Project 1: Web Based Application

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INSTRUCTOR

Introduction

Digitizing a school environment onto a web-based platform must have specific design requirements in order for a seamless learning experience.

Given too much extraneous noise, the interface builds up complexity and clutter; thus creates disparities between the user's contextual model and the interface's manifest model.

We found many instances through our contextual inquiries model disparity existed due to Canvas' over complicated interface, and an their excessive amount of redundancy. We also discovered , the participants were forced to use third-party software due to the interface not providing crucial features that'd enhanced the learning experience.

Nevertheless, our team decided to focus on reducing the amount of clutter on the screen, limiting redundancy to a minimum, and incorporate new features that'd enhance the digitalize school environments to assist the user's learning experience.

Understanding

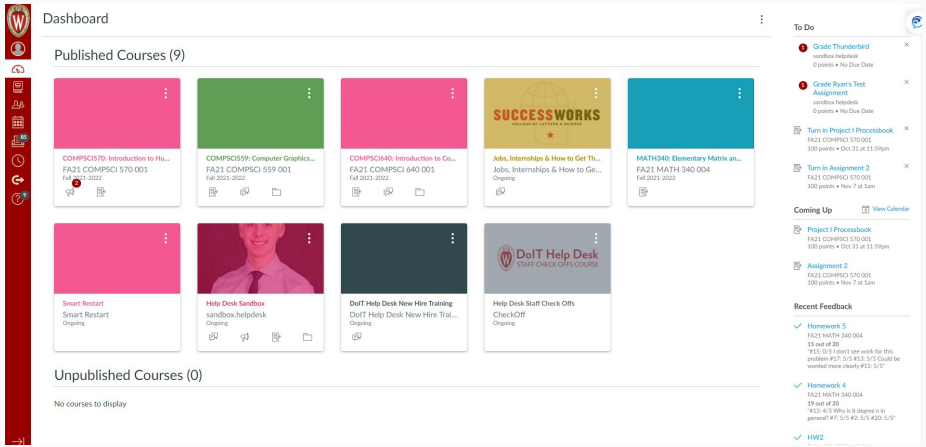
As a team, we conducted 3 separate contextual inquiries using the Canvas interface.

Throughout each contextual inquiry, the team captured multiple instances of participants sharing identical behavior towards specific features on the interface.

Our team noted during these moments, the participants were not proficient at navigating the interface, interacting with its functionality, and organizing their educational experience.

We found many instances of redundancy and an abundance of clutter on the screen to be the root of most conflicts

When participants were navigating the interface, their were many instances when the participant would move their cursor around the interface to discover the link that would take them to their destination.

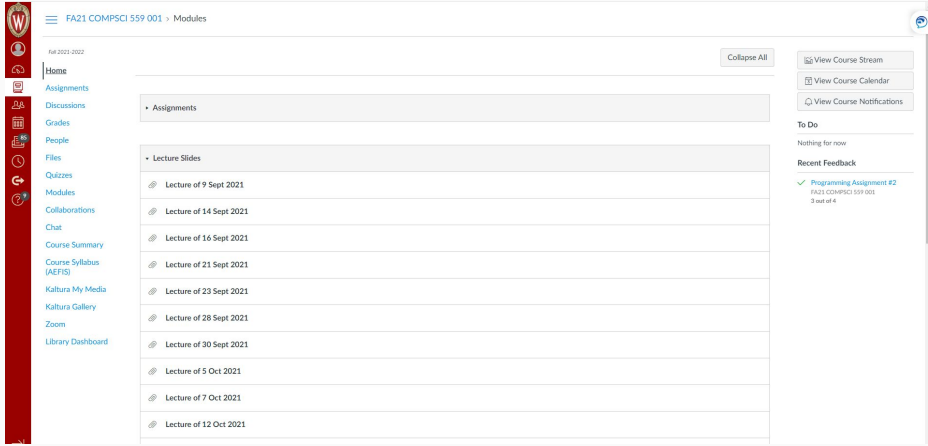


Understanding

We found canvas provided many features which were never used by our participant.These unused buttons and emblems create additional clutter on the interface.

When we observe our participant struggle with Canvas' interface, our team often discovered disparities between Canvas' manifest model and the user's mental model.

Canvas' interface possess extraneous noise that disrupts it's users' from learning the interface instantaneously. It's overpopulated interface doesn't emphasis places of focus for the user.



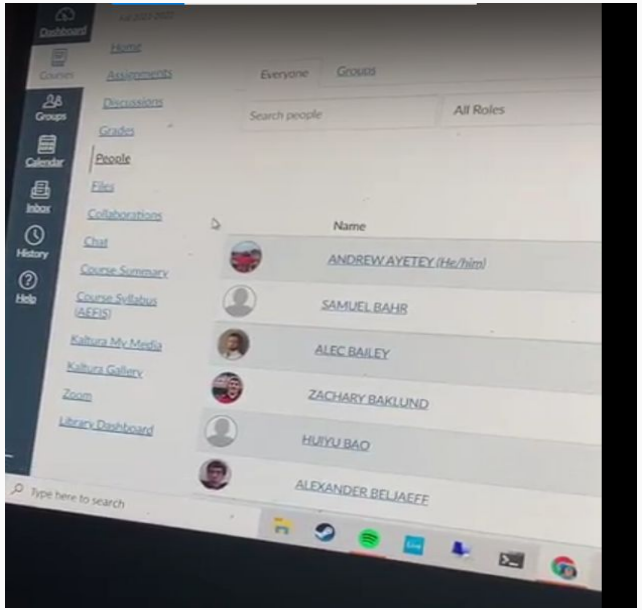
Understanding (Continued)

Additionally, the interface provides limited communication. Participants can find classmates however it's not mandatory to complete a profile.

Canvas does not have a instant chat function to communicate.

Users have to rely on third-party software to contact with classmates out of school.

Instructor only has the ability to send messages to students.

