

WT | CANVAS REDESIGN PROCESS BOOK

Table of Contents

3	PROBLEM STATEMENT
4	SYSTEM MAP
5	UI PROCESS OVERVIEW
6	INVESTIGATION
12	IDEATION
18	PROTOTYPING/EVALUATION
31	PRODUCTION
39	SUMMARY OF UI EXPLORATION
40	MOVING FORWARD
41	REFERENCES
42	APPENDIX

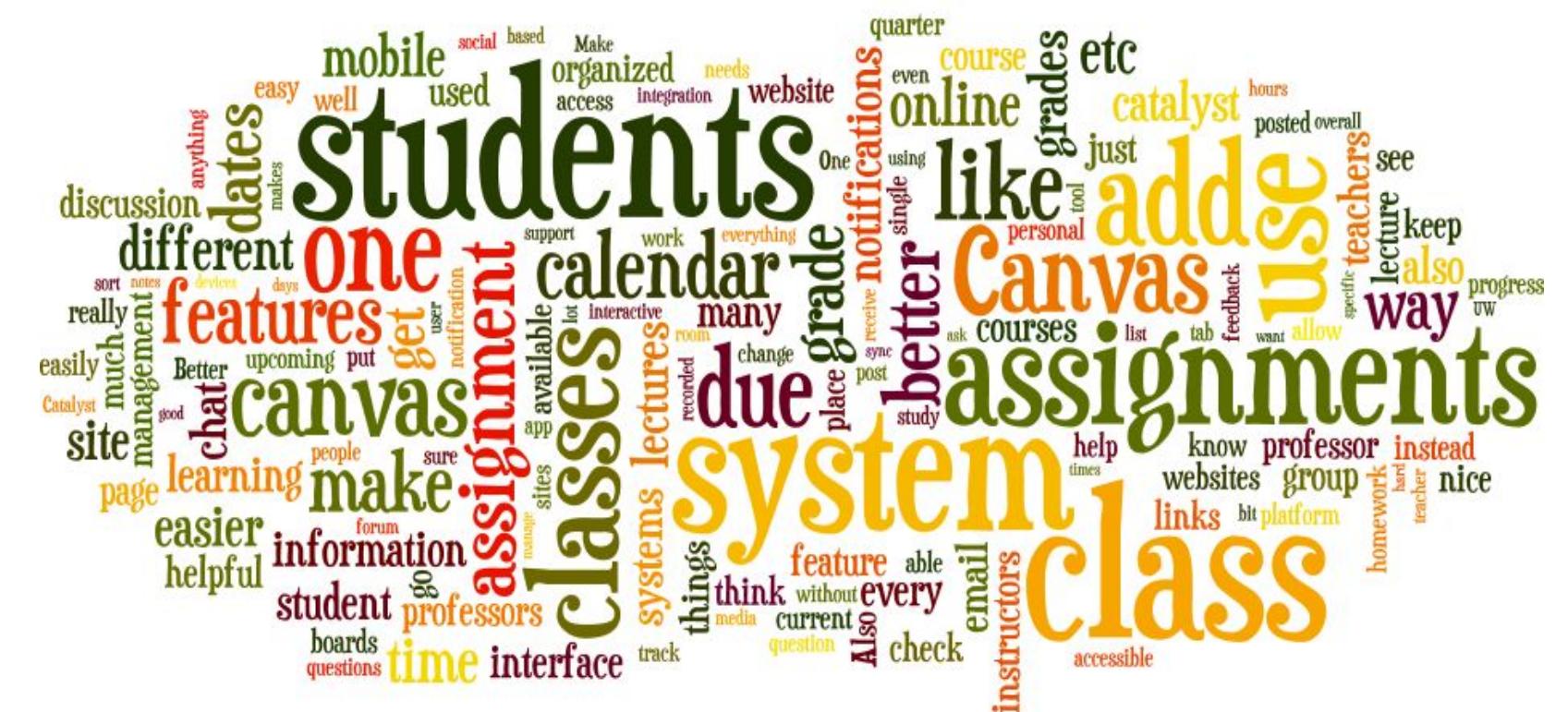
Problem Statement

Introduction

Canvas is a learning management system (LMS) used by the University of Washington (UW) for professors to share course material and grade assignments. For students it provides a platform for viewing and submitting assignments, as well as collaboration between students, through discussion posts, chat, etc.

Goals

The goal of this redesign is to investigate current issues students have with the site, and then ideate potential solutions, which will then be prototyped and tested for feedback. After an iteration of testing, a high fidelity prototype will be created.

