PawPals

Team Information

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Problem Statement

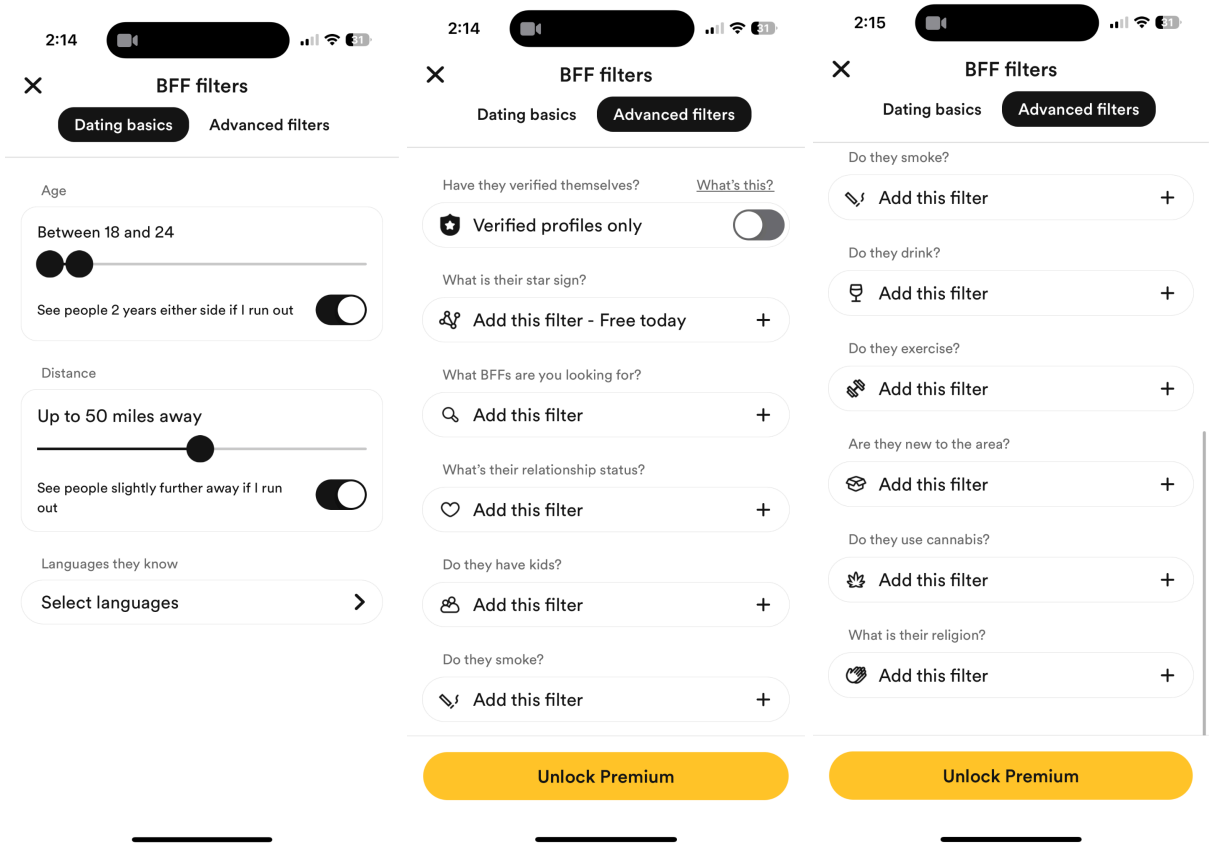
The transition into college poses challenges for students, which can impact their overall enjoyment of their college experience. Janice McCabe's research at Dartmouth University starkly illustrates, “Having a few good friends increases persistence and makes students’ college experiences more meaningful and impactful”. However, existing social platforms are inadequate in fostering the specific type of academic and social integration needed by students, especially freshmen, incoming transfers, and international students at UW.

Current social platforms, like Bumble BFF fail to meet specific needs for connecting with students in an academic setting, within classes and around campus events. Even with their filters, you are only able to filter by age, distance, and language - unless you want to pay for advanced filters (Figure 1). Bumble BFF and other platforms put too much focus on dating or casual interactions rather than connecting students to one another on campus. Students such as first-years at UW should have a platform to find and experience a supportive network that can encourage them to participate in events and activities. College is not only about creating memories but also creating connections that will carry on to professional life, future career, and income opportunities.

The cause of this disconnect stems from designs that prioritizes general social interactions over targeted college community building. Attending university for the first time can be extremely anxiety evoking. Freshmen are navigating their first year of college life, trying to find their way in a new academic and social environment. Incoming transfers, having already experienced college elsewhere, must adapt to a new campus culture and academic expectations. International students confront both these challenges while also dealing with cultural differences and possibly language barriers. All these factors, including competitive academic pressures, social isolation, and the hurdles of virtual learning environments, heighten the difficulty of forming meaningful connections and enjoying college life both academically and socially. This intensifies the need for a dedicated space that welcomes students to create new networks whether it be academic or events.

