

P2P Learning | Refine: Medium Fidelity Prototype Report

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Scope Explanation

P2P Learning (Peer-to-Peer Learning) is a native mobile phone application that facilitates the connection of post-secondary students with other peers and expectations to optimize their learning through collaborative tutoring, resource sharing, and social networking. Peers are able to connect through a variety of aligning attributes like courses, topics of interest, learning styles, and expectations. For our **medium-fidelity prototype**, we **focus** our attention on the **onboarding task flow** and the **bulletin board** along with its notices on the main feed.

Continuing from our low-fidelity prototype, we wanted to further flesh out the details in the notices on the bulletin board. This was important to demonstrate what it is that users will see as well as the plethora of interactions they have to manipulate the bulletin feed and view the individual notices. In addition, we decided to introduce the onboarding task flow to our medium-fidelity instead of adding the create notice flow. Although creating notices is an integral part of the P2P Learning app, we wanted our medium-fidelity to fully encapsulate a potential user's experience from start to end such that it makes sense; the onboarding flow tackles this by providing contextual insight into what this application provides along with introducing our application-specific concept and terms like "bulletin." Other improvements involved improving the general aesthetics of the application by adhering to a consistent standardized design pattern, such as Apple's iOS typography and type scales (Inc., A. (n.d.); Kennedy, E. D. (n.d.)), as well as introducing colors and shadows to better discern various user interface (UI) elements.

We continued our prototyping in the Figma (Figma, n.d.) design software; this allowed us to efficiently carry over our low-fidelity work while also bringing our prototype to life with Figma's complex animations and interactive features. The finished result is a robust horizontal design implementation of the P2P Learning app with extra vertical attention to the onboarding and bulletin board flows.

Prototype Description

Task Flow Overview

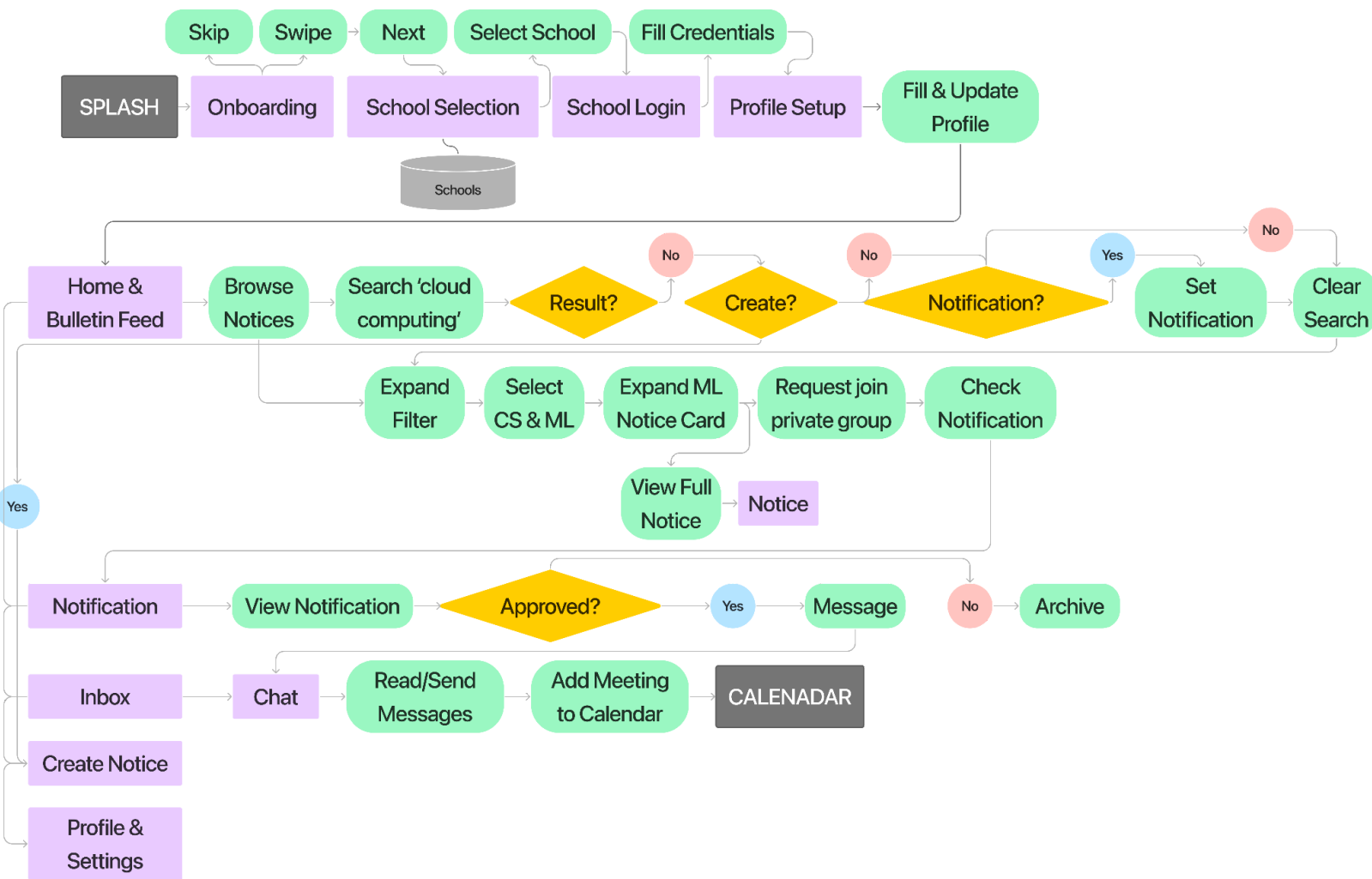
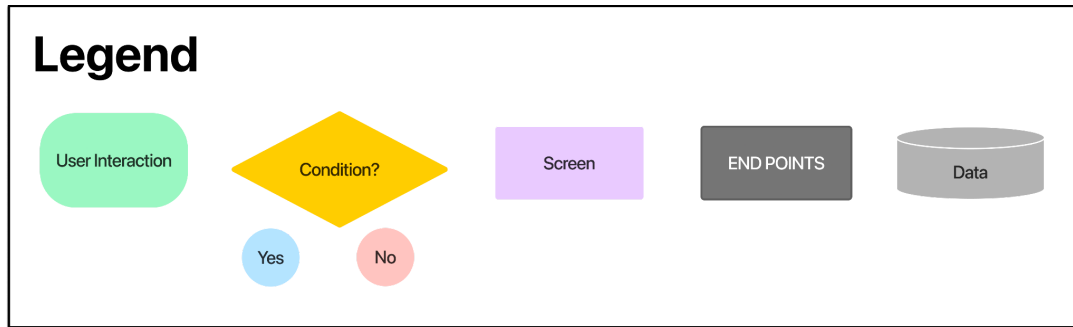