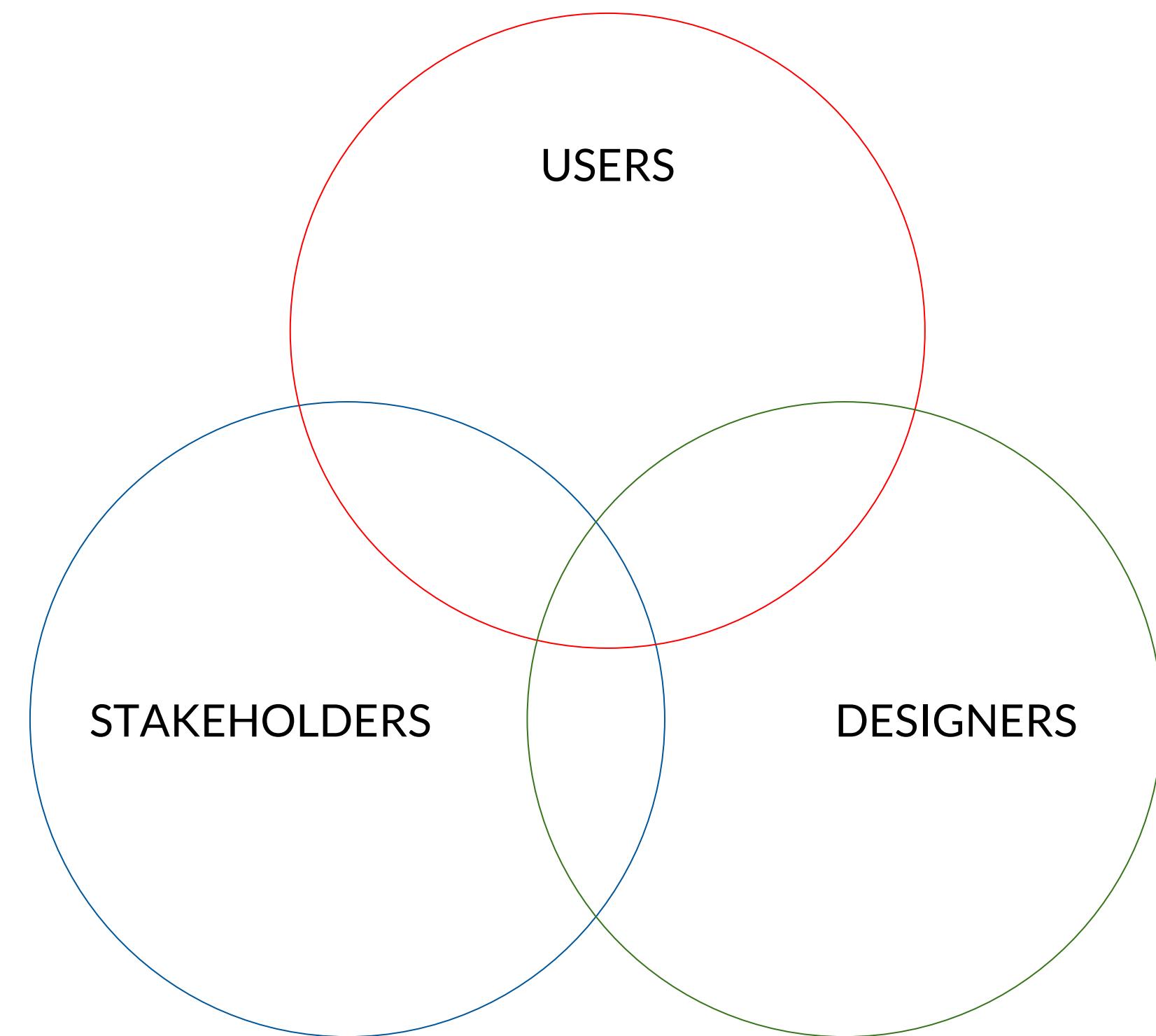


System Map

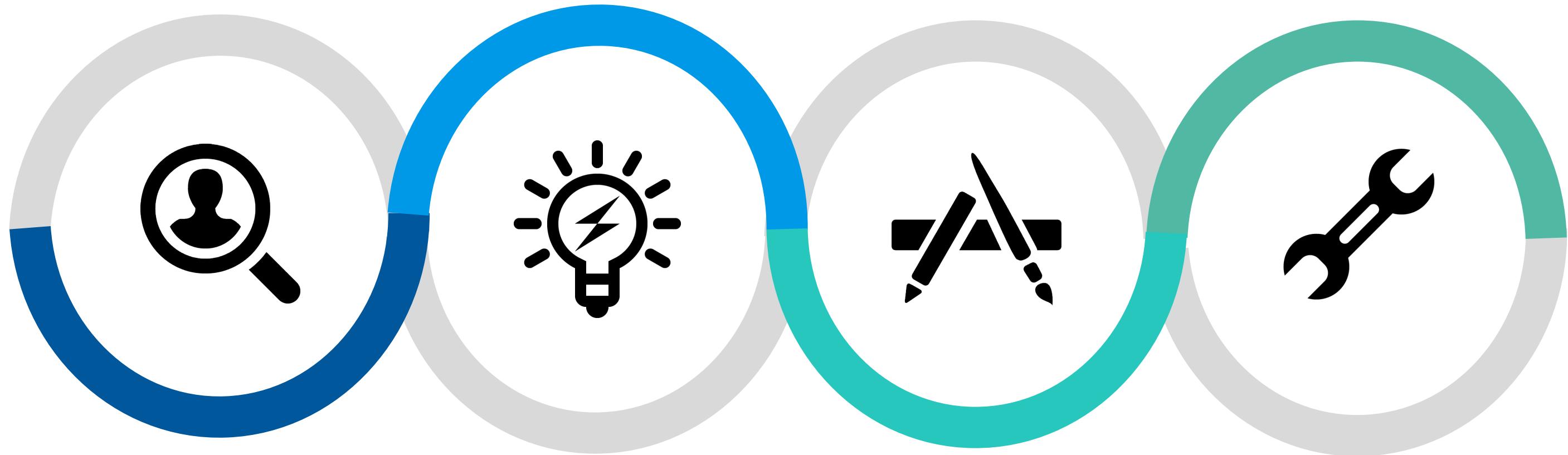
Users: The general user of Canvas are students who want to have convenient access to their assignments, readings, and discussions.

Stakeholders: The stakeholders are investors in UW who want a LMS that is easily scalable, with low licensing and maintenance costs

Designers: The designers are professors who are tasked with uploading and managing course content on Canvas, as well as UW IT who develop plugins when necessary



UI Process Overview



Investigation

- SME Interview
- Semi Structured Interview
- Competitive Analysis
- User Task Matrix

Ideation

- Paper Sketch of UI
- Moodboard
- Storyboard
- Journey Map

Prototyping/Evaluation

- Heuristic Analysis
- Site Map
- User Flow
- Wireframe

Production

- High Fidelity Mockups



Stage 1: Investigation

Understanding the Problem Space

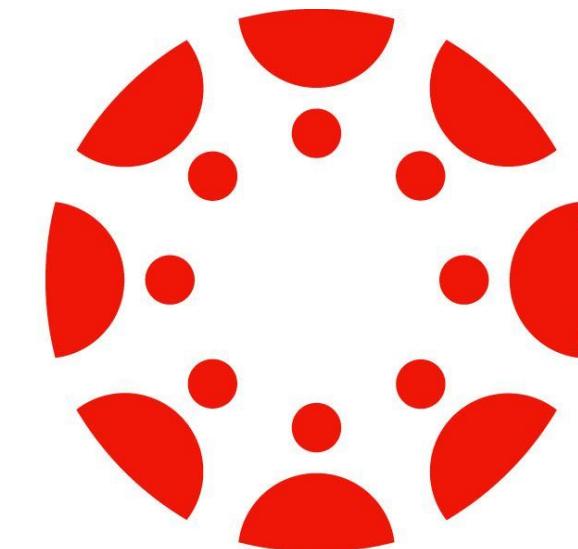
To investigate user's issues with Canvas, several research methods were conducted. This consisted of both primary and secondary research to understand the current landscape for LMS tools. From the investigation, I decided to focus on making the UI more customizable and easier to use.

Primary Research

- SME Interview (focused on 1st challenge, lack of customization)
- Semi-Structured Interview (pulled out quotes related to UI or information architecture)

Secondary Research

- Competitive Analysis** (Canvas scored lowest in Ease of Use, and Customizable UI)
- User Task Matrix (Canvas is most used on the Desktop across all grades)



SME Interview

Tyler Fox
Instructional Technologist



Challenges:

Lack of Customization

Instructors are unable to edit the UI on Canvas. This is so students' can transition easily to a new course, since the format is the same.

However, this omits the teacher's role in constructing an awesome learning experience, even if not all faculty is great with tech.

Parity across Devices

There is a lack of uniformity across the different platforms of Canvas, so it takes longer to learn.

This also makes it harder to identify the limitations of different platforms, such as the tablet, which provides instructors with the same view as students.

Slack Functionality

Although Canvas has communication functionality built in, its discussion board lacks the visuals and ease of use that a Slack channel provides.

Want a real time chat platform, but don't always want synchronous communication.

Semi-Structured Interview

3 interviews were conducted with students from UW from all grades (Undergrad, Masters, PHD). The students came from different backgrounds including Computational Finance, Biology, and Information Science. Although Canvas use differed ranging from 2-3 times a week to almost daily, all students reported that they primarily used Canvas on their computer.