Acknowledging the limitations of existing platforms, our design solution is tailored for UW students to facilitate connections within classes and through campus activities. This addresses the anxieties new students face about meeting new people and eases their transition into college life. Drawing inspiration from the critique that "instead of forcing users to build close yet platonic relationships with strangers, Bumble BFF should create groups focused on shared interests" (Luansing, 2023), our platform prioritizes creating friendships and building a sense of community among UW students. By doing so, we aim not only to mitigate the initial feelings of isolation experienced by freshmen, incoming transfers, and international students but also to lay the foundation for a supportive and engaging college experience for these groups. This ensures that our platform is a space where students can find and connect with others who share similar academic interests and social preferences, creating a more supportive environment that extends beyond basic social networking.

Figure 1. Bumble BFF doesn't have filters related to UW and academics, and does not have a group chat friend feature. It's also hard to really narrow via similar interests and hobbies, and you have to have premium to unlock the filtering feature (just becomes random swiping).



Solution

PawPals is a digital platform aimed at fostering friendships among students at the University of Washington. Our platform distinguishes itself by concentrating on creating connections within academic settings and campus events, moving away from the general social or romantic focuses seen in existing platforms like Bumble BFF. These platforms often lack the necessary features to connect students based on academic interests and participation in campus life.This focus stems from recognizing that peer collaboration and support are crucial for the college experience. Experience relating to campus events and Husky Football games, as well as enjoying peer interactions in classes. Research highlights that engaging in activities with peers not only makes the time spent worthwhile but also is highly recommended by those who have participated. According to the U.S. Department of Education, it was found that “very high levels of learner support for the activity as well as evidence that the activity encouraged learners to approach their learning with greater depth. 88% of study buddies said they found the activity well worth their time, and would recommend it for other graduate courses” (Madland & Richards).

Despite this, there are no apps that foster student friendships and support networks specifically catering to the needs of college students. The lack of this type of application leaves students feeling disconnected from their college community, leading to a decrease in student engagement and overall satisfaction with their college experience. This gap presents a unique opportunity for designers and educational institutions to collaborate on creating platforms that not only facilitate academic collaboration but also foster meaningful friendships among students. We identified this problem within the UW community and through our brainstorming process we discovered a couple of solutions that aim to facilitate relationships for students who are new to the UW community, like an online matching app for common academic and social interests (details in Appendix).

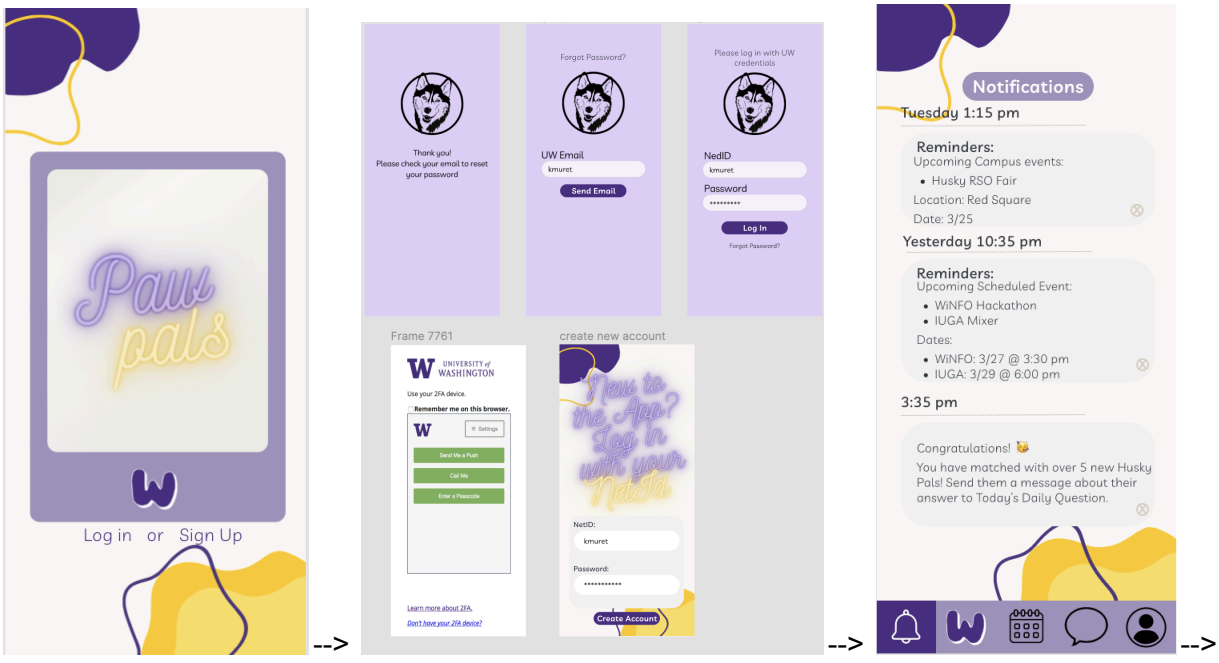
Upon signing up with their UW NetID, users are prompted to create a detailed profile that highlights their major, classes, interests, and matching preferences, after which PawPals suggests potential matches based on these preferences and interests. Students can then swipe through these suggestions, choosing to connect with peers who align with their academic goals and interests. Users can join existing groups or create new ones based on classes or subjects of interest. Students each have a QR code on the profile page that can be scanned to add any other friends they meet in classes to existing or new group chats (Figure 4). We decided to implement a QR code to PawPals in order to enhance accessibility and simplify the process of not having to swipe through if they found someone they want to connect with outside of the app. Moving beyond discovering users to message solely on the platform, by allowing users to meet Husky peer’s in person and match with them via the QR code. Once students have made matches – either through swiping or use of QR code function – students can utilize group forums for discussion, collaboration, and support. This ensures that students are matched with peers who genuinely share their goals, interests and challenges.