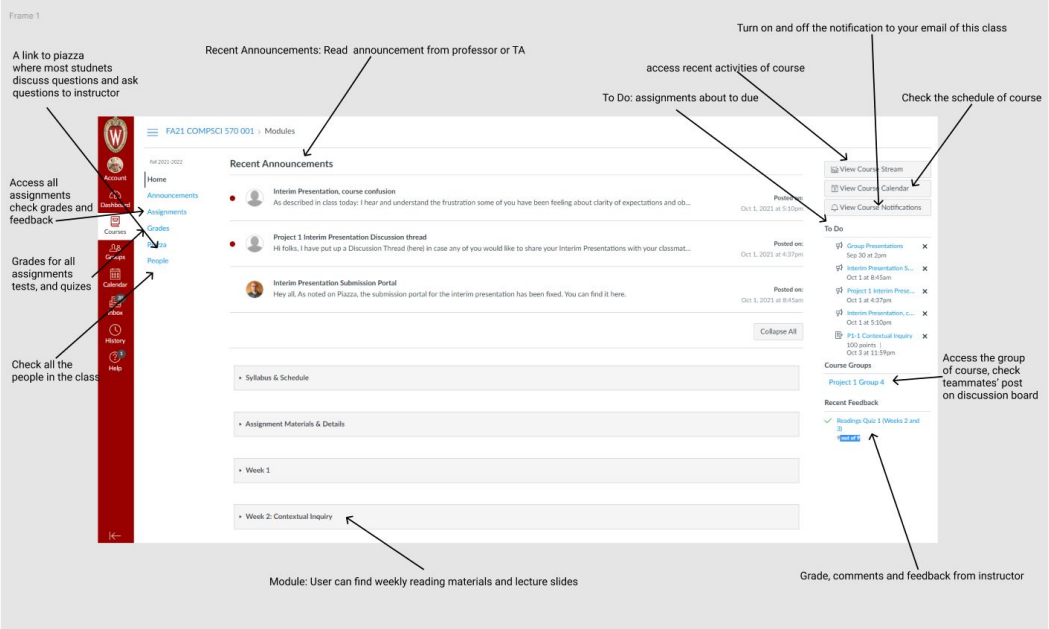


Understanding (Continued)

The to do list on the right side is convenient for users to find their Assignments.

Users can use class module for assignments which makes the assignment button on the left redundant.

History and inbox button are rarely used



IDEATION

At this stage we compiled a lot of our breakdowns as points and considered whether or not it is possible to fix them with the resources available and which breakdowns are prioritized over others.

We primarily focused on:

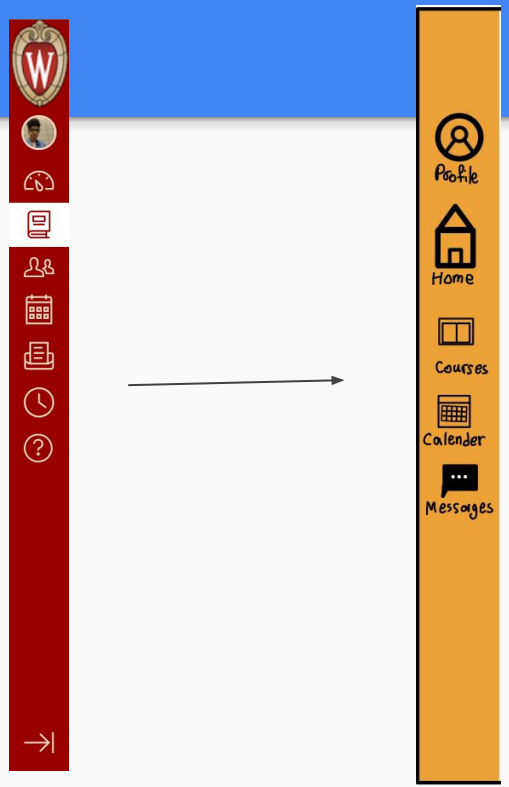
- Reducing Redundancy
- Lessen the Clutter
- Make a new Messaging System
- Make open book quizzes more space proficient

IDEATION

Reducing Redundancy

The first thing we were focused on was removing the buttons that users seemed to not use much from the sidebar to streamline the entire experience. So we removed some of the buttons on the sidebar such as:

- The history button and the help button
  - for not being used
- The courses button
  - Redundancy - it served the same purpose as the dashboard button



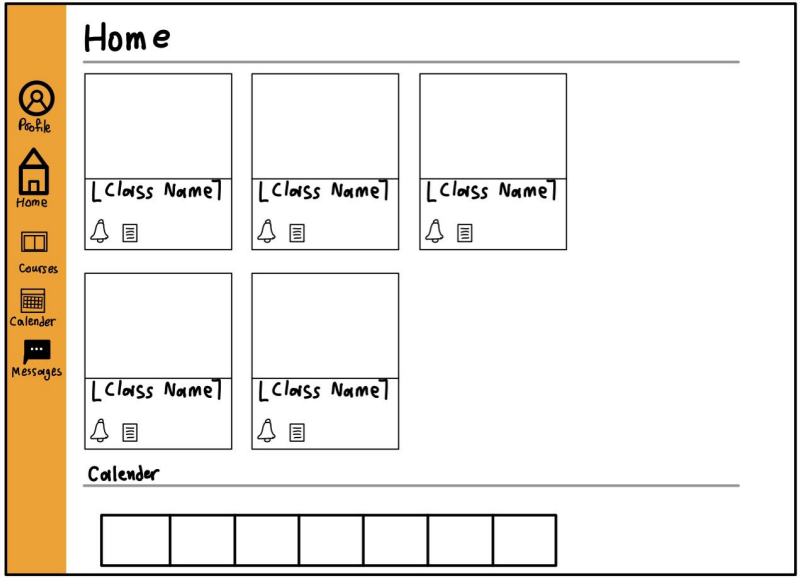
IDEATION

Lessen the Clutter

We wanted to lessen the clutter on the dashboard and make it simpler to switch between different views. We decided to make the following changes:

- A dedicated button to go from the Dashboard (changed to Home later) to the To-Do List