1st Interview

- Likes that Canvas has upcoming assignment deadlines on the right panel, which can be clicked to get started on the assignment
- Dislikes that datasets for assignments are located in Files instead of Assignments
- Suggests including submenu for left-hand navigation panel, to reduce clicks necessary to access assignment and its required files

2nd Interview

- Likes that Canvas discussions can be edited in case errors were made, since the whole class can see discussion posts
- Dislikes that the course homepage doesn't display announcements in right hand panel
- Suggests adding flat/reduced view of discussion thread instead of having to scroll through all the posts

3rd Interview

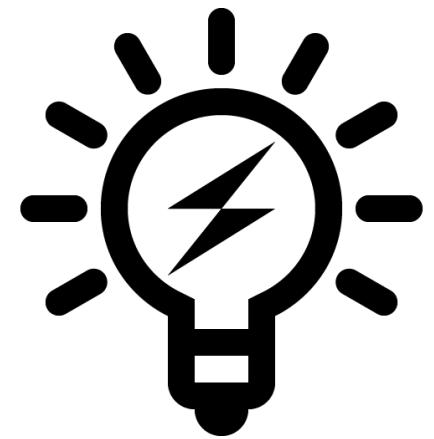
- Likes that readings can be previewed within the browser using box
- Finds the announcement and discussion pages to be redundant in terms of functionality
- Suggests consolidating the information architecture of the page, such as merging Discussions+Announcements, Assignments+Grade, and Chat+People

Competitive Analysis

	CANVAS	BLACKBOARD	CATALYST	SLACK
A/SYNCHRONOUS COMMUNICATION	3	3	2	4
EASE OF USE	3	3	3	4
CUSTOMIZABLE UI	2	3	4	3
AVAILABILITY ON ALL PLATFORMS	4	3	3	4
COLLABORATIVE TOOLS AVAILABLE	5	4	3	2
TOTAL	17	16	15	17

User Task Matrix

	FRESHMAN	UPPERCLASS	MASTERS	PHD
DESKTOP	High	High	High	High
TABLET	Med	Med	Med	Med
MOBILE	Low	Low	Low	Low
VIEW/SUBMIT ASSIGNMENTS	High	Med	Med	Med
VIEW CALENDAR FOR DEADLINES	Med	Med	Med	Med
CHECK ANNOUNCEMENTS	Med	Med	Low	Low
CHECK FOR GRADES	High	Med	Med	Med
VIEW/SUBMIT ASSIGNMENTS	Med	Low	Med	Low
VIEW CALENDAR FOR DEADLINES	Med	Low	Med	Low
CHECK ANNOUNCEMENTS	Low	Low	Low	Low
CHECK FOR GRADES	Low	Low	Low	Low
VIEW/SUBMIT ASSIGNMENTS	Low	Low	Low	Low
VIEW CALENDAR FOR DEADLINES	Low	Low	Low	Low
CHECK ANNOUNCEMENTS	High	Med	High	Med
CHECK FOR GRADES	High	Med	High	Med



Stage 2: Ideation

Generating Concepts

To generate potential concepts for Canvas, several ideation methods were conducted. This ranged from low fidelity sketches to convey ideas, to moodboards and journey maps in order to understand the user's experience. The focus of the concepts was making the UI more intuitive.

Low Fidelity Ideation

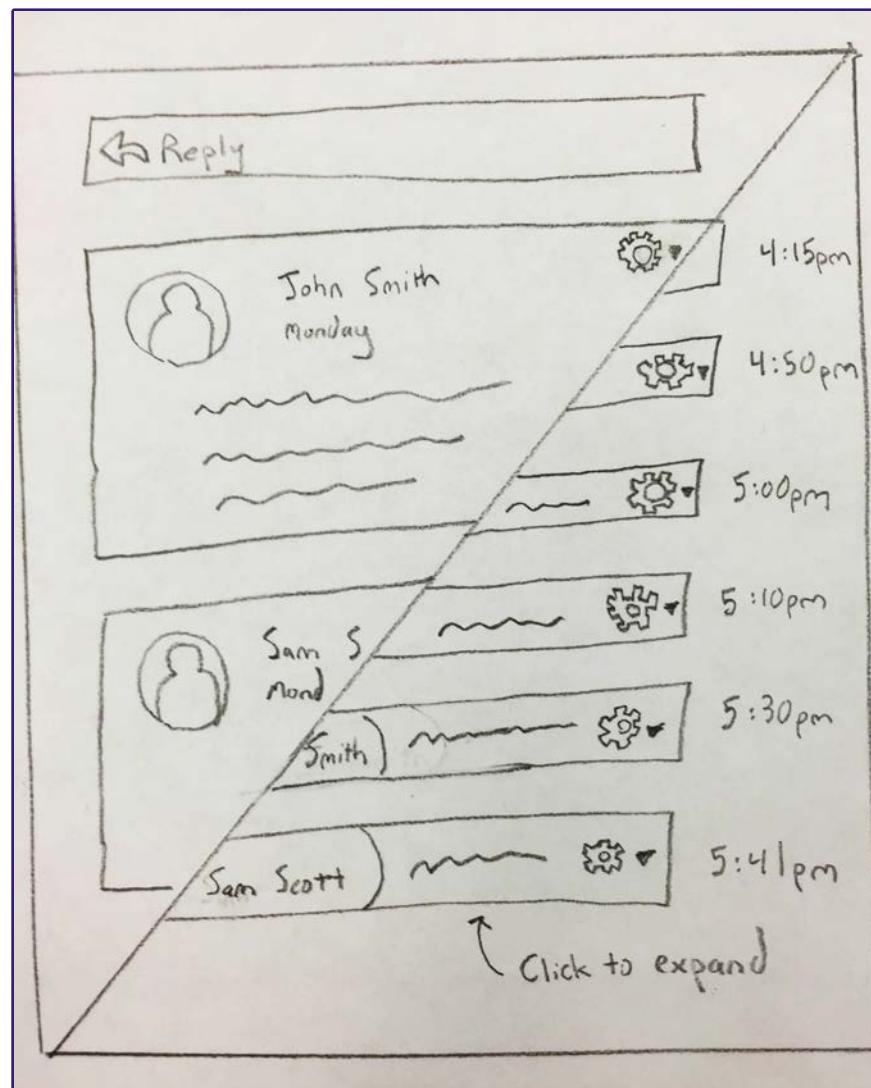
- Paper Sketch (generated 3 potential UI redesigns on paper)
- Storyboard (mapped out a potential concept that involves switching between desktop and tablet)