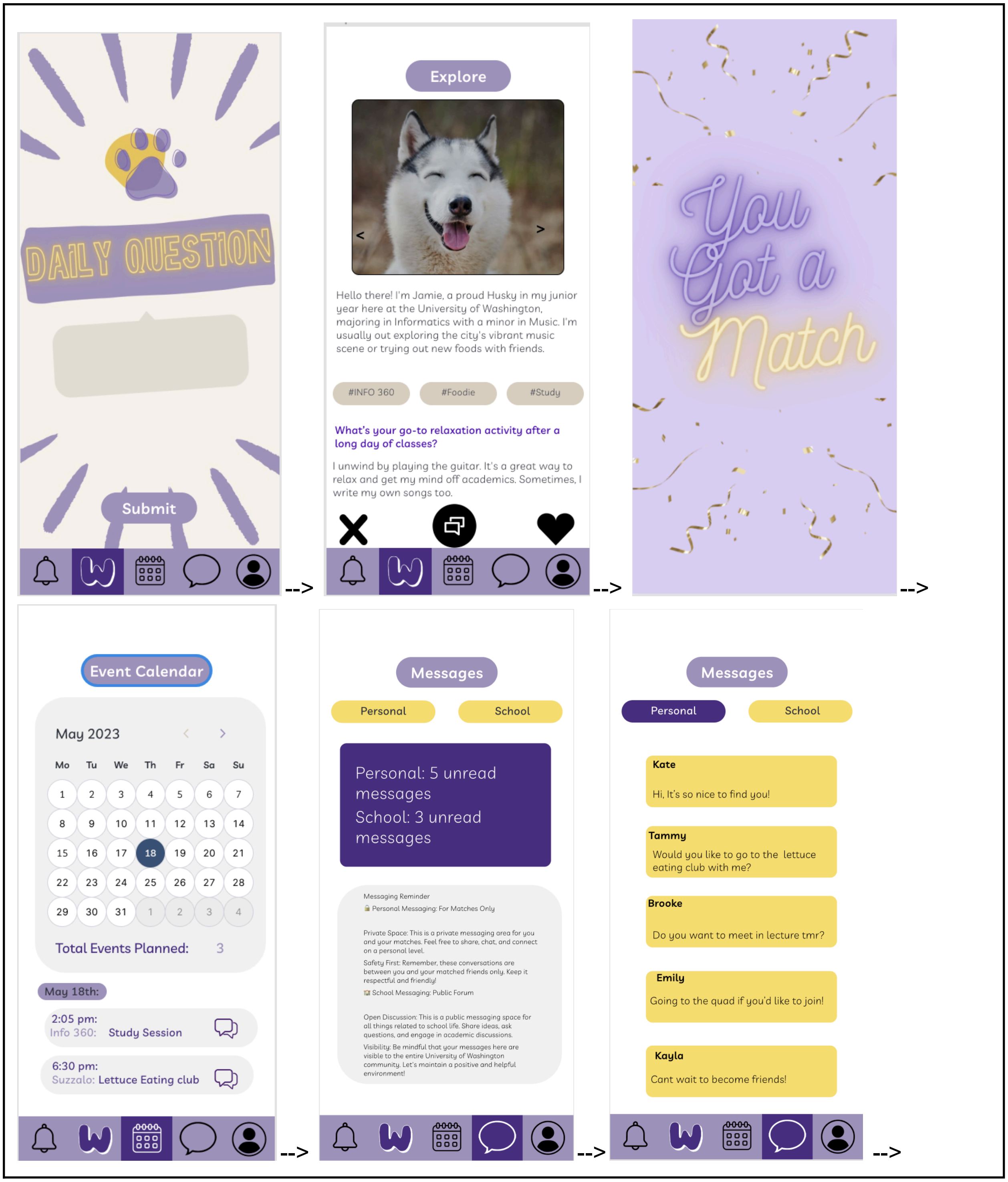
Our design uses a swipe mechanism for simple and engaging exploration of potential matches, while group forums encourage collaborative learning, resource and event sharing. The design ensures straightforward navigation with intuitive swiping, tapping actions, and visual cues for an efficient user experience. Feedback mechanisms are in place for immediate user action confirmation, like when the user gets a match. Privacy and physiognomy are concerns addressed by replacing personal photos with fun Husky icon avatars, thus emphasizing academic collaboration over social judgment (Figure 5).

