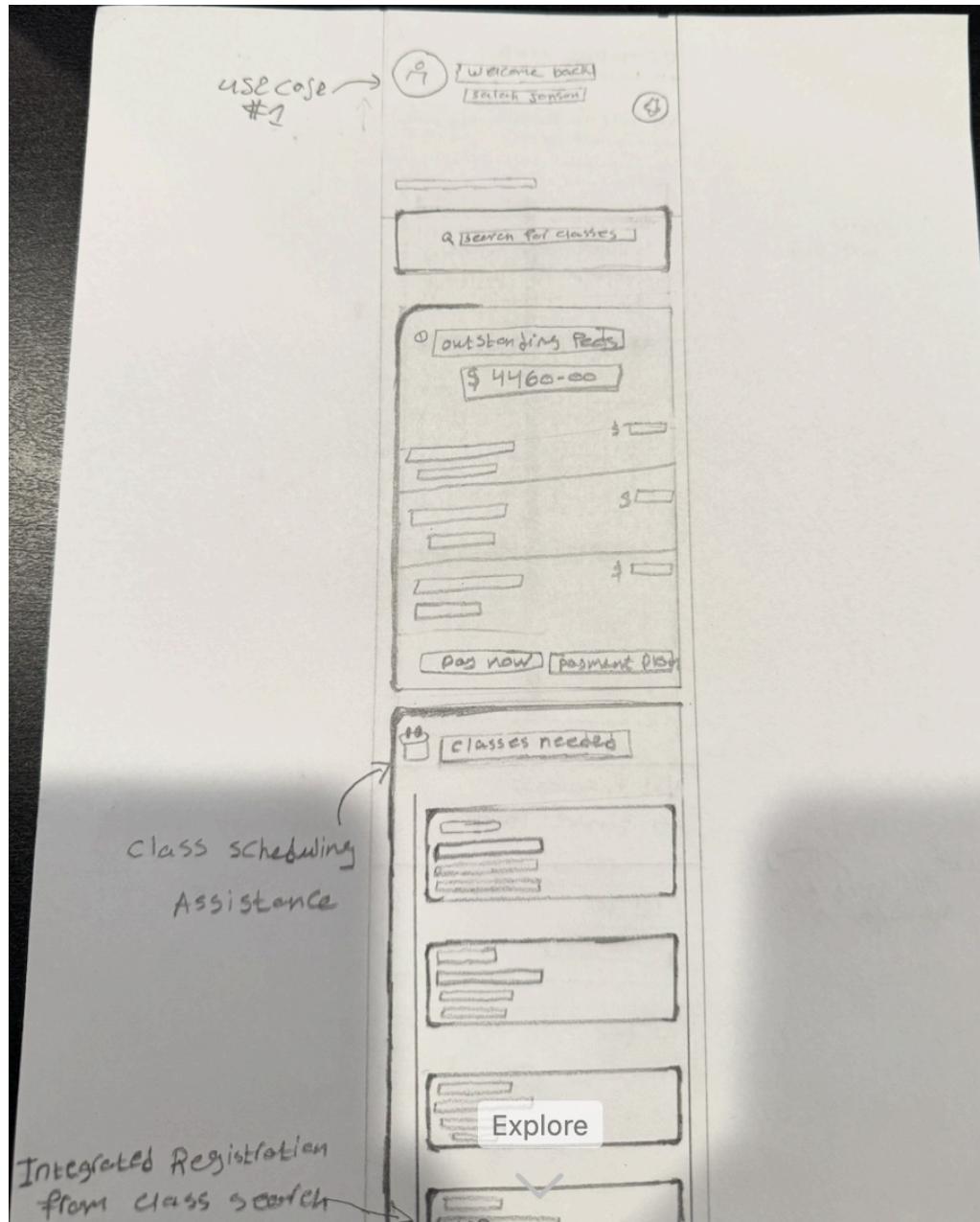
For our low-fidelity prototyping, we used pencil-and-paper sketching as our primary technique. This method allowed our team to quickly generate multiple layout ideas, iterate in real time, and make immediate adjustments based on group feedback. Pencil sketches also helped us stay focused on core functionality and user flows instead of visual design details, which is the goal of low-fidelity prototyping. Using simple hand-drawn screens made it easy for us to test concepts, visualize the interactions of our redesigned SFSU student portal features, and ensure that all team members could participate regardless of technical skill. This approach was ideal because it supports rapid experimentation, clear communication, and fast decision-making during the early design phase.