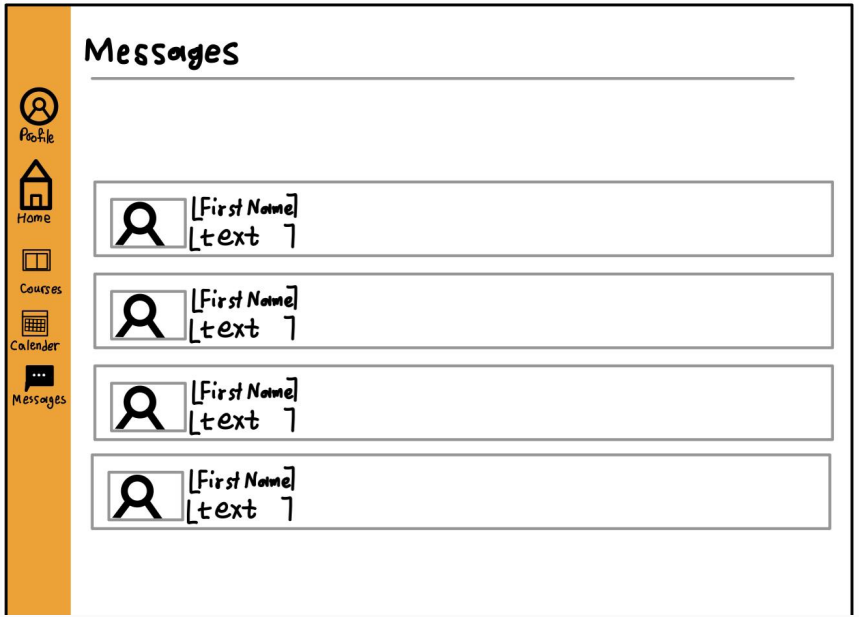
- To move the information displayed on the right side to the bottom as a clear day by day event view



IDEATION

Make a new Messaging System

We tried to make the messaging system more “text style” friendly rather than the original “email-like” system that discouraged users from using it due to its formal nature and instead use third-party apps instead.

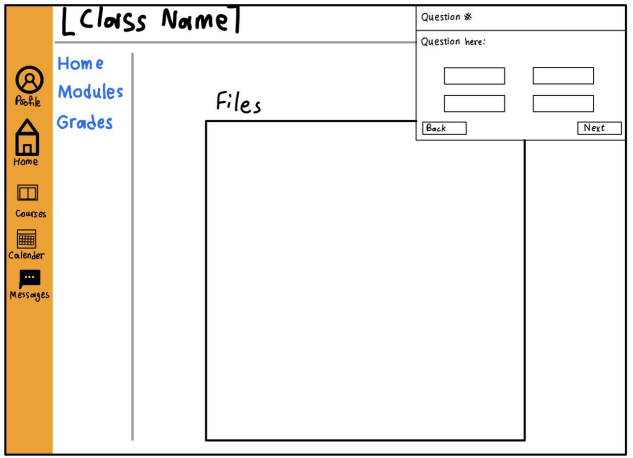


IDEATION

Make open book quizzes more space proficient

Lastly, we wanted to fix the open book quiz problem that resulted in the user having multiple tabs open to do the quiz and look at the files necessary that resulted in cluttering the screen. We decided to implement a feature similar to “picture-in-picture” on iOS devices that would move the quiz into a small screen on the page that moves with the user to the files they need to complete the quiz. We also wanted this feature to have an exit option that will keep the progress made saved.

For example, if the user used the feature and answered 3 questions and then exited the feature and returned to the normal quiz they’d be at the fourth question were at the time of exiting the feature.



PROTOTYPING

https://www.figma.com/file/24xWRlWGlrAbzUKJbibH8c/Prototype

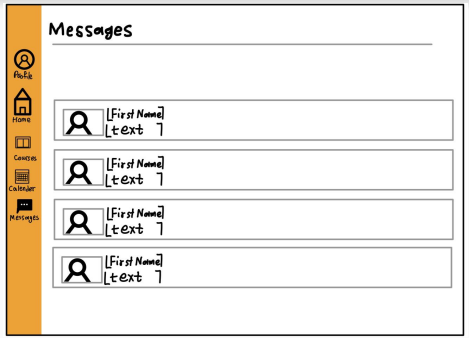
When designing our prototype we followed 5 steps which are:

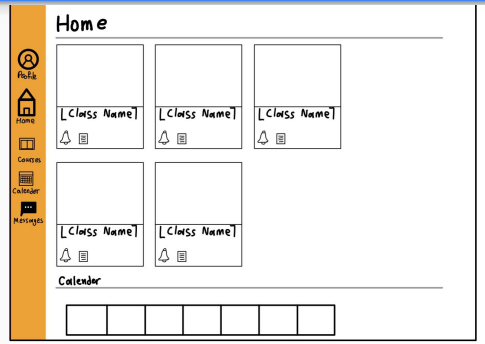
- Listing out the feature and the goal of the prototype
- Making quick sketches of the standard elements (such as the sidebar and naming each element) and the main desktop frames the user will interact with
- Building the prototype and implementing our design
- Gathering user evaluation data on our prototype
- Implementing edits on our prototype based on the user feedback.

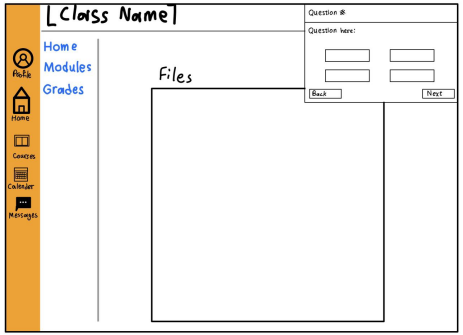
PROTOTYPING

Step 1: Listing out the feature and the goal of the prototype

Was covered in the Ideation stage where we decided what features we wanted to implement and what elements we wanted to redesign.