A significant part of PawPals' development process involves providing a rationale for every major design and functional decision. This rationale is grounded in user feedback, ensuring that every aspect of the platform contributes towards addressing the core problem of academic isolation. For example, the decision to use UW NetID for authentication is not only for security but also ensures that the platform remains exclusive to UW students, which maintains the focus of the specific college community it aims to build.

This design choice reflects our commitment to fostering genuine connections within the UW community, addressing the core issue of isolation and enhancing student engagement and satisfaction. By tailoring our solution to the unique needs of the UW students, PawPals aims to transform the college experience into one that is rich in academic collaboration, future professional connections, and lasting friendships, addressing the inadequacies of existing social platforms and directly responding to the challenges faced by students in integrating into their new academic and social environments.

Figure 2. Consider including a User Flow / Information Architecture of your design to show us the overview.




DAILY QUESTION
Submit
-->
Explore
Hello there! I'm Jamie, a proud Husky in my junior year here at the University of Washington, majoring in Informatics with a minor in Music. I'm usually out exploring the city's vibrant music scene or trying out new foods with friends.
#INFO 360
#Foodie
#Study
What's your go-to relaxation activity after a long day of classes?
I unwind by playing the guitar. It's a great way to relax and get my mind off academics. Sometimes, I write my own songs too.
-->
You Got a Match
-->
Event Calendar
May 2023
Mo Tu We Th Fr Sa Su
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31 1 2 3 4
Total Events Planned: 3
May 18th:
2:05 pm:
Info 360: Study Session
6:30 pm:
Suzzalo: Lettuce Eating club
-->
Messages
Personal
School
Personal: 5 unread messages
School: 3 unread messages
Messaging Reminder
Personal Messaging: For Matches Only
Private Space: This is a private messaging area for you and your matches. Feel free to share, chat, and connect on a personal level.
Safety First: Remember, these conversations are between you and your matched friends only. Keep it respectful and friendly!
School Messaging: Public Forum
Open Discussion: This is a public messaging space for all things related to school life. Share ideas, ask questions, and engage in academic discussions.
Visibility: Be mindful that your messages here are visible to the entire University of Washington community. Let's maintain a positive and helpful environment!
-->
Messages
Personal
School
Kate
Hi, It's so nice to find you!
Tammy
Would you like to go to the lettuce eating club with me?
Brooke
Do you want to meet in lecture tmr?
Emily
Going to the quad if you'd like to join!
Kayla
Cant wait to become friends!
-->