Mapping User's Experience

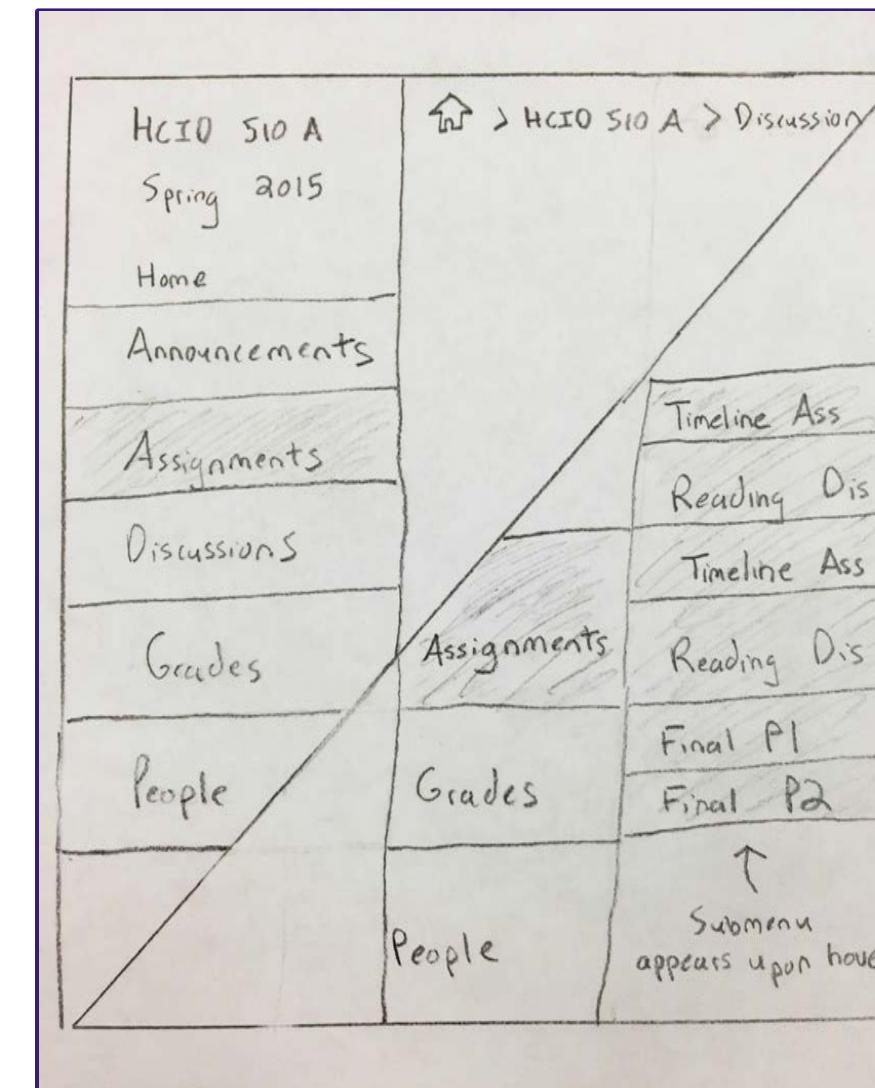
- Moodboard (created moodboard to understand the emotion that redesign should evoke)
- Journey Map (mapped out student's experience with Canvas assignment submission process)



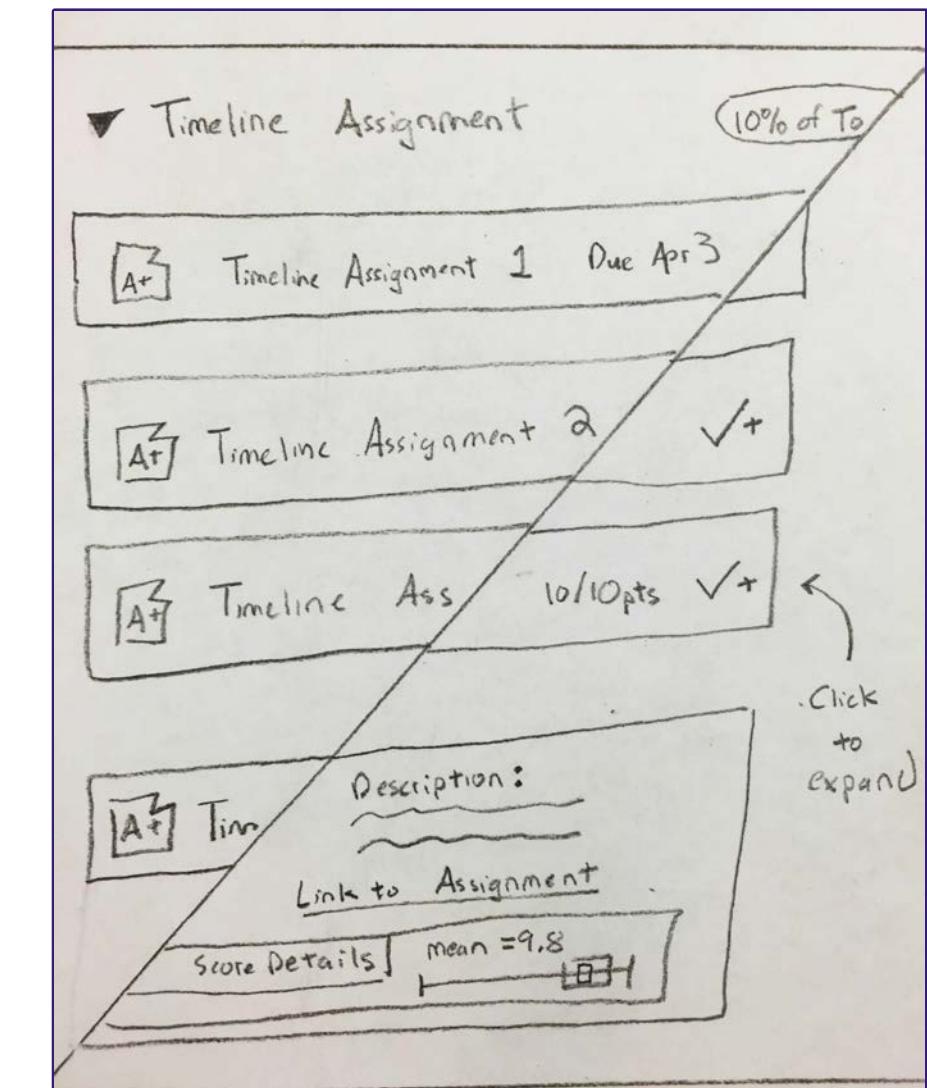
Paper Sketch of UI



Redesign of the discussion thread page. Replacing the original threaded design with flat abbreviated view.

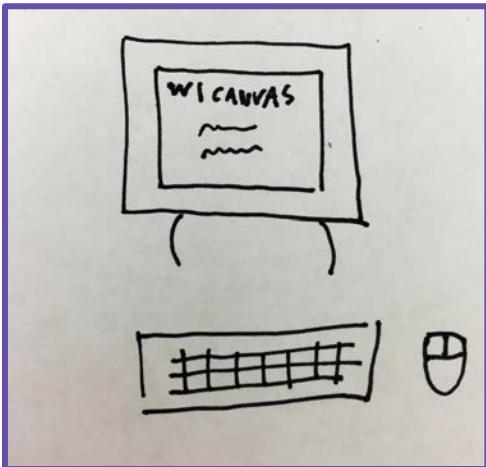


Redesign of the left hand navigation panel. Creation of a submenu for more convenient navigation.