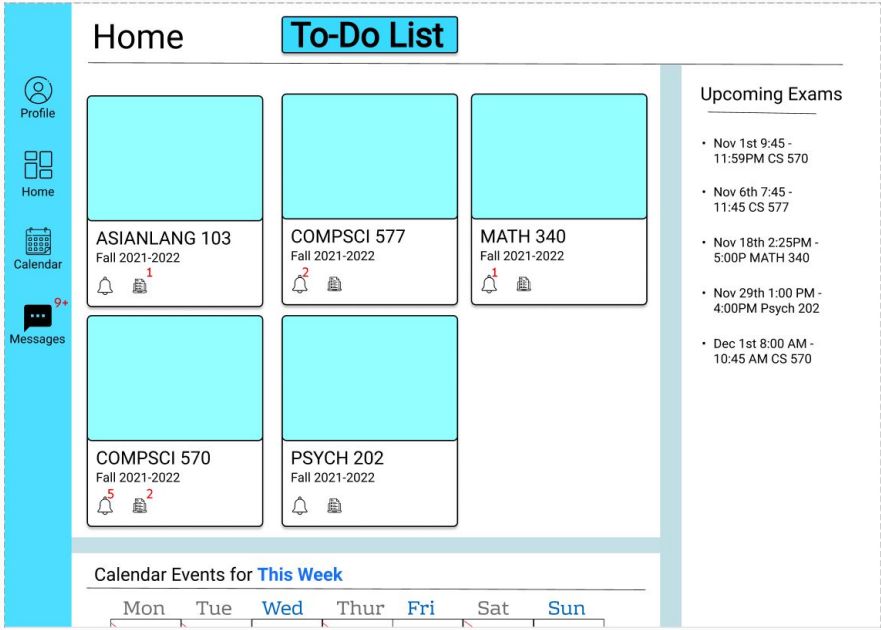




PROTOTYPING

Step 2: Making quick sketches of the standard elements

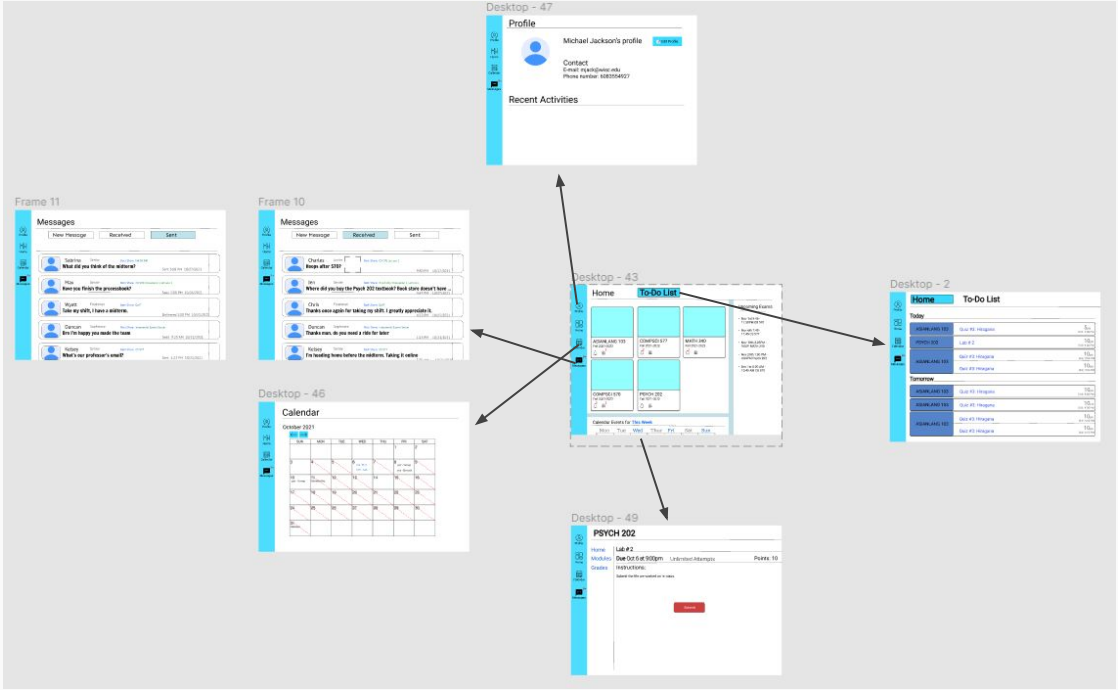
We started designing the new sidebar, dashboard, To-Do List, messages, and the main screens the user might be in such as the quiz start screen and the picture-in-picture view of the quiz. Many of the redesign ideas were stated in the ideation stage such as making a new To-Do List button.



PROTOTYPING

Step 3: Building the prototype and implementing our design

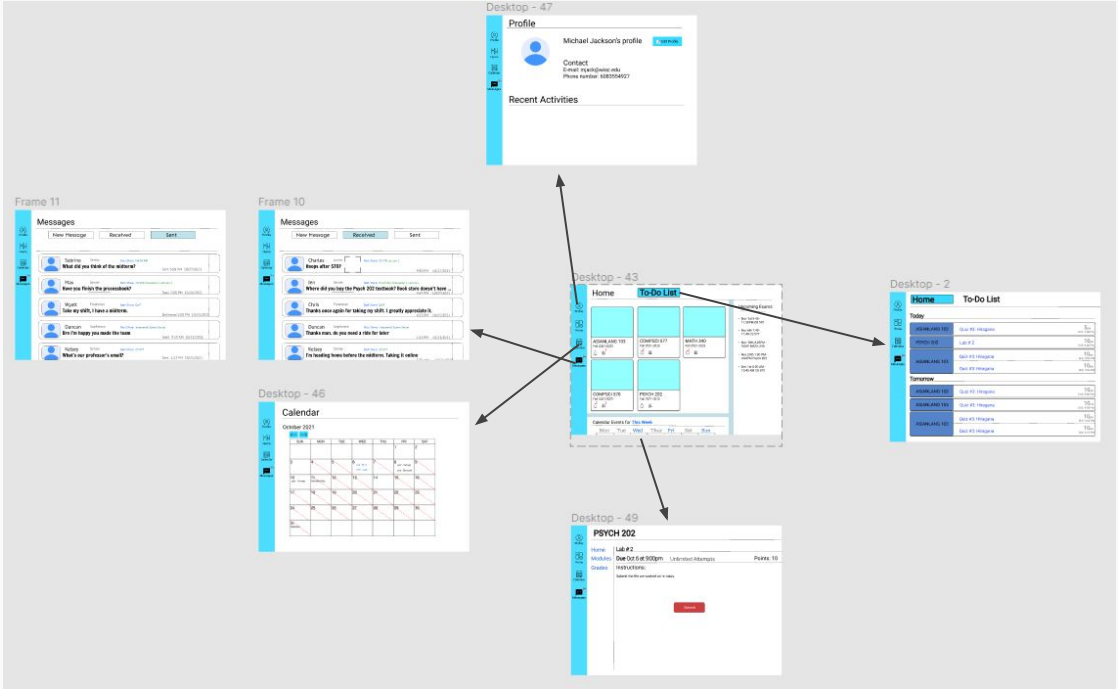
We started building the prototype and implementing our design ideas. We first started with the dashboard and the sidebar as our hub Frame.