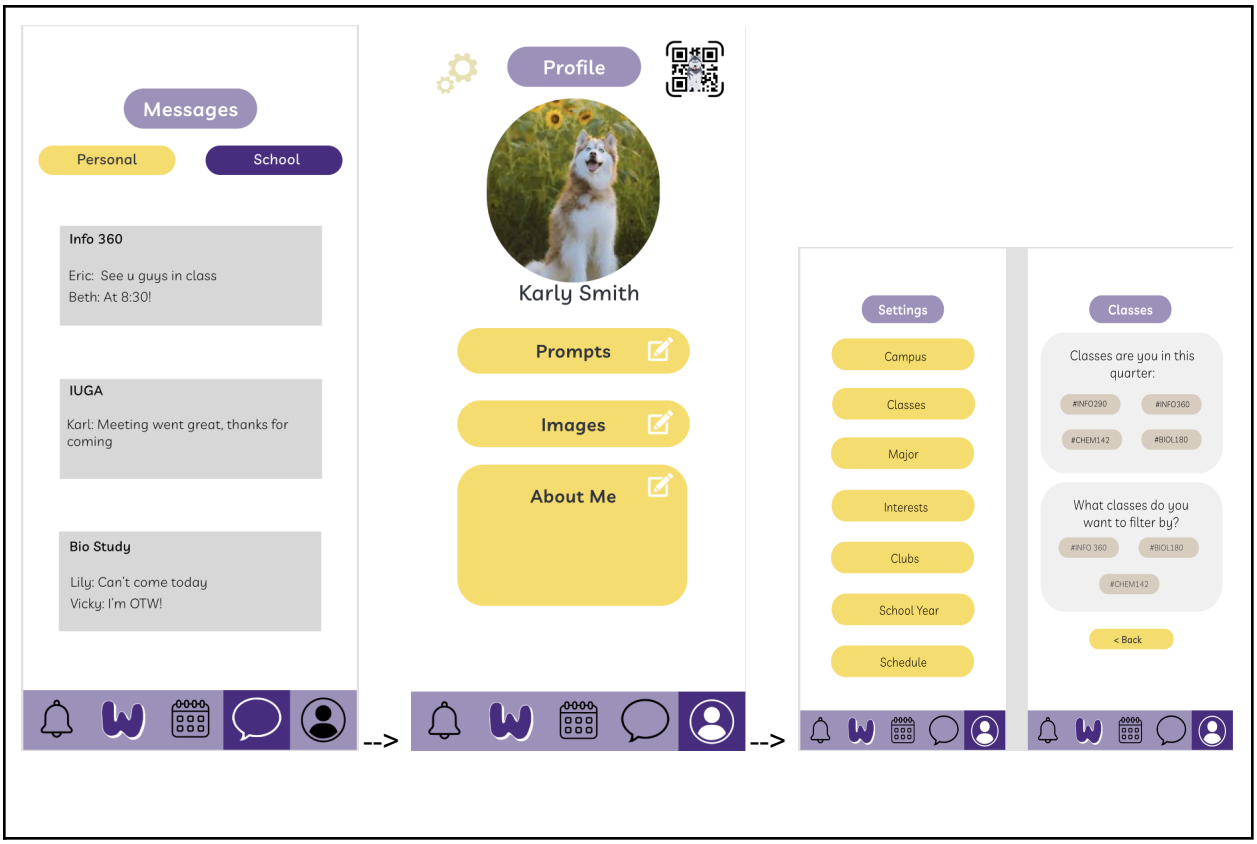

Messages
Personal
School
Info 360
Eric: See u guys in class
Beth: At 8:30!
IUGA
Karl: Meeting went great, thanks for coming
Bio Study
Lily: Can't come today
Vicky: I'm OTW!
-->
Profile
Karly Smith
Prompts
Images
About Me
-->
Settings
Campus
Classes
Major
Interests
Clubs
School Year
Schedule
Classes
Classes are you in this quarter:
#INFO290
#INFO360
#CHEM142
#BIOL180
What classes do you want to filter by?
#INFO 360
#BIOL180
#CHEM142
< Back

Figure 3. User Flow

Important Design Decisions

The user interface and interaction design for this application are defined by a series of inputs, outputs, event handlers, states, modes, signifiers/affordances, and considerations for the gulf of execution and evaluation. The primary inputs include actions such as logging in, swiping right or left to like or dislike other users, creating and editing one's profile, and choosing between personal or group chat messages. Additionally, users can request to send a message. The corresponding outputs for these actions encompass gaining access to one's account, receiving a match or no-match notification, displaying an updated profile, navigating to the selected page for personal or group chat messages, and confirming that a message has been sent.

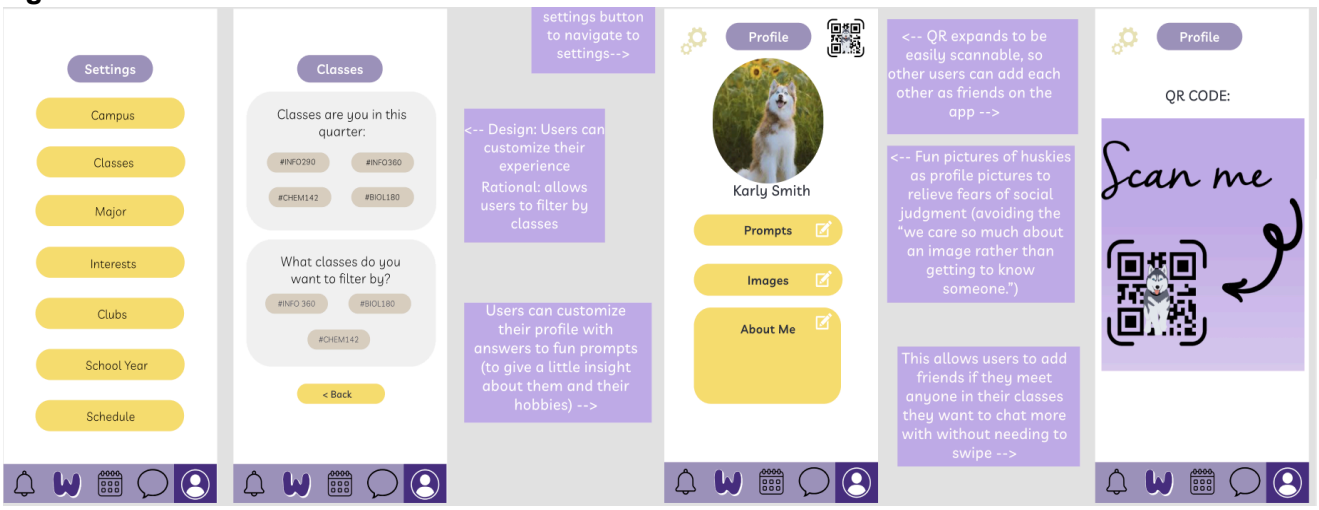
Event handlers in the system include the use of a UW NetID for logging in, mechanisms to like or dislike, a settings system to customize user experience, and the ability to clear notifications. The application maintains various states such as user information, filter/settings preferences, a history of likes and matches, and conversations.