Figure 1. Full Task Flow Diagram and Legend

Figma Prototype Link

- [Figma Prototype Link](#)

Onboarding: Sign In & Profile

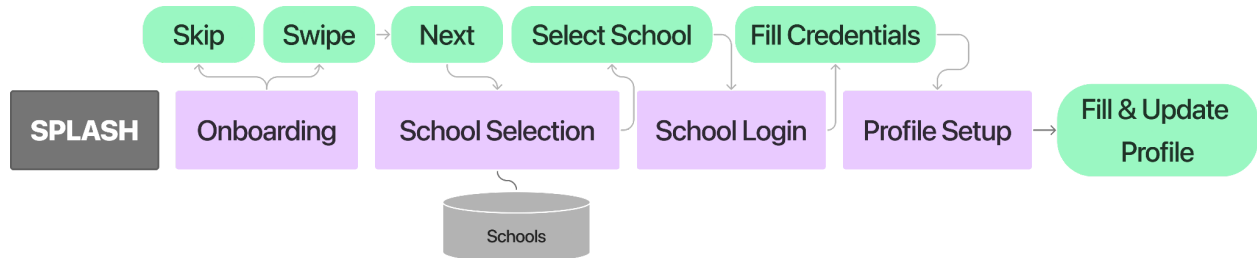


Figure 2. Onboarding Flow

- [View Video \(30 sec\)](#)

The P2PLearning mobile application launches with an animated logo slash screen before sending the user through the onboarding on their first launch of the app. The onboarding begins with a series of informational panels that the user can swipe through to familiarize themselves with our conceptual model and the purpose and core features of the application. Users will proceed to select their school and sign in via their school network to have their basic information populated into their profile. The profile can be further fine-tuned to support the user’s specific interests, learning styles, and expectations. This flow is in its first iteration despite being part of this medium-fidelity design.