PROTOTYPING

Step 3: Building the prototype and implementing our design

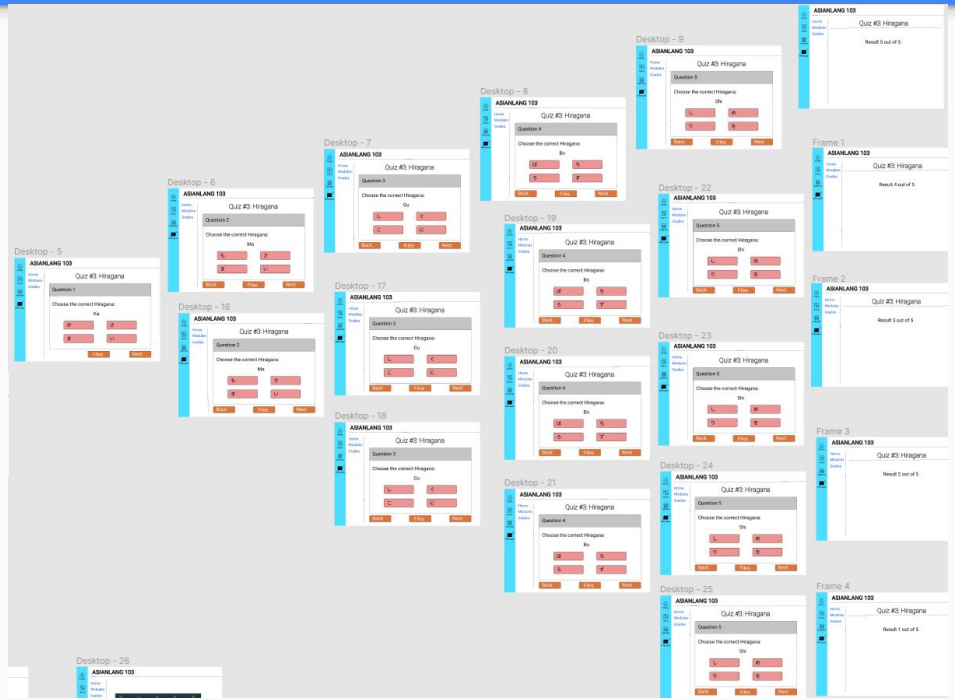
After that we made all the frames that are directly connected to it such as the classes, sidebar buttons, the assignment in the weekly calendar view, and the To-Do List button. A submission assignment was also made to simulate submitting a file.



PROTOTYPING

Step 3: Building the prototype and implementing our design

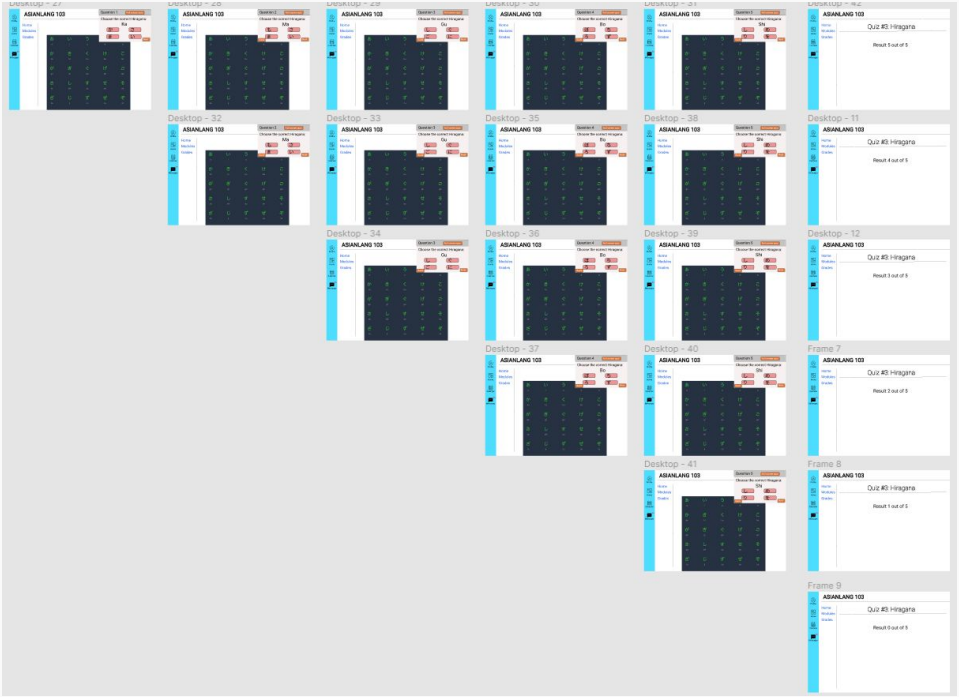
After the main frames were done we started working on implementing the picture-in-picture feature. First we made a normal view with a 5 question multiple choice quiz that would take the user to grade they earned based on the answers they chose.



PROTOTYPING

Step 3: Building the prototype and implementing our design

Next we implemented a button that would switch the view from the normal view to the picture-in-picture view such that all the progress they have made before is still saved to still get an accurate grade at the end. A button that would switch back to the normal view was also implemented.



PROTOTYPING

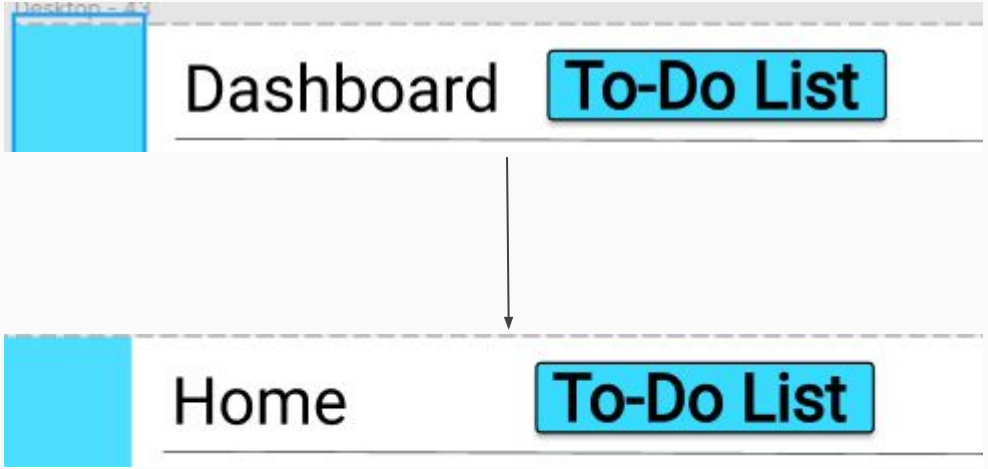
Step 4: Gathering user evaluation data on our prototype

We had users test out our prototype to give feedback on possible edits to our design and so we can observe potential breakdowns in the design we had. We will go into more detail about the user evaluation in the next stage and we'll only focus on the edits we made based on these suggestions.