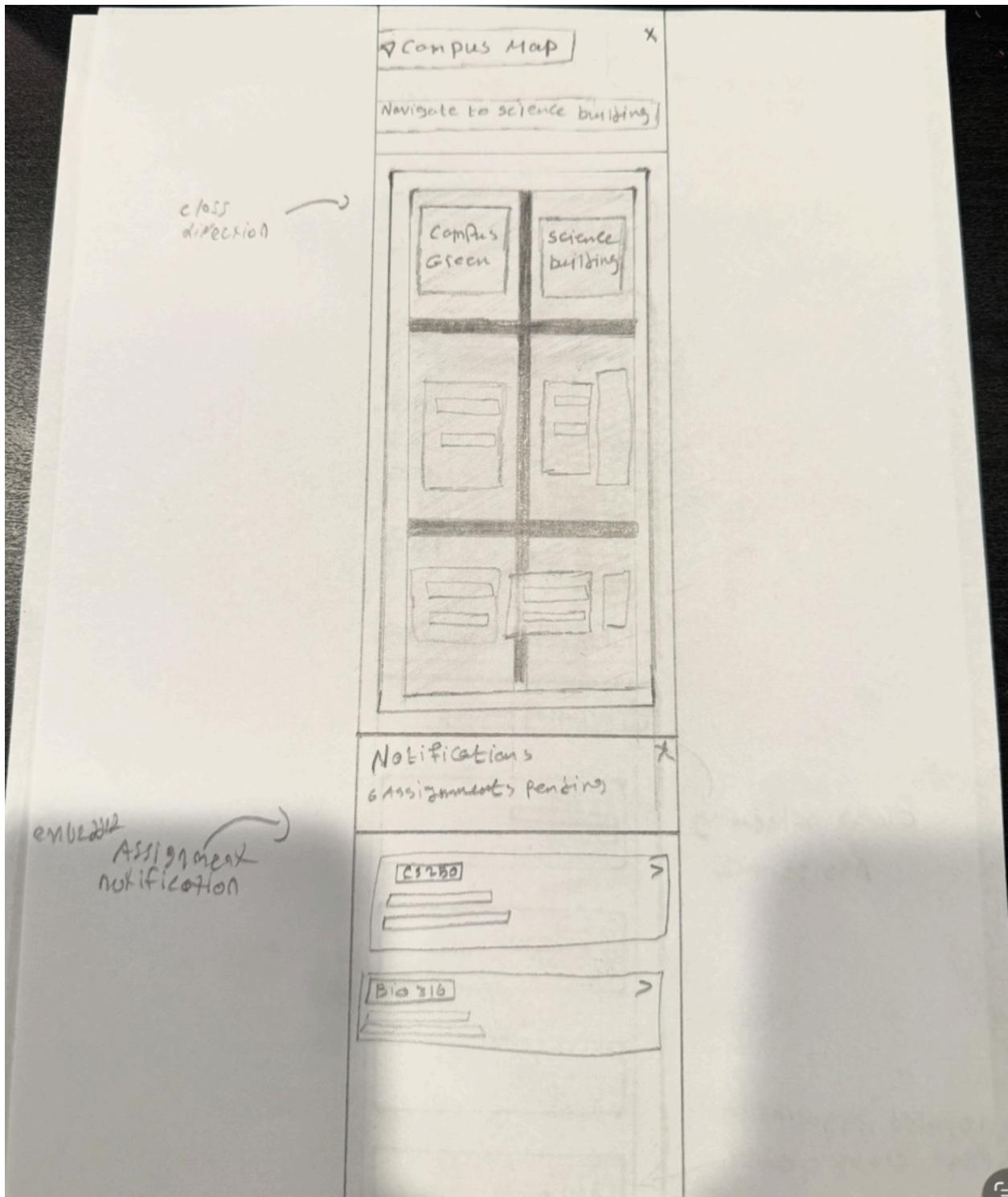
Low-Fi Prototype Visuals and Description:

For our low-fidelity prototype, we created four user flows that represent the core features of our redesigned SFSU Student Portal. The prototype was developed using pencil-and-paper sketches to keep the focus on structure, functionality, and user interaction rather than visual styling. Each flow illustrates the step-by-step experience a student would have when using the new features. Wherever possible, arrows were drawn to indicate navigation, screen transitions, and user actions. Photos of all sketches will be included in this section of the report, along with captions that describe the purpose of each screen and how the user interacts with it.