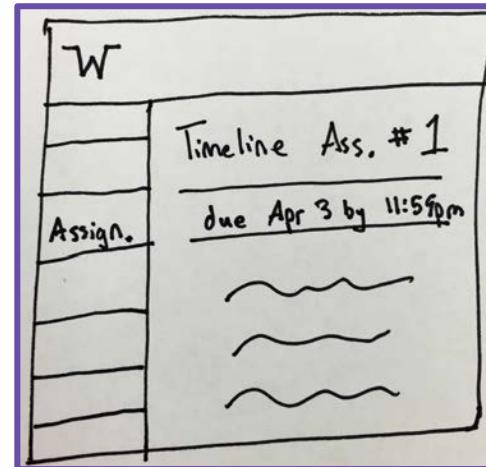


Redesign of the Assignment and Grades page. Merging the two categories into one section.

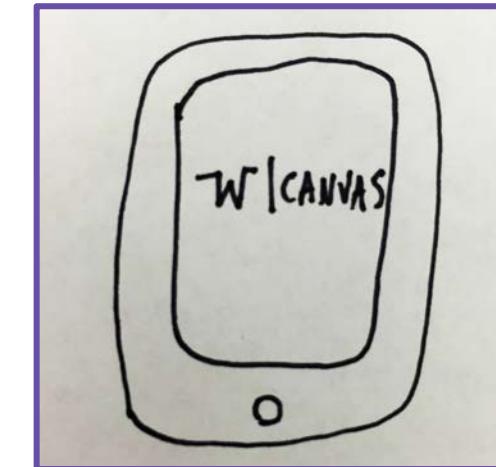
Storyboard



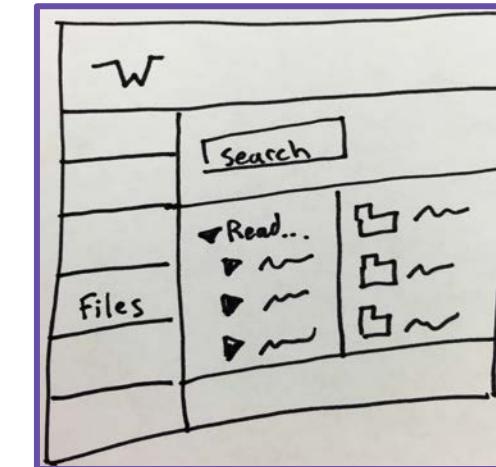
Student accesses
Canvas on
computer



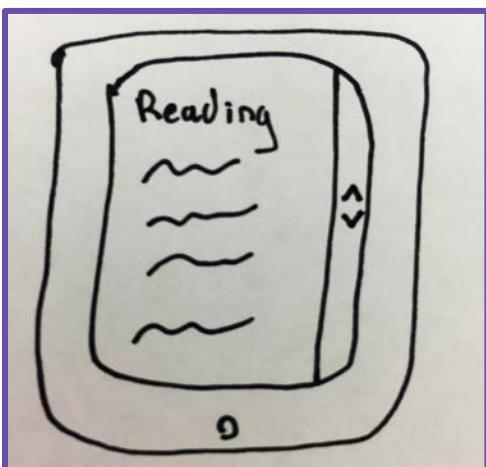
Checks latest
assignment due



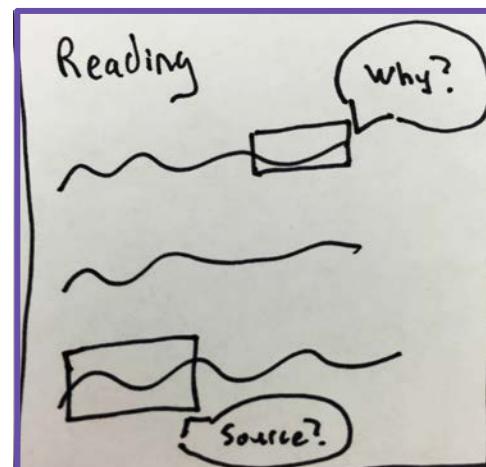
Opens tablet to
view readings



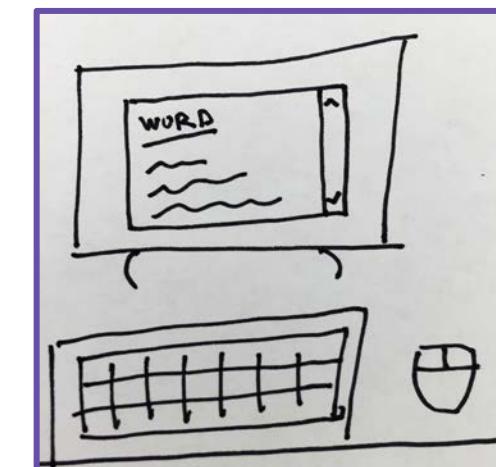
Navigates to Files
section for readings



Opens reading on
tablet



Adds any comments
if necessary while
reading



Begins typing
assignment back on
computer

Moodboard



Journey Map

 TIMELINE OF JOURNEY STAGES	CHECK ANNOUNCEMENT	VIEW ASSIGNMENT	COMPLETE ASSIGNMENT	SUBMIT ASSIGNMENT	REVIEW GRADE	RESUBMIT FOR REGRADE
 TOUCHPOINTS Who or what are they interacting with?	<ul style="list-style-type: none"> Mobile to view email notification Computer to view announcement Peers/Students in class 	<ul style="list-style-type: none"> Computer to view assignment Tablet to view readings Peers/Students in class Instructor for questions 	<ul style="list-style-type: none"> Computer to complete assignment Collaboration tool such as Facebook/Slack to discuss assignment Online/Offline resources 	<ul style="list-style-type: none"> Computer to submit assignment Mobile if posting to discussion thread Tablet if available 	<ul style="list-style-type: none"> Mobile to view email notification Computer or mobile to view grade Grading Rubric for instructor feedback 	<ul style="list-style-type: none"> Computer to resubmit assignment on Canvas Email to instructor confirming regrade request Mobile to check on re-grade progress
 CUSTOMER'S NEED What is their top need? What needs are not being met?	<ul style="list-style-type: none"> Keeping up to date with HW deadlines Keeping track of latest changes to assignment 	<ul style="list-style-type: none"> Access to HW and any relevant files Assignment deadline and constraints Required readings and methods 	<ul style="list-style-type: none"> Making sure assignment meets all the requirements Clarification of any parts of the assignment that are confusing Working collaboratively if group assignment 	<ul style="list-style-type: none"> Submitting assignment in correct format Submitting assignment on time Submitting all the required modules 	<ul style="list-style-type: none"> Understanding instructor's feedback Clear delineation of point deductions Class grade distribution for assignment 	<ul style="list-style-type: none"> Clear directions for submitting regrade Peer feedback regarding assignment issues Communication channel with instructor
 THOUGHTS & FEELINGS What are their innermost thoughts at this precise moment?	<ul style="list-style-type: none"> Nervous Anxiety/Dread 	<ul style="list-style-type: none"> Frustration Anxiety/Dread Sad 	<ul style="list-style-type: none"> Tired Frustration Stress Regret 	<ul style="list-style-type: none"> Happiness Impatience Fatigue 	<ul style="list-style-type: none"> Nervous Uncertainty Relief/satisfaction 	<ul style="list-style-type: none"> Unhappy Anxiety to improve assignment Stress/Regret at having to resubmit
 CONTEXT What else in the environment might influence them?	<ul style="list-style-type: none"> Coursework in other classes Current work schedule 	<ul style="list-style-type: none"> Peer/Student discussion about assignment Nearby distractions 	<ul style="list-style-type: none"> Friends and Family Work environment Noise level 	<ul style="list-style-type: none"> Other assignments due Internet Connection Access to computer 	<ul style="list-style-type: none"> Comfort Background noise Time waiting for grades 	<ul style="list-style-type: none"> Overhearing grades of classmates Coursework in other classes Nearby distractions
 INSIGHTS & OPPORTUNITIES What can you do to help them meet their needs, make the experience easier, or more enjoyable?	<ul style="list-style-type: none"> Provide early enough notice for assignments so that students have enough time to prepare 	<ul style="list-style-type: none"> Keep the assignment prompt simple and easy to read Link assigned readings in assignment prompt 	<ul style="list-style-type: none"> Minimize stress and anxiety while working on assignments (i.e. humor in assignment prompt) For large assignments, divide it into smaller more manageable deliverables 	<ul style="list-style-type: none"> Simplify assignment submission process, so there's only one way to submit each assignment Allow user to view all submissions made Provide template for assignment submission 	<ul style="list-style-type: none"> Expedite this process, to reduce time waiting for grades Provide verbal feedback instead of numerical feedback when possible Make sure grading rubric is clear and concise 	<ul style="list-style-type: none"> Make regrade process easy and painless Provide clear channel between instructor, TA's, and students when submitting regrade