PROTOTYPING

Step 4: Gathering user evaluation data on our prototype

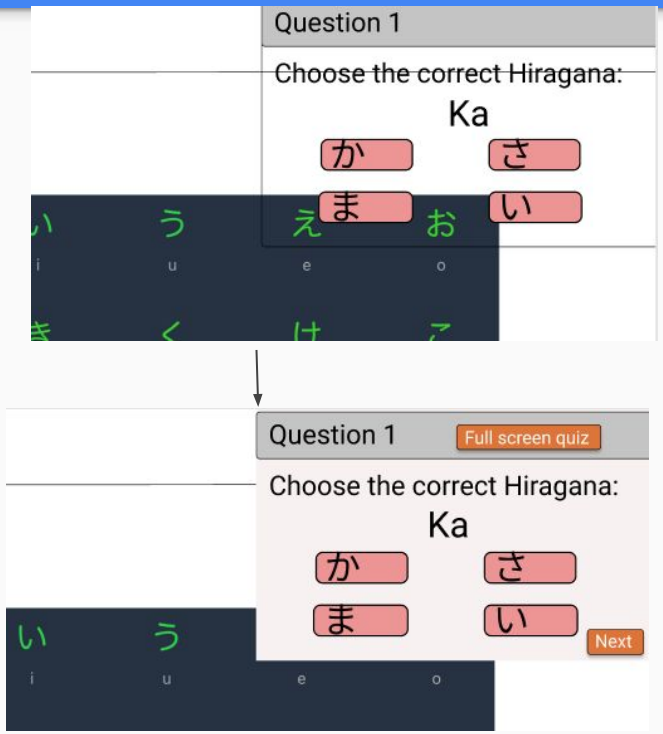
We were told the name of the Dashboard should be changed to Home as that name made more sense to what function it provides according to our testers.



PROTOTYPING

Step 4: Gathering user evaluation data on our prototype

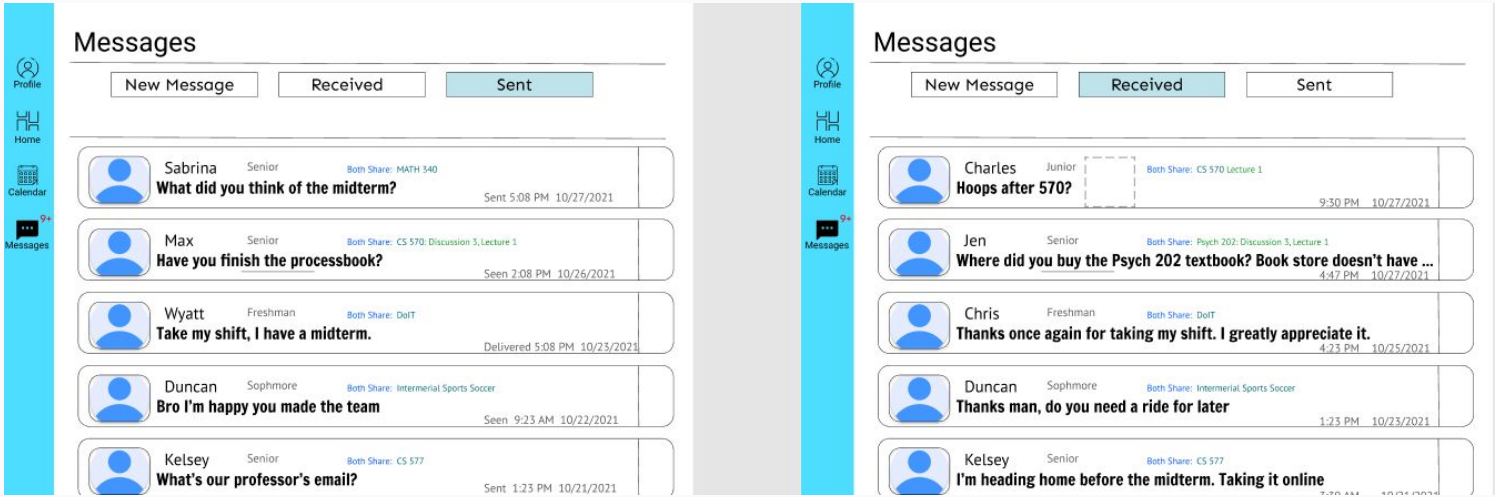
We were also told the quiz background in the picture-in-picture view should be turned into a solid light color rather than transparent such that the files were no longer visible behind the quiz in a distracting fashion.



PROTOTYPING

Step 4: Gathering user evaluation data on our prototype

And we should filter the messages to make it easier to organize them.



PROTOTYPING

Step 5: Implementing edits on our prototype based on the user feedback

We implemented all the feedback we got and edited our prototype accordingly. We made the quiz background a solid light color, put in filters for the messages sent, received, and new, and changed the name of the Dashboard to Home.

EVALUATION

Step 1:

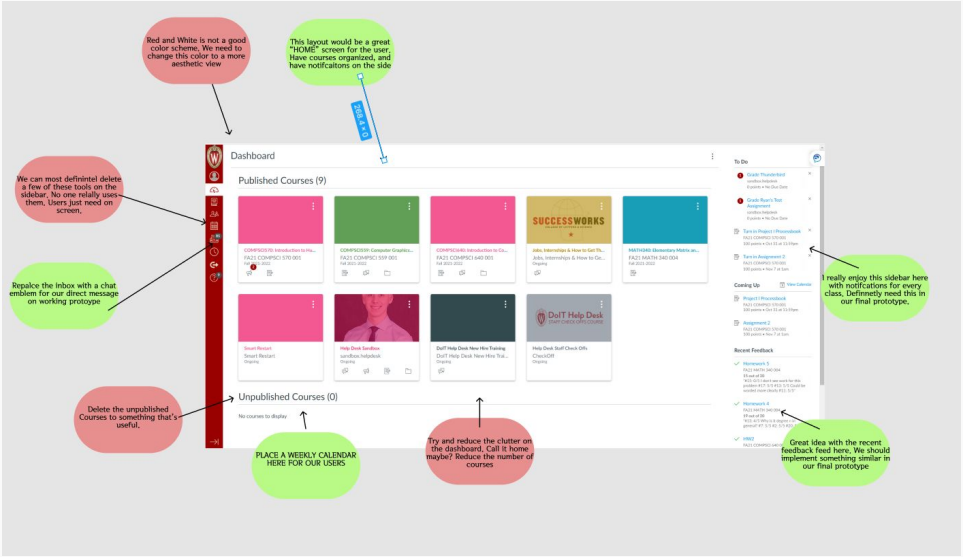
Learning the negative attributes of previous interface.