To enhance the user experience, the app incorporates various modes, each designed for specific interactions: profile editing for updating user information, chatting for communication, swiping for finding matches, and prompt answering for engaging with daily questions. Feedback mechanisms for these modes are thoughtfully integrated to ensure a responsive and engaging interface. This includes a daily changing prompt to keep content fresh, a celebratory display that automatically appears upon finding a match, an active back button for seamless navigation, notifications for unread messages to keep users informed, and the ability to view and edit user profiles for personal customization. These features work together to create a cohesive and user-friendly environment.

Signifiers and affordances facilitate user interaction, including mechanisms for liking or disliking, different colors to signify opening a chat, a bottom bar menu for easy navigation, and a search button for finding specific users or conversations.

The gulf of execution addresses how users interact with the system to achieve their goals, such as liking or disliking profiles, entering message mode, and messaging someone. The gulf of evaluation provides feedback to the user, including notifications like “You got a match” and indicators to clear notifications, helping users understand the results of their actions within the application.

Figure 4.



Software Engineering Decisions

Matching Functionality:

- What information to compute:
    - If there is a match (if both users like each other, checks inputs of both users)
- What information to store:
    - Successful Match output message/screen with confetti → allow access to chat functionalities allow users to input messages
- The primary input for the matching functionality are the likes each user sends out. These inputs then trigger the computation process to check for mutual likes. The mutual-like detection logic processes the user input to find matches and stores the permissions for chat functionalities. Then the application outputs successful match notifications and activates the chat feature between the two users, this is directly related to the computed matches and stored permissions.

Pairing/Explore Page Algorithm:

- What information to compute: User preferences
    - Similarities in answers for 'Daily Question' (keywords)
    - Similarities in keywords in bio (hobbies in common)
    - Filter profiles in the Explore Page by filters the user selects
    - Similarities in keywords for classes - course schedule, major information, graduation year
    - Similarities in previous matches
- What information to store:
    - Users with similar data to display

        - User likes and dislikes
        - Hobbies, Pronouns, Bios, About Me text (keywords)
    - User filters
- Inputs for the pairing algorithm include user provided information (hobbies, bio, about me), answers to daily prompt question, selected filters, academic information from UW NetID. These inputs undergo computations to extract keywords, apply user selected filters, and analyze similarities across different aspects (bio, daily question, academic information, previous matches). The application then outputs tailored matches and filtered suggested users, directly influenced by the computed similarities and preferences.

Logging In/Signing Up:

- What information to compute:
    - If there is a match (if both users like each other)
    - Notifications - nudge if the user has received a message, calendar event is happening within the next day
- What information to store:
    - Profile data, netID and information of the student logging in/signing up
    - Notifications the user hasn't seen yet to display on the user notification page (erase after user has seen them)
    - Answer to the question of the day

Chat Functionalities:

- What information to compute:
    - If there is a match (if both users like each other or scan each other's QR code) - allow access between users to communicate with one another.
        - Private messaging - user requesting to send data or user requesting to receive data - server either allows or denies request based on whether or not the users are matched (check this everytime chat is opened in case a user chose to unmatch with someone)
        - Group chats run more publicly, user would be prompted to accept or deny a request to join a group, can be removed or remove someone from a group if need be (status check when chat is opened)
- What information to store:
    - Successful Match
    - Communication records: what users are connected (matched) and chat history
- System received inputs in the form of user interactions (likes, QR code scans, chat messages, group chat join requests). These interactions trigger computations that verify matches, control access to communication features, and manage group chat dynamics. This includes checking for mutual likes or QR code scans for matching and validating match status or group membership before allowing chat interactions. This stored information is use the facilitate and manage user chat communications.