Stage 3: Prototyping/Eval.

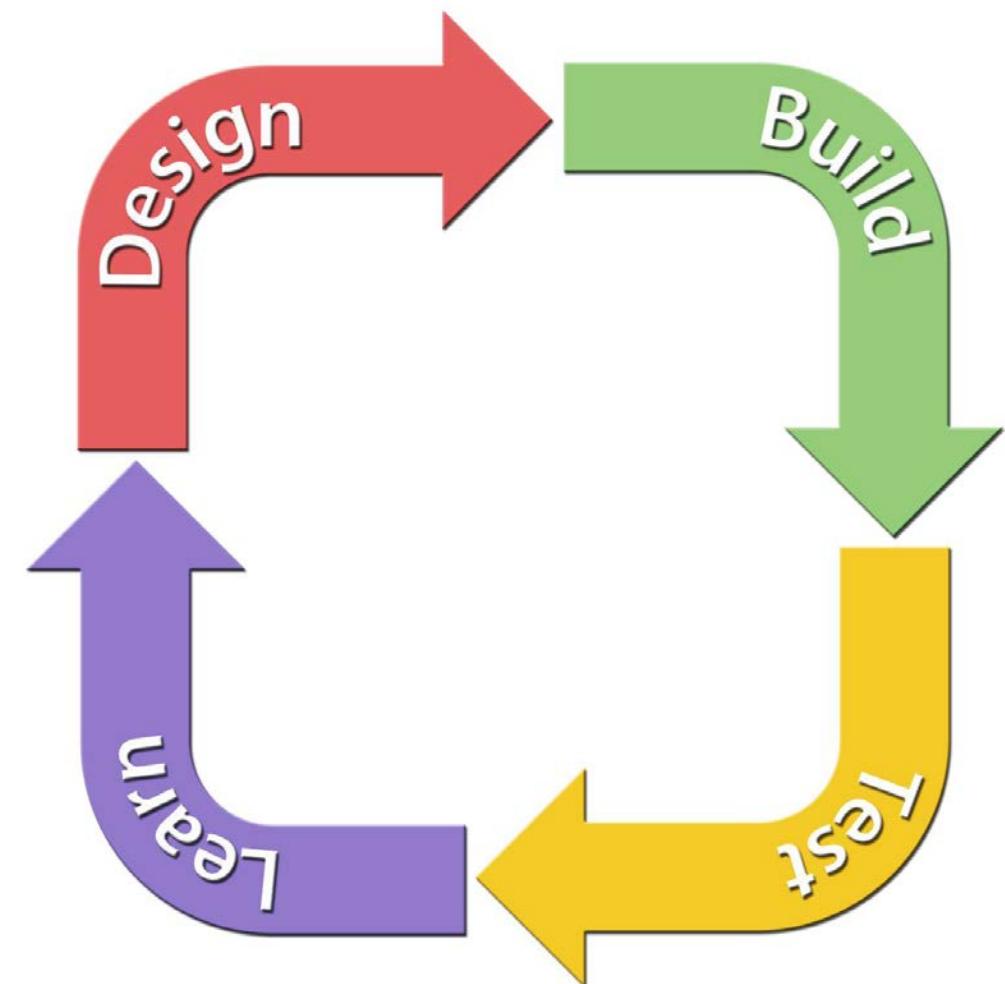
Prototyping a Solution

From the investigation and ideation phase, I narrowed down the scope, with a target of revamping the navigation panel and the assignment/grade pages.

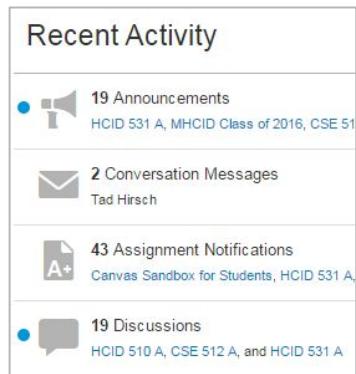
As a result, in this phase, a heuristic analysis was done to determine usability issues, while a site map and user flow were built to better understand the information architecture (IA) of the site. Then a wireframe was built and tested, to get user feedback for the final prototype.

Methods

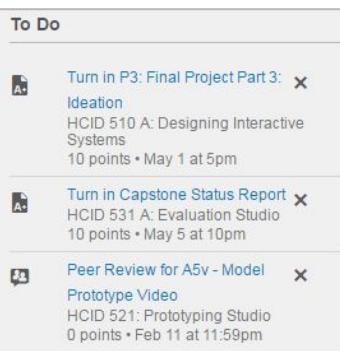
- Heuristic Analysis (followed Nielsen's 10 heuristics, focusing on "recognition rather than recall" and "flexibility and efficiency of use")
- Site Map (focused on the nodes that fall under the Courses & Groups section of the site)
- User Flow (built to understand the assignment submission flow with respect to the journey and site map)
- Wireframe (low-fidelity working prototype to test the redesign)



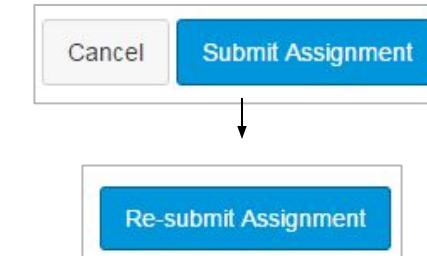
Heuristic Analysis



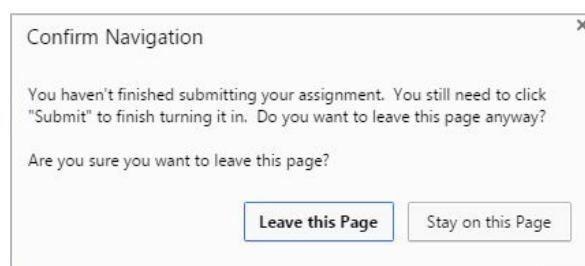
Visibility of system status
Blue dot indicator on homepage shows unread entries