Additionally, this section incorporates the two user personas developed in Phase 2 research—one fictional persona and one evidence-based persona. These personas help contextualize how different types of SFSU students would engage with the redesigned portal features and highlight the specific needs our solution addresses.

Below are the descriptions and captions for each user flow that align with the sketches created in class:





Sketch 1 — Campus Map + Embedded Assignment Notifications

Screen: Campus Map Navigation

Caption:

This screen shows the *Campus Map* feature, where the student can select a route to a specific building (in the sketch, “Navigate to Science Building”). The map displays a simplified grid layout with labeled campus locations such as “Campus Green” and “Science Building.” Arrows and boxed areas help the user identify major landmarks. This supports the “Class Directions” feature by providing quick navigation to any classroom.

Screen: Embedded Assignment Notifications (Preview)

Caption:

Below the map, the portal displays *Notifications – Assignments Pending*. Each class has a color-coded assignment card with the course code (e.g., “CSC 340” and “BIO 316”) and a short description underneath. The arrow icon on the right indicates that students can tap to see more details. This supports the “Embedded Assignment Notification” feature by integrating Canvas-like updates directly into the portal dashboard.

Sketch 2 — Homepage Dashboard + Scheduling + Registration

Screen: Homepage Dashboard

Caption:

This is the main homepage of the redesigned SFSU portal. At the top, the user sees a welcome message and profile icon. A prominent search bar (“Search for classes”) provides quick access to the class search system. Below that, the dashboard shows tiles with financial information such as *Outstanding Fees* and payment buttons (“Pay Now,” “Payment Plan”), helping students navigate essential tasks easily.

Screen: Class Scheduling Assistance Section**Caption:**

Scrolling down reveals the “Classes Needed” section, which displays required courses for the student’s major or minor. Each card lists the class name, status, and category. This helps students understand which courses they still need and supports the “Class Scheduling Assistance” feature.

Screen: Integrated Registration From Class Search**Caption:**

Directly below the “Classes Needed” list is the “Class Search” results portion. Each class card includes course information and an option to “Add Now.” This allows students to register directly from the search results without needing to copy CRNs or switch to another page. This directly supports the redesigned “Integrated Registration from Class Search” feature.

Part 2: High-Fidelity Prototyping:**Execution and Evolution of the Solution:**

Our high-fidelity prototype extends the core ideas developed in earlier project phases and transforms them into a complete, polished version of our redesigned SFSU Student Portal. The prototype directly addresses the initial problem we identified in Phase 1: *the student portal is fragmented, unintuitive, and requires students to jump between multiple systems (Campus Solutions, Canvas, Google Maps, etc.) just to complete basic academic tasks.*

The four major features we selected in earlier phases—Class Scheduling Assistance, Integrated Registration from Class Search, Class Directions & Navigation, and Canvas-Style Assignment Notifications—are all fully represented in the high-fidelity prototype. These features resolve the exact pain points identified during our interviews and surveys, particularly around registration difficulty, inability to track degree progress, and students getting lost around campus.

How the solution evolved over time

Throughout the semester, our ideas became more focused and more student-centered. Originally, our concept was simply “improving the SFSU portal.” As we moved through Phase 2 research, we refined the goal after hearing consistent feedback:

- Students want everything in one place,
- Registration must be streamlined,
- Canvas and Campus Solutions should be integrated, and
- Navigation to buildings should be built-in.

During prototyping, our idea evolved to combine these systems visually and functionally. For example, assignment notifications were not originally part of the concept, but after repeated

comments that switching between Canvas and the portal is “annoying” and “confusing,” we expanded the design to embed course assignments directly inside the portal. Similarly, the campus navigation feature grew from a simple map into a full building-photo + directions interface after we learned how many transfer students struggle to find buildings during the first few weeks.

Our high-fidelity prototype reflects these improvements and shows a solution that is more comprehensive and useful than our early concepts.

Creativity and Originality of the Solution:

Our prototype expands beyond simply “modernizing” the existing SFSU portal. Instead, we introduce a unified academic experience that integrates systems students currently access separately. The originality comes from the combination and streamlining of existing campus tools in ways not available today.