Bulletin: Search, Filter, Join

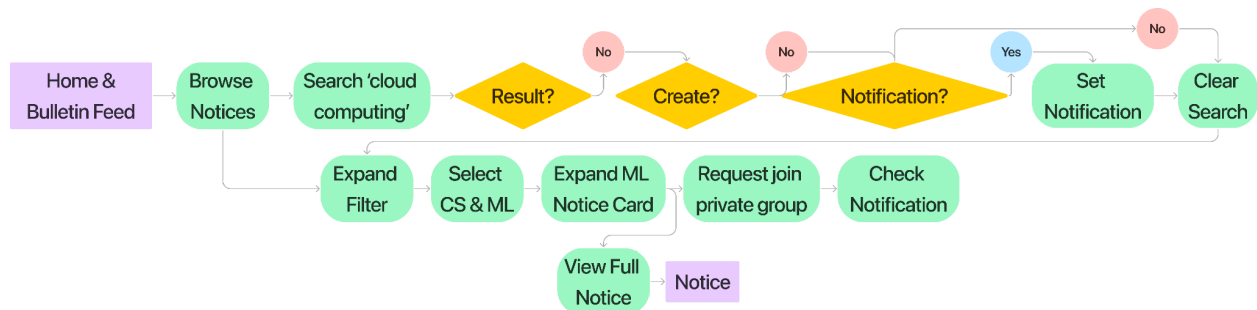


Figure 3. Main Bulletin Board Flow

- [View Video \(55 sec\)](#)

The Home screen is the Bulletin feed of the selected school catered to the user. The Bulletin feed hosts a list of Notices that are presented as cards in the feed. The Bulletin feed resembles a bulletin board that collects various notices and advertisements. In P2PLearning, the Bulletin encapsulates Notices that advertise collective groups of a specific field or interest. Users are able to search, filter, and sort for their desired group. Notices can be expanded for more information or even clicked into to view their personal page. The user can then message, join, or request to join in the case of a private collective. The Home

screen provides an action bar to jump to Inbox, Create, Notification, or Profile respectively. The Create button is accented to encourage users to create and contribute Notices whenever possible and needed.

Notification & Chat: View, Message, Add to Calendar

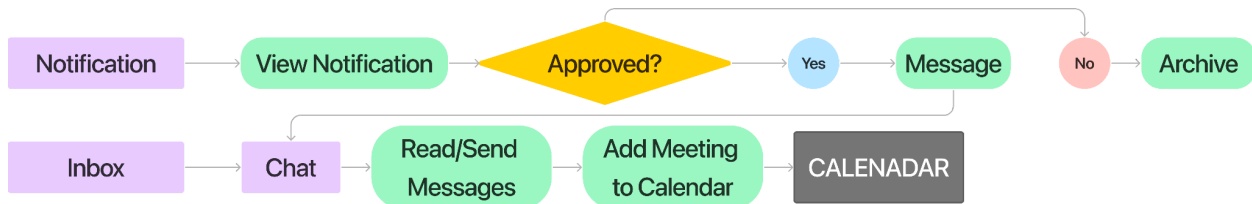


Figure 4. Notification & Chat Flow

- [View Video \(16sec\)](#)

Part of the Bulletin flow involves completing the scheduling interaction. This flow allows the user to complete the action of scheduling a meeting in order to take action on it in some way. Users are able to check their notifications to identify which groups they have been accepted to or which of their own groups need attention. The chat provides direct interactions with the respective group to schedule virtual and in-person appointments. The user is able to add the appointment to their calendar and take the appropriate action when the time comes.

Design Approach Justification

Onboarding

- Onboarding was an important component to add because it creates a flow to seamlessly inform users, let users do what's natural (using school-network login like CWL). This involves pulling-in information from CWL. Users can also add they need changes to fine-tune it. However, the crucial part of the onboarding is the “Area of Interest” and “Learning habits” sections that capture the user's interests and habits and tune the dashboard result accordingly.

Bulletin

- We had a lot of discussion around the nomenclature for what we initialized called “Bulletin”. In our user testing, some of the users were not able to grasp the word bulletin and suggested that “Notice board” would be a better word. But as we interacted with more people informally and designed more components of the application, “Bulletin” started making sense. One of the other reasons to keep the same name is because it is shorter and neater as a title compared to “Notice Board”

General

- As we were designing the medium-fi prototype, we realized that there should be two different types of learning groups based on learner/group operator's needs. One might want to create an open group with the flexibility of anyone who is interested in joining. Whilst some might want to create a closely-knit group that has request-only entry. In such a group, the existing group members would want to take in only those students who they think match their expectations and help them achieve their goals. Thus we introduced the concept of open/closed group in the prototype.
- Aesthetic and stylistic design choices were made to provide uniformity to the application. Without reinventing the wheel, our team used Apple's iOS type scale and design pattern guidelines. We chose this over Google's Material Design because it complimented our Figma iPhone 14 Plus frame size. Additionally, we considered our application to be platform-agnostic to exist independently from a mobile operating system like Android or iOS; to design for this, we realized that it was best to cater our design to iOS because their operating system lacks a dedicated back button—designing for them would also support Android and various other platforms.