Flexibility and efficiency of use
Can dismiss recent activity and items on the to do list



Help users recognize, diagnose, and recover from errors
Can cancel assignment submission before upload
User Control and Freedom
Can resubmit assignment and overwrite previous submission



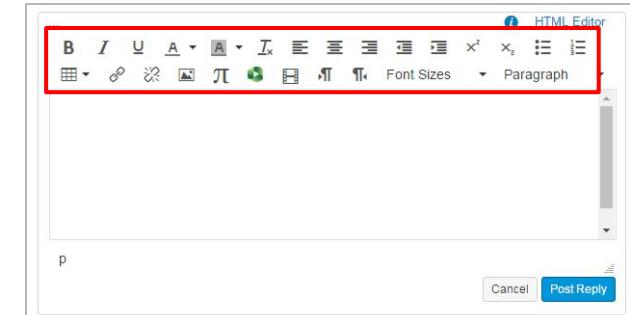
Error Prevention
Popup confirmation box when navigating away from assignment submission page



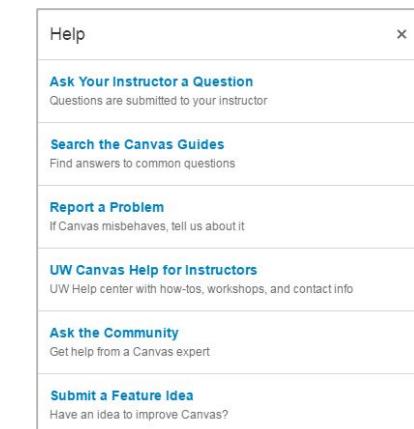
Recognition rather than recall
Breadcrumbs at top of page when navigating course page



Aesthetic and Minimalist Design
Site color scheme matches UW colors and is standardized across all pages

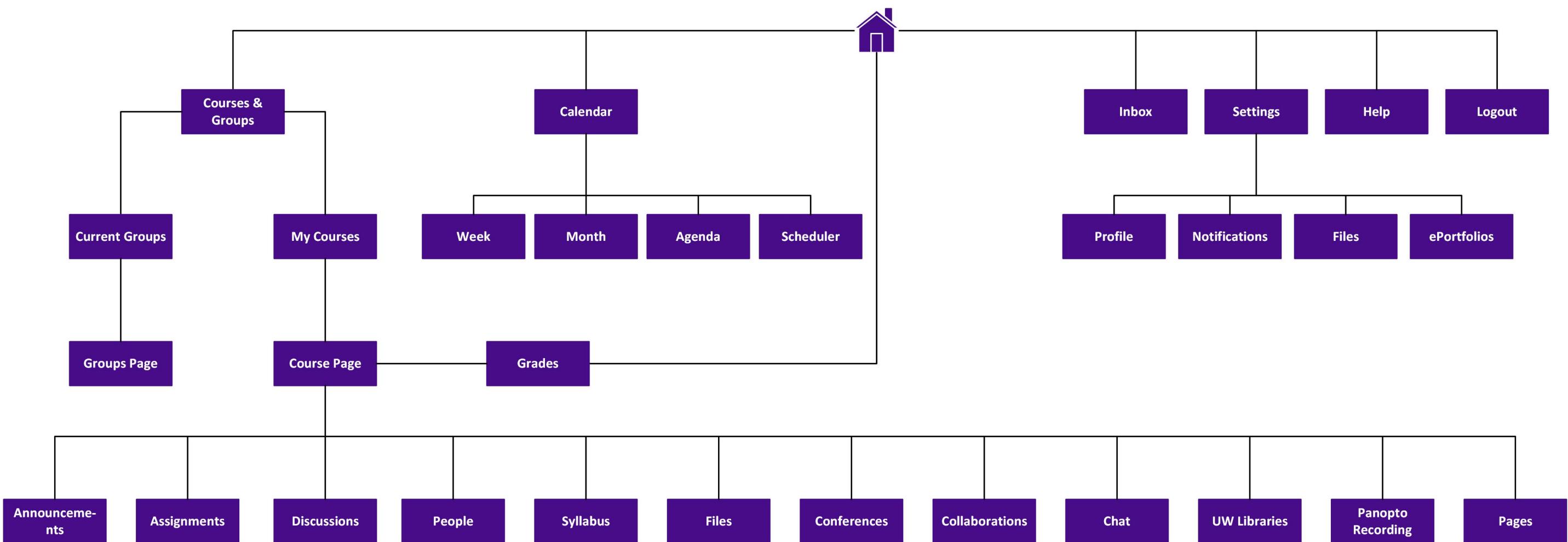


Match between System and Real World
Discussion thread post tools are similar to other editing tools
Consistency and Standards
Uses terminology commonly associated with learning management systems



Help and Documentation
Help link is easily visible in upper right navigation panel, but opens as a popup instead of as separate page