Creative and original aspects of our solution

- Integrated CRN-free registration: Students can register directly from class search results, eliminating the outdated CRN-copying method used by Campus Solutions.
- Embedded Canvas notifications: Our design merges Canvas assignment tracking into the portal itself, making it the first true all-in-one academic dashboard for SFSU.
- Visual class directions: Real building photos and step-by-step navigation ensure students know exactly where to go, which is currently not offered by any official SFSU service.

- Dynamic semester planning: Students can view required major/minor classes and drag them into a semester plan—something far more intuitive than the current Degree Planner.

Compared to the existing SFSU portal, our solution is more cohesive, more visually organized, and more aligned with how students actually work. Rather than redesigning one page, we reimagined the portal as a single centralized academic environment.

Technology and Functionality:

We selected a web-based platform for the prototype because the SFSU student portal is primarily accessed through browsers. Students often use laptops for registration, assignment management, and degree planning, meaning a desktop-optimized website best serves their needs. Additionally, designing for the web allows mobile responsiveness, matching the requirement that some functions should render well on mobile devices. A web platform is the most realistic and appropriate medium for academic management tools used by all SFSU students.

Prototyping Tool & Process Justification

For the high-fidelity prototype, we used Figma, which allows for interactive, pixel-accurate screen designs, responsive layouts, and clickable navigation between screens. Figma supports team collaboration, version control, and shared design libraries, which made it ideal for developing a multi-page portal system as a group. We began by importing our low-fidelity sketches, converting each screen into structured wireframes, and then building fully styled components to reflect a polished final product. The

prototyping tools in Figma helped us simulate realistic user flows for registration, class search, scheduling, and assignment viewing.

Functionality of Core Features

All four main features of our solution are fully functional in the high-fidelity prototype:

- Class Scheduling Assistance: Students can view required courses for their major/minor and explore how each class fits into future semesters.
- Integrated Registration: The prototype supports searching for classes, selecting a course, and registering directly from the results.
- Class Navigation: Users can click on a course and instantly access maps, building locations, and photos to guide them on campus.
- Embedded Assignment Notifications: The dashboard displays real course assignments, showing due dates, points, and class color-coding.

Each user task registering for a class, checking required courses, finding a classroom, and checking assignments—can be completed end-to-end inside the prototype. This demonstrates that the core functionality is fully implemented and aligned with the project's goals.

3. Report, Demo and Documentation:

[A link of the prototype \(e.g., Figma link\) should also be provided.](#)

Prototype demo link

demo

Collaboration Statement:

Project Name: SFSU Gateway Remodel

Assignment: Project Phase 3

Date: 11/16/2025

Ahmed Rashad's Contribution: **Documentation, low-Fid**

Ryan Woo's Contribution: **Documentation, Report/Demo**

Majd Alnajjar's Contribution: **Documentation, High-Fid**

Chaewon Mun's Contribution: **Documentation, High-Fid**

Phase 4: High-Fidelity Prototyping

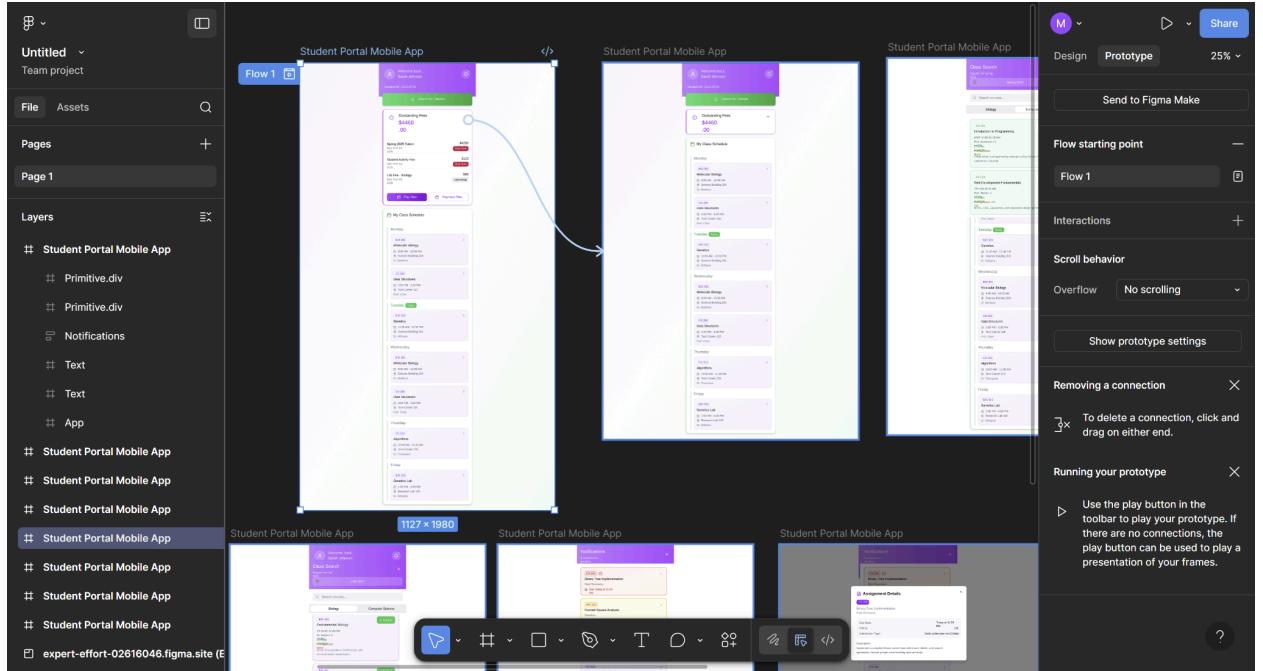
<https://studentportalmobileapp11-c9h5rj2nr-majda1najars-projects.vercel.app/>