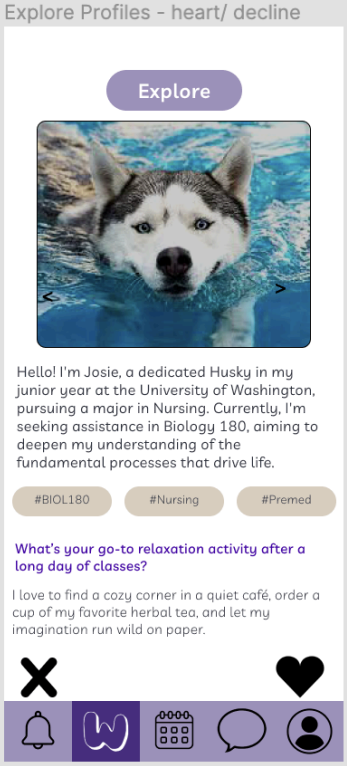
Information Architecture Decisions

- Daily Question:
    - Generated every day and displayed on all users page after successful login authentication
    - Created via AI generation based on: common facts about Seattle, fun activities to do in Seattle, University of Washington, UW student base, common college themes
    - *Design rationale*: We decided to incorporate a Daily Question into PawPals as a way to inspire connection via offering a playful, engageful way for students to initiate conversations with their matches. Starting a conversation with a stranger can be daunting, the Daily Question gives users an easy icebreaker and conversation starter. The Daily Question serves as a dynamic content element that provides users something new and interesting each day they use the app, while also giving users an opportunity each day to showcase their personalities and interests. Helping increase the number of matches users are getting, by adding a place where users can express themselves in a more natural and less structured way than their profiles.
- Bottom Navigation Bar
    - A visual guide for users to easily navigate through the app, with icons representing the different pages. As the user changes pages by selecting an icon, the icon is highlighted to indicate which page they are on.
    - *Design Rationale*: This mapping works as an easy guide for the user and reduces cognitive load by providing a clear visual representation of the available app sections. It enhances user experience by allowing seamless navigation between key features and functionalities. Additionally, by placing it at the bottom of the screen, it remains easily accessible with one-handed operation, enhancing usability, especially on larger devices.
- Personal Versus Group Messages
    - After matching, users have two options for contacting.
    - Personal Messaging allows individual users to communicate privately with their matches with one-on-one conversations.
    - Group Messaging enables users to create or join groups based on shared interests, classes, or campus activities, promoting broader social interactions.
    - *Design rationale*: In recognizing the varied nature of social interactions among students, PawPals incorporates both Personal and group messaging features to cater to individual preferences and needs. Personal messaging offers a private space for users to develop close relationships and engage in conversations with their matches, making it easier to form meaningful connections. On the other hand, group messaging is designed to foster a sense of community by allowing users to interact within a larger network of peers who share similar interests or academic goals. This dual messaging system ensures that whether users are looking for individual companionship or wish to be part of a community, they have the appropriate tools at their disposal.

Figure 5.

Figure 5:

Explore Profiles - heart/ decline



Design Decision:
Husky avatars instead of regular profile pictures

Rationale:
Respects user's privacy and physiognomy concerns, pictures of huskies adds a touch of playfulness to the app

Design Decision:
Users can swipe through/like/dislike/ explore other profiles. Each profile has a fun about me and hashtags on majors/interests. When both users liked each other there is a Match, a fun confetti animated screen pops up

Rationale:
The confetti matching screen makes the whole process more exciting and fun to the users! And the hashtags allow users to easily understand potential common interests of the user they are swiping on. These hashtags also allow the user to filter for specific keywords to look for users of similar interests.

Explore Profiles - heart/ decline

Evaluation

Through the brainstorming process, we generated ideas focusing on enhancing the college experience of first year UW students. We evaluated each idea against the problem statement and the needs of UW students during their first year on campus. This process helped us on a design that leverages technology to create networking and peer groups, facilitating connections in class and around campus. The selection was driven by the identified gap that current platforms, such as Bumble BFF, primarily cater to social and dating interactions rather than building connections while attending a large university such as UW.

To ensure our design aligned with user needs and expectations, we used participatory design interviews and contextual inquiries with a sample of a dozen UW students, varying from roommates to fellow friends on campus. Early on in the design process, we brought up our low-fidelity sketches and ideas to our roommates, to get some feedback on general usability and overall level of fun of the app. Questions including: *Would you use this app compared to other networking platforms? What do you think is missing from our application?* From those discussions we were able to brainstorm the 'matching' idea and added group chats as a feature in our sketches. While building our high-fidelity prototype, we had the 12 potential users (first year students) interact with our Figma, via logging in, scrolling through notifications, swiping on the explore page, and going through messages and filters. Collaborating directly with potential stakeholders via design sessions, workshops and interviews, ensured that PawPals final design directly catered to the specific needs of our intended user audience. The feedback was overwhelmingly in favor of a platform that offers first year students a way to build meaningful connections with their peers and give them a group of friends to attend fun college activities with.

Following the development of a prototype, we conducted user testing sessions with UW students from multiple graduation years so we could get a diverse range of feedback from all UW students, not just First Year students. This was an important decision for us to include all graduation years in our testing because our intended audience is primarily first year students at the University of Washington. Participants were asked to complete tasks that simulated real world use cases, such as exploring various clubs/sports/hobbies that are offered across our campus, exploring the bios and information of possible matches, and adding campus events to their calendar. These sessions underscored that newcomers to campus are much more inclined to engage with PawPals, in contrast to upperclassmen who have already had time to establish meaningful peer relationships. This insight validates the critical role of PawPals in accelerating the formation of student connections. Highlighting PawPal's potential to empower students to actively participate in campus activities and events in their university journey, rather than waiting until their junior or senior year to feel fully integrated within their campus community.

Following the development of our high fidelity prototype, we conducted contextual inquiries with first year students. Our testing was structured around the interactive session with Figma to figure out if we were missing any functionality and if users were able to navigate without help.