Reflection

Our team felt like this project was heavily driven by our early decisions. Initially, we struggled to identify a suitable conceptual model that would steer our platform in the right direction. From a two-sided marketplace to bartering to the bulletin notice board, we learned that identifying this early on is imperative to properly lay out the structure of our platform. Despite that, we still found difficulty in properly bringing our conceptual model to life. Selecting appropriate terminologies, living up to the “theme,” and being wary of straying away from our conceptual model became quite discouraging as we designed our low-fidelity and even our medium-fidelity. It only became clear to our team afterwards that the conceptual model does not necessarily have to be a fully functional metaphor that needs to be accurately adhered to. Redoing this ideation, we would have liked to focus more of our attention earlier on identifying the core functionalities or interactions a user, like our Alencia persona, would desire.

Without a clear understanding of our functionalities and interactions, we shelved these decisions to our later design stages, like the low-fidelity. However, even in the low-fidelity prototype, our design lacked concrete details in the Notice cards, for example, and risked being too high-level. This kind of high-level design allowed us to achieve a strong horizontal look of the P2PLearning platform, however, the verticality of our targeted flows had to be creatively explored as we moved into medium-fidelity. For the scope of CPSC 544, this hindered our ability in garnering insights on the most interesting aspects of this platform—the presentation of Notices, its interactions, and its creation. Lacking this insight, we implemented our best judgment using existing educational platforms like Canvas, Piazza, as well as examples from Dribbble.

Beyond CPSC 544, or without timebound, much of this could be addressed through an iterative process. Following the Design Thinking framework, there is a constant stream of learning throughout the design process. What we learned here should allow us to test, draw insights and themes, implement, and then test again. We figure that most real-world design scenarios are time bound and thus, our learnings here actually is to have a stronger design plan that aligns with our timeline. We realized that along the way, we lost track of what is most important—becoming distracted with more secondary elements like the profile screen and notification screens.

Something that went really well for our team was conducting all of our low-fidelity in Figma. Doing this allowed us to easily reuse a lot of our components and elements with very minor trivial tweaks as we transitioned into medium-fidelity. Figma’s collaboration tool, version history, commenting feature, and audio calls allowed our team to streamline design and prototyping in both low-fidelity and medium-fidelity. Sticking to one robust software like Figma is our best recommendation for many other teams working on collaborative design projects like ours.

References

- Dam, R. F., & Siang, T. Y. (2022, July). *What is design thinking and why is it so popular?* The Interaction Design Foundation. Retrieved December 11, 2022, from <https://www.interaction-design.org/literature/article/what-is-design-thinking-and-why-is-it-so-popular>
- Explore the world's leading design portfolios. Dribbble. (n.d.). Retrieved December 11, 2022, from <https://dribbble.com/>
- Figma. (n.d.). Figma. Retrieved October 7, 2022, from <https://www.figma.com/files/recent?fuid=1031304641049324116>
- Google. (n.d.). *Material design*. Material Design. Retrieved December 11, 2022, from <https://m3.material.io/>
- Inc., A. (n.d.). *Typography*. Typography - Foundations - Human Interface Guidelines - Design - Apple Developer. Retrieved December 11, 2022, from <https://developer.apple.com/design/human-interface-guidelines/foundations/typography/>
- Instructure. (n.d.). *Canvas by Instructure: World's #1 teaching and learning software*. Canvas. Retrieved December 11, 2022, from <https://www.instructure.com/canvas>
- Kennedy, E. D. (n.d.). *The IOS font size guidelines (updated for IOS 15)*. Learn UI Design Blog. Retrieved December 11, 2022, from <https://www.learnui.design/blog/ios-font-size-guidelines.html>
- Piazza. (n.d.). *Piazza • Ask. answer. explore. whenever.* Piazza. Retrieved December 11, 2022, from <https://www.piazza.com/>

Appendix

Appendix A: Team Member Contributions

1. Himani P
 - Report
2. Vedant B
 - Design, Prototyping, Design Conceptualization and Report.
3. Tommy N
 - Design, Design updates, Animation, Prototype, Task flow, Videos, Report, Editing

Signed by TN, *UBahel*, HP on Dec 12, 2022 .