1. Introduction

In Phase 4, our team translated our high-fidelity prototype of the redesigned SFSU Student Portal into a functional, interactive prototype. The purpose of this phase was not to create a fully completed product, but to build core interactions, test technical feasibility, and explore how AI-assisted development tools can accelerate the transition from design to implementation.

Using tools such as FigmaMCP, we produced a working version of two major user flows from our design. This hands-on implementation allowed us to assess how well our interface ideas transfer from static design to functional code, while maintaining usability, accessibility, and alignment with student needs.

2. Implemented Core Interactions / Flows



Flow 1: Course Search & Filter

- Students can type a course name or number into the search bar.
- Live filtering updates the list of available classes as the user types.
- Filters (GE area, major requirement, open/closed status, semester) narrow results.
- The UI matches the layout of our Figma prototype with responsive cards.

Flow 2: Class Registration Preview

- Clicking a course opens a detailed modal/page.
- Students can preview the course description, schedule, instructor, and seats open.
- A functional “Add to Schedule Preview” button simulates registering the class.
- The selected classes appear in a schedule preview panel (sidebar or separate view).

3. Use of AI & Development Tools:

Tools Used:

- **FigmaMCP:** Generated HTML/CSS from selected frames in the high-fidelity prototype.

How AI Helped:

- **Speeding up layout generation:** FigmaMCP accurately translated many UI sections into HTML/CSS.

Where AI Struggled:

- Misinterpreted certain Figma groups as single elements, resulting in messy code structure.
- Generated overly complicated CSS that we had to simplify.
- Sometimes created non-accessible markup (missing aria labels, low contrast).

Summary:

AI significantly accelerated initial implementation, but careful human correction was necessary to maintain usability, clarity, accessibility, and alignment with the prototype.

4. Alignment With Design & User Goals:

Our implementation reflects the design refinements and user feedback gathered in Phase 2, especially the themes of:

Clarity & Mapping

- Controls (search, filters, registration buttons) appear where students expect them.
- Icons and labels mirror the Figma prototype to preserve visual consistency.

Feedback

- Hover states, loading indicators, and animations show system responsiveness.
- The schedule preview updates dynamically when a class is added.

Constraints

- “Add to Preview” is disabled when a class is full or when time conflicts occur (simulated).
- Only relevant filters are active depending on the search.

Discoverability

- The search bar is prominent at the top of the Courses page.
- Filters appear in a left sidebar with clear categories.

Issue	Breaking Which Norman Principle	How We Fixed It
AI placed filters at the bottom of the page	Poor mapping	Manually reorganized layout into a sidebar
Buttons were not visually distinguishable	Poor feedback	Added hover/active states and consistent colors

Some text had insufficient contrast	Reduced discoverability	Manually adjusted colors to meet accessibility
Modals had confusing close behavior	Poor visibility of system status	Added clear “X” icon + overlay click to close

These adjustments ensured the functional prototype remains aligned with the original student needs and design intentions.