We tasked students with navigating the prototype such as finding a profile that matches their interest, answering the daily prompt, navigating to messages and finding group vs personal, and finding and playing with the filters. Most students didn't have difficulties with these tasks, the only problem we faced was when a student did not want to answer the daily prompt, they didn't have the choice to skip it. We made observations on how students could find and express interests with others on the prototype. We also watched for how effectively campus events were presented in the calendar and how it gauged a student's interest. The feedback and observations collected showed us areas to improve such as adding more modes for users to be able to exit out of something to make our design more intuitive.

Scope and Limitations

Scope:

PawPals is a targeted online platform designed to facilitate social connections among new UW students. By addressing the lack of college specific social networking, it aims to foster a sense of belonging, enabling newcomers to form friendships, explore new activities, and fully engage with their academic and social lives on campus. The platform exclusively serves UW students, emphasizing privacy and security through UW NetID authentication and integrating with campus programs like the First Year Programs for enhanced user trust and safety. PawPals is intended strictly for users who are currently enrolled students at the University of Washington. More specifically the audience scope for PawPals is incoming students. Including, but not limited to, first year students, freshman, international students, transfer students.

Our intentions for the app was to ease social anxiety and aid students in discovering their community here at UW, so it was crucial we prioritized privacy by using Husky icon avatars instead of user photos to emphasize collaboration and group formation over social judgment. Though visual cues are a significant part of first impressions and social bonding; without them, users might find it harder to feel a connection or remember who they're talking to. Despite these considerations, we decided to proceed with using Husky icon avatars due to hose who might feel vulnerable about sharing personal images online. Continuing on with the scope of security for PawPals, it was important to ensure that users are authenticated as UW students. We ensured this via employing UW NetID to link a PawPal user to their UW information - including: major, classes, academic interests, year. Authenticating via UW NetID ensures the platform remains exclusive to UW students and maintains a safe academic environment for users via utilizing UW NetID to create a matching algorithm to connect users with other users in their currently enrolled courses.

Limitations:

PawPals faces a challenge in maintaining engagement due to its user base refreshing annually with new students. While the platform serves incoming students to form connections, there's a tendency for engagement to drop as students establish their social circles. Some students just

aren’t interested or good at building connections, this could result in a lack of engagement with the platform. This cycle of engagement and disengagement necessitates strategies to keep users engaged beyond their initial quarters.

There are privacy concerns, especially with the necessity to protect users' personal information despite the use of anonymous profile photos. Furthermore, the potential for abuse and bullying is a significant risk to users' emotional and psychological wellbeing. Establishing a clear Use and Abuse policy and implementing security features are important for a safe environment.

Exclusive reliance on UW NetID for authentication introduces vulnerabilities, such as potential system downtimes and limitations on future expansion to other institutions. This dependency shows the need for a reliable system and considerations for alternative authentication methods to accommodate growth and enhance reliability.

The diversity of the University of Washington's campus represents both an opportunity and a challenge. Ensuring PawPals meet the varying social and cultural needs of this diverse population is essential for widespread acceptance and usage. Additionally, making the platform accessible to users with disabilities by adhering to Web Content Accessibility Guidelines is necessary for inclusivity.

References

You should have **at least 3 citations** that support your problem and/or solution approach. Make sure you hyperlink your references directly (Owl Purdue, 2020).

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Appendix

Brainstorming Process

Objective: Our brainstorming aimed at identifying core features that facilitate networking and peer support, while also protecting user privacy and judgment concerns. We utilized methods like user personas, empathy maps, and idea prioritization matrices to understand our users' needs deeply.

Outcome: The process led to the idea of a platform that not only connects students based on academic interests but also connects students to other activities and communities, enriching college experiences.

Interview clip & Video Presentation:

Video Prototype

In our video prototype we walk through the core functionalities of our PawPals application. The video also includes a clip from our initial interviewing of a partition. This participant also assisted with our cognitive walkthrough.

More Information on Software Engineering Decisions:

PawPals embodies a meticulously crafted information architecture aimed at facilitating fun and meaningful friendships among students. The content is organized into distinct categories, each serving a specific purpose in enhancing academic engagement. Firstly, user profiles constitute a fundamental category. Upon signup (logging in via UWNetID), students are prompted to create detailed profiles highlighting their majors, classes, academic interests, and preferences for study buddies or friends with shared interests. This information architecture decision emphasizes personalization, ensuring that users are matched with peers who share their interests, classes, and schedules. This feature enhances the user experience by providing relevant and tailored recommendations, fostering efficient connections between students with college experience pursuits. Thirdly, group chats serve as another crucial category of content. Users can join existing groups via invite or create new ones based on classes or subjects of interest. This chat function allows users to facilitate discussion, collaboration, and support, fostering a sense of community among students. Additionally, the decision to use a navigation bar at the bottom and visual cues enhances the platform's usability, ensuring straightforward navigation for users. The incorporation of QR codes for adding friends to group chats further streamlines the user experience, promoting seamless interaction within the academic community. Moreover, privacy concerns are addressed through the use of fun avatar icons instead of personal photos, eliminating social judgment.