As a team, we evaluated the functionality and aesthetic of the Canvas' user interface.

We fetched multiple screens from the previous interface, and commented what we liked and disliked.

After this exercise, our team focused primarily on the red bubbles and brainstorm solutions to improve the functionality of the interface.

We jotted down our potential solutions and incorporated the changes along with the green bubbles into our first prototype.



EVALUATION

Step 2:

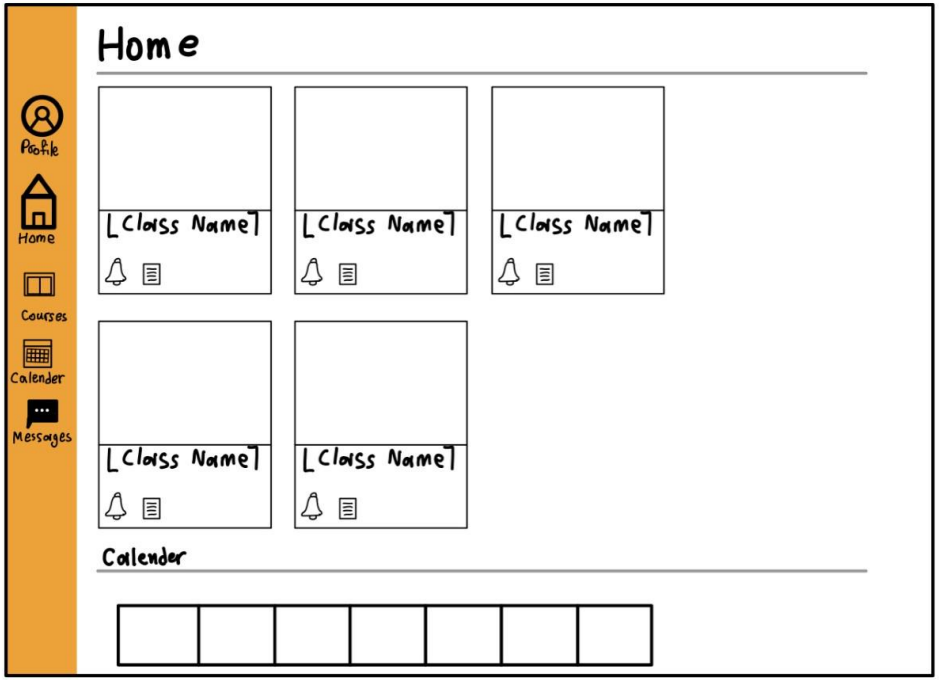
Create prototype

This was the result of the first exercise.

We enjoyed the aesthetics of our initial interface, however our team wanted to incorporate more functionality.

Our team primarily focused on the interactivity of the interface. Tried to condense the prototype and attempted to stitch a summarize verision of each page together onto a single page called Home.

Designed Home to possess large amounts of space. Forces the user to focus on specific entities. As a team, we decided we don't want extraneous noise for our user's to look at.



EVALUATION

Step 3:

Think-Aloud-Protocol

We wanted to test our prototype and conducted 3 separate TAP for a final evaluation of our prototype.

From this exercise, our team gained valuable insight about our interface from the user's perspective.

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We've learned the participants are able to navigate seamlessly through our prototype. In addition, we listened to the participants feedback. One participant claimed the courses tool on the side bar was redundant. Our team surveyed this claim and removed the tool as a result.

	Fetch a previous message from any classmate	Fetch the user's psychology lab	View upcoming assignments within the month	Time
P1	**Pass**	**Pass**	**Pass**	2:04
P2	**Pass**	**Pass**	**Pass**	1:10
P3	**Pass**	**Pass**	**Pass**	2:14

EVALUATION

Step 4:

Listen, Revise, Reconstruct

Furthermore, we've learned the color scheme of our prototype wasn't the most appeasing. One Participant recommended blue and white.

Participants also requested more indicators for which page they are currently on. We noticed our current prototype didn't possess any indicators

Participants wanted to see the number of notifications for messages, courses, homework assignments

	Fetch a previous message from any classmate	Fetch the user's psychology lab	View upcoming assignments within the month	Time
P1	**Pass**	**Pass**	**Pass**	2:04
P2	**Pass**	**Pass**	**Pass**	1:10
P3	**Pass**	**Pass**	**Pass**	2:14

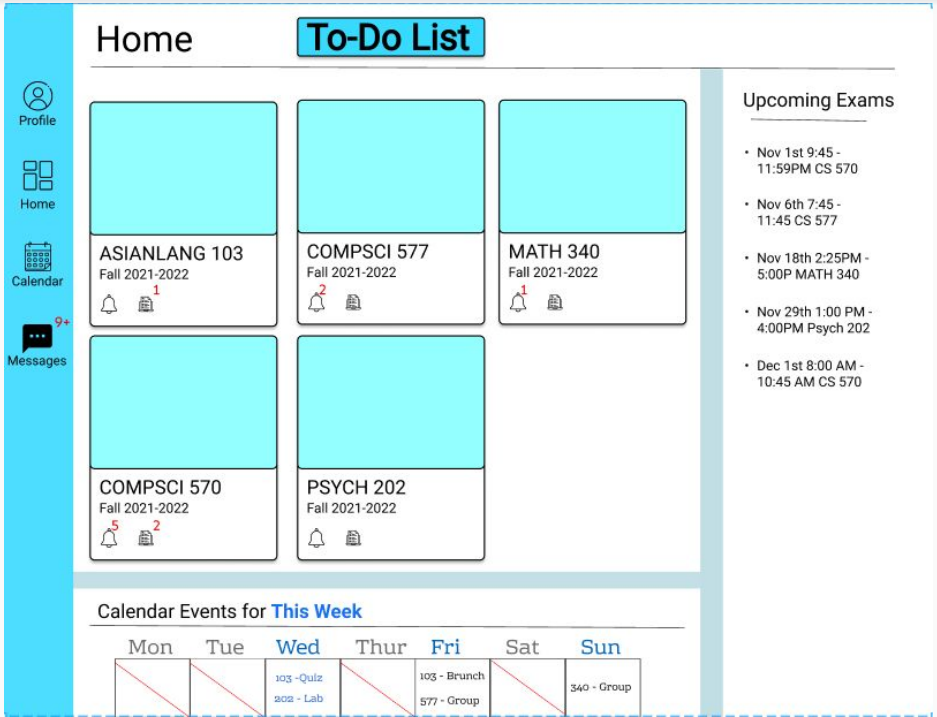
FINAL SOLUTION

Home Screen

Every piece of user feedback along our user evaluations was considered and ultimately assisted our team to construct our final prototype.