Appendix B: Current task examples, steps, conceptual model

B.1) Updated Task Example

Alencia uses peer-learning app to search and look for people in her university or local area to collaborative learn with in her two desired courses: cloud computing and machine learning (ML)

Alencia is a 3rd-year undergraduate student in Computer Science. She is a fairly competent student who optimizes her schedule really well, however, she is looking for a suitable peer to connect with to better make use of her time. In the past, she has tried to reach out to her classmates in-person and through social platforms provided by her classes, like Piazza and Canvas, but they never really gain much traction. She is not satisfied learning with friends as she thinks of it as a distraction—ultimately leading to unproductive work. Alencia is looking for help in her “cloud computer” course and is struggling with the “decision tree” concept from her machine learning (ML) course. To optimize her time, Alencia believes that she can accomplish much more if she can fill in the gaps in her knowledge by learning collaboratively in a group. Also, she likes to strengthen her knowledge by teaching as well as learning from others.

She grabs her phone and opens a peer-learner app. Ensuring she is in her UBC study space, she first looks for a “Cloud computer” group by typing it into the search bar. If there’s no result, she’ll consider setting a reminder, clear search and check another course. Her account is pre-filtered to show all of her courses and things she is interested in; she wants to clear the filters as well as sort it by most viewed to identify the popular groups. She sets this as the default. Alencia finds an “ML” group and requests to join it. After joining, she gets a notification in the navigation bar and checks it out. Liking the group, she joins and adds it to her calendar.

B.2) Low-Fidelity Prototype Steps

Home Screen

1. Begin search
2. Search “c”
3. Search “cloud computing”
4. Clear search

5. View filter
6. Clear filter
7. Select new filters
8. Sort by most viewed
9. Set new default filter and sort
10. Close filter
11. View machine learning notice (ML 4Ever)
12. Request to join
13. Continue to request to join without messaging

Notification

14. View notification

Chat

15. Chat with ML 4Ever
16. Add meeting time to calendar

B.3) Updated conceptual model

- Our new conceptual model aims to adhere to the following metaphor where students can be part of a study hall that has a bulletin board. On the bulletin board, students or groups can post notices looking advertising collaborative learning and study groups. As a user, one can browse the notices and immediately be able to connect with the relevant individual or group to collaborate with.

B.4) Primary & Secondary Personas

“ I can study really hard but if I can just find the right people to study with, I can learn way more and make better use of my time. ”

Studious Student
Alencia, 22
3rd year undergrad
Computer Science, UBC

Behaviours
Regularly studies and stay on top of their work to the best of their ability
Tries to connect with nearby classmates in-person or via class portals (i.e., Canvas, Piazza)
Teach or talk through her work to strengthen her understanding of her learning materials

Motivations
Have limited time and wants to optimize learning collaboratively in groups
To connect with people sharing similar learning styles, interests, and expectations
To collaborate with knowledgeable people with strong work ethics and aligned exptations
To deepen connection within academia

Pain Points
Working with friends is distracting and unproductive
Wasting time finding suitable study buddies
Making sacrifices to meet school demands

Skills

Communication	75%
School Competency	86%
Work Ethics	82%
Software	42%
Learning	25%
Teaching	62%
Organisation	65%

Attitude

Stress	66%
Will to learn	80%
Will to work	73%
Ambition	90%
Patience	33%
Open-Minded	28%
Insecure	43%



“ I could really benefit from some extra support with other knowledgeable people but I'm worried about being thought of as dead weight. ”

Trying Student
Edward, 18
1st year undergrad
Undeclared Arts Student, UBC

Behaviours

- Tries their best to stay on top of their work but has a tendency of slipping behind
- Uses Piazza to post questions anonymously
- Actively lurks various platforms and group chats to reap any educational materials that could help

Motivations

- Working with motivated individuals helps improve self-accountability
- Listening to people more knowledgeable discussing and learning provides a lot of insight
- Aspires to be a confident student who's on top of it all

Pain Points

- Feels too embarrassed to attend office hours
- Worried about not being able to understand everything from all the courses
- Difficult to focus alone and gets easily distracted
- Ashamed to seek help from peers because they do not feel like they can offer much in return

Skills

Communication	33%
School Competency	61%
Work Ethics	65%
Software	78%
Learning	52%
Teaching	25%
Organisation	32%

Attitude

Stress	86%
Will to learn	73%
Will to work	61%
Ambition	21%
Patience	69%
Open-Minded	71%
Insecure	84%