As you can see, our team changed the color scheme to blue and white, we've placed notifications on multiple widgets, reduced the clutter, placed page indicators, and have put redundancy to a minimum.

Our Home screen consists of important functionalities to provide students better organization and quick navigation.



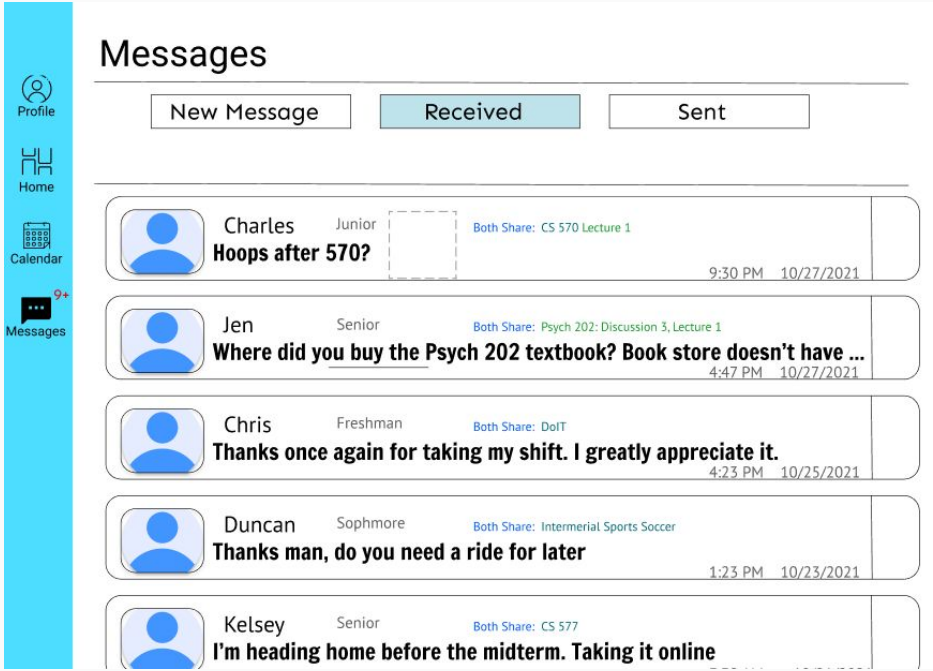
FINAL SOLUTION

Messages Screen

We designed the instant messaging tool to be fully comprehensible for our user.

As a team, we decided to highlight active modes on the top menu bar to give a visual indicator of which function the user is accessing.

Visual indicators allow the user to conceptualization our interface quicker and provide insight about functionalities the user might use in the future.



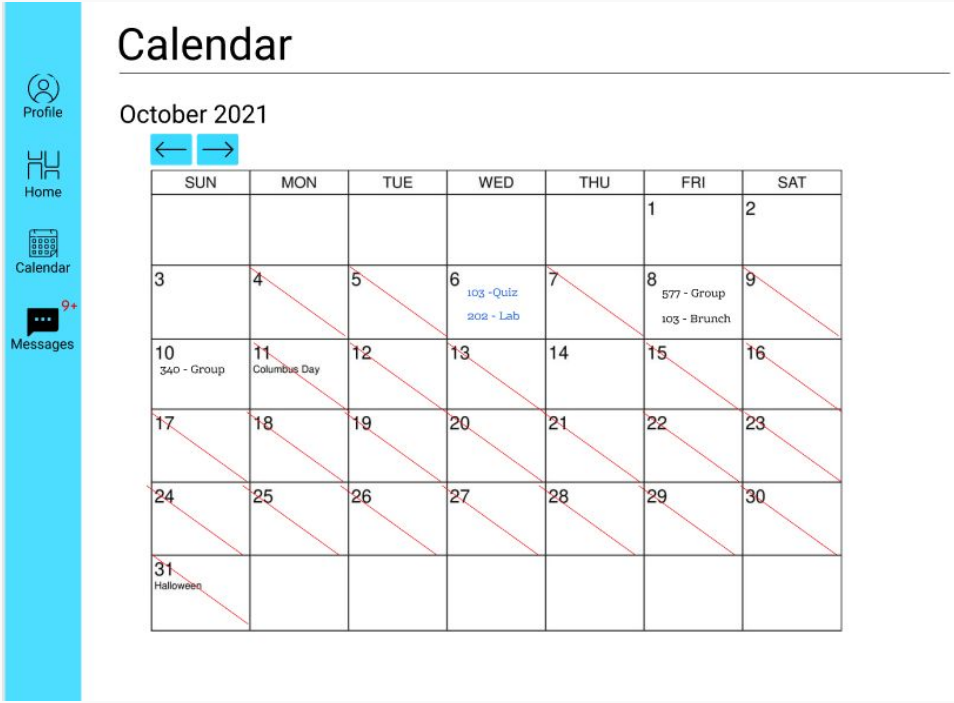
FINAL SOLUTION

Calendar Screen

Calendar was an additional feature our team took our time on and edited.

We decided to provide more visual representations in order to have our user's eyes be redirected to important aspects of the screen. This would allow our user to focus on specific/desired areas quickly, and reduces extraneous noise.

Additionally, we guide our users through visual representation to complete tasks efficiently, without being lost or confused with our prototype.



FINAL SOLUTION

Final Note

Our team is satisfied with our final prototype. We are pleased with the minimal amount of redundancy, the large open spaces which adds sharp contrast, and the all-in-one Home screen which stitches together important features from our application.

We listened to our participants' comments made during their thinking-aloud-protocol exercise and considered the valuable insight they provided. The TAP exercises allowed the team to perceive the user's experience, and make changes accordingly.

Ultimately, our team reached our overall goal to set the redundancy to a minimum, create a more aesthetic interface, and construct an all-in-one screen to provide better organization for the user.