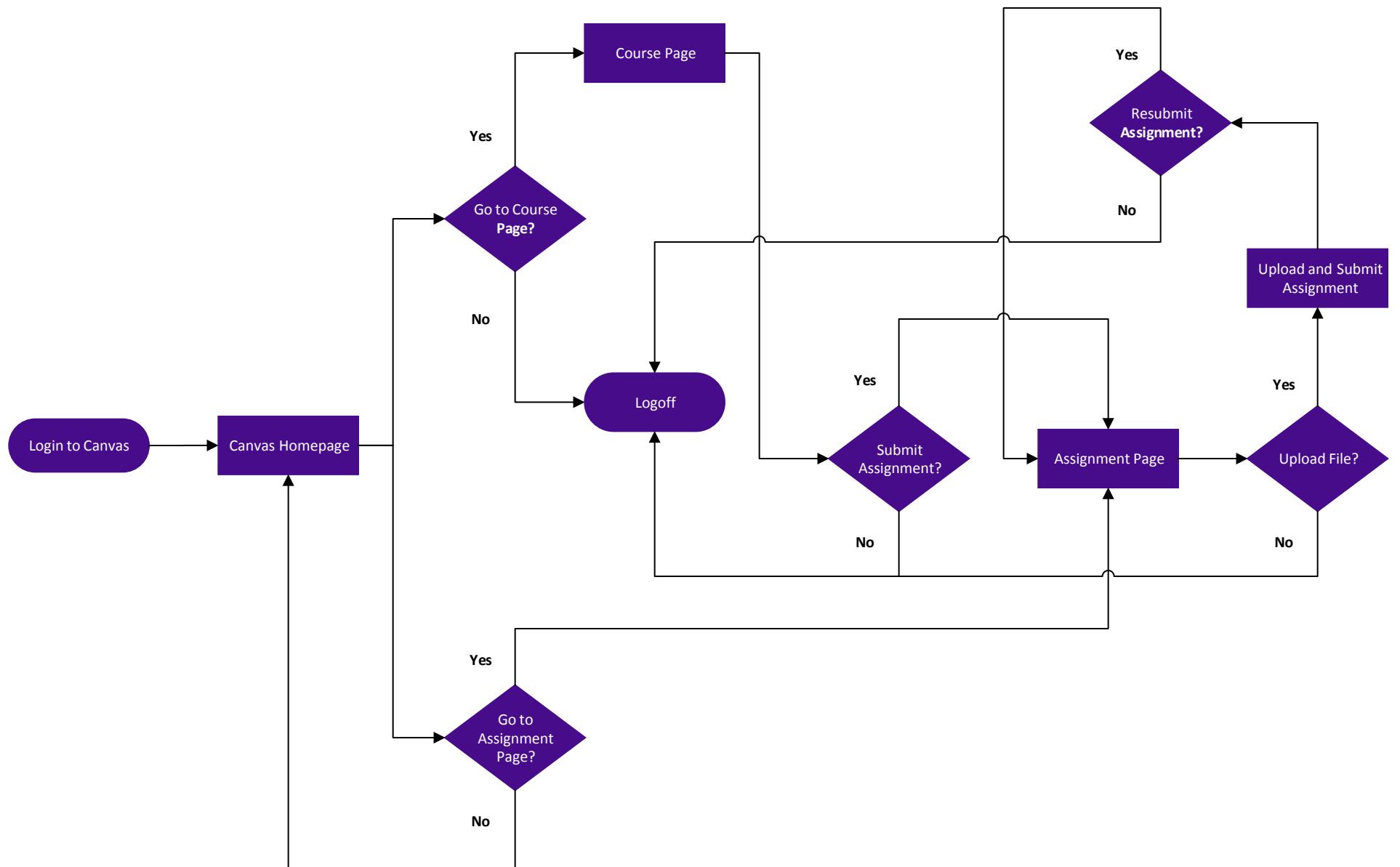
Site Map



User Flow

Task

- 1) Login to Canvas
- 2) Submit Assignment
- 3) Resubmit if necessary
- 4) Logoff



User Test

The goal of this user test was to evaluate the wireframes that were prototyped for the Canvas redesign. The wireframes focused on the task of students accessing the Canvas assignment page, where they can view upcoming and past assignments, as well as their grades.

From the user test, I hoped to gain a better understanding of any pain points that may have been missed during the ideation phase, since only a small sample of students were interviewed.

Recruitment

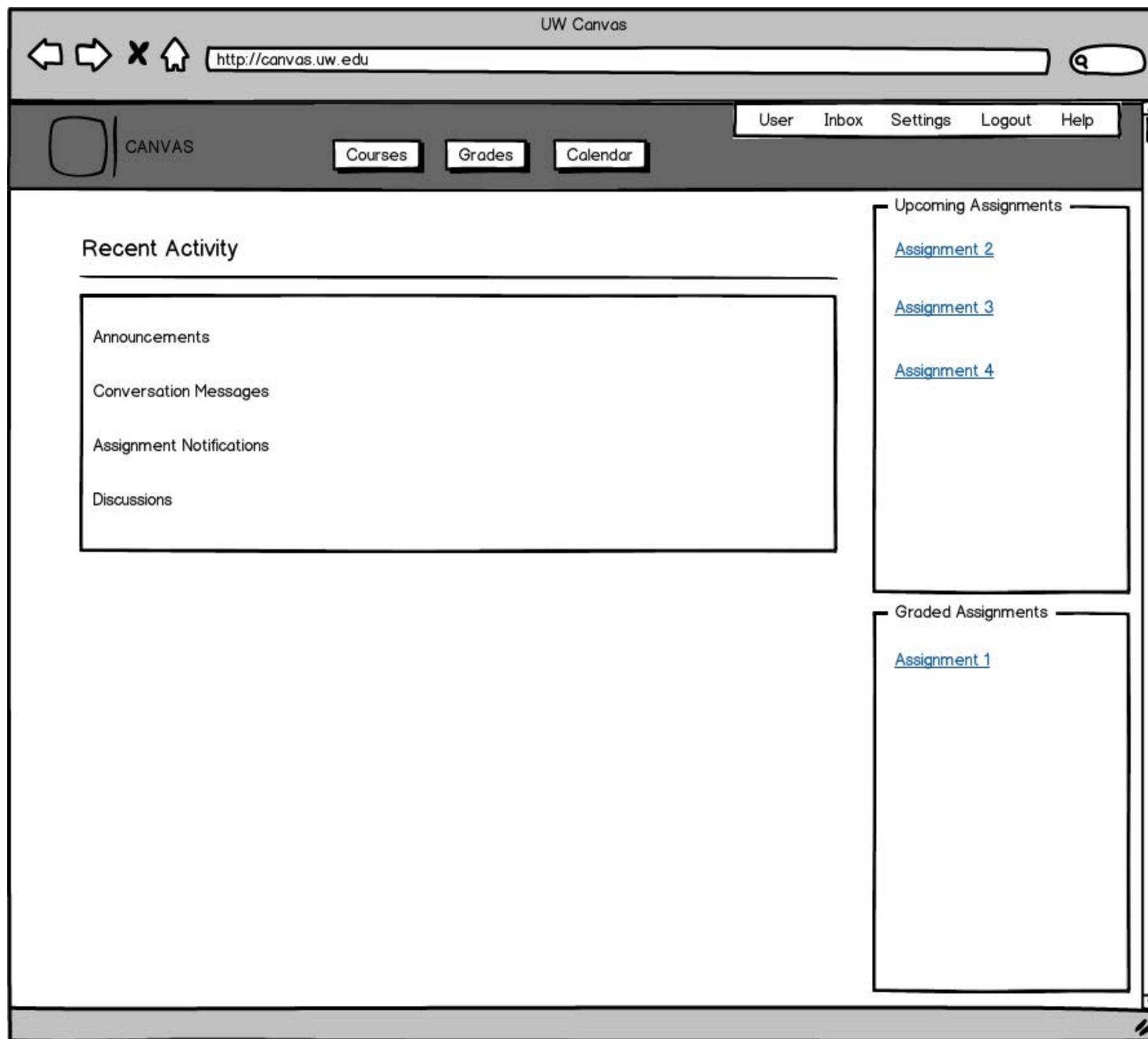
1. Users will be recruited from the University of Washington, and are required to be current students who have used the Canvas tool before for assignments
2. Since departments and professors use Canvas differently, participants will be recruited from different departments and age groups when possible
3. Participants will be rewarded for their time with a beverage of their choice

Where: Testing will be conducted either on campus or in a cafe setting, where users will feel comfortable talking and providing feedback

Duration: The test will last approximately 30 min., although this will depend on the speed of the user.

Process: The user test will be introduced to the participant, following the test script in the appendix. After each task, the user will be asked several follow-up questions.

Wireframe



1

Removed To-Do quick links on right-hand side. Can be confusing to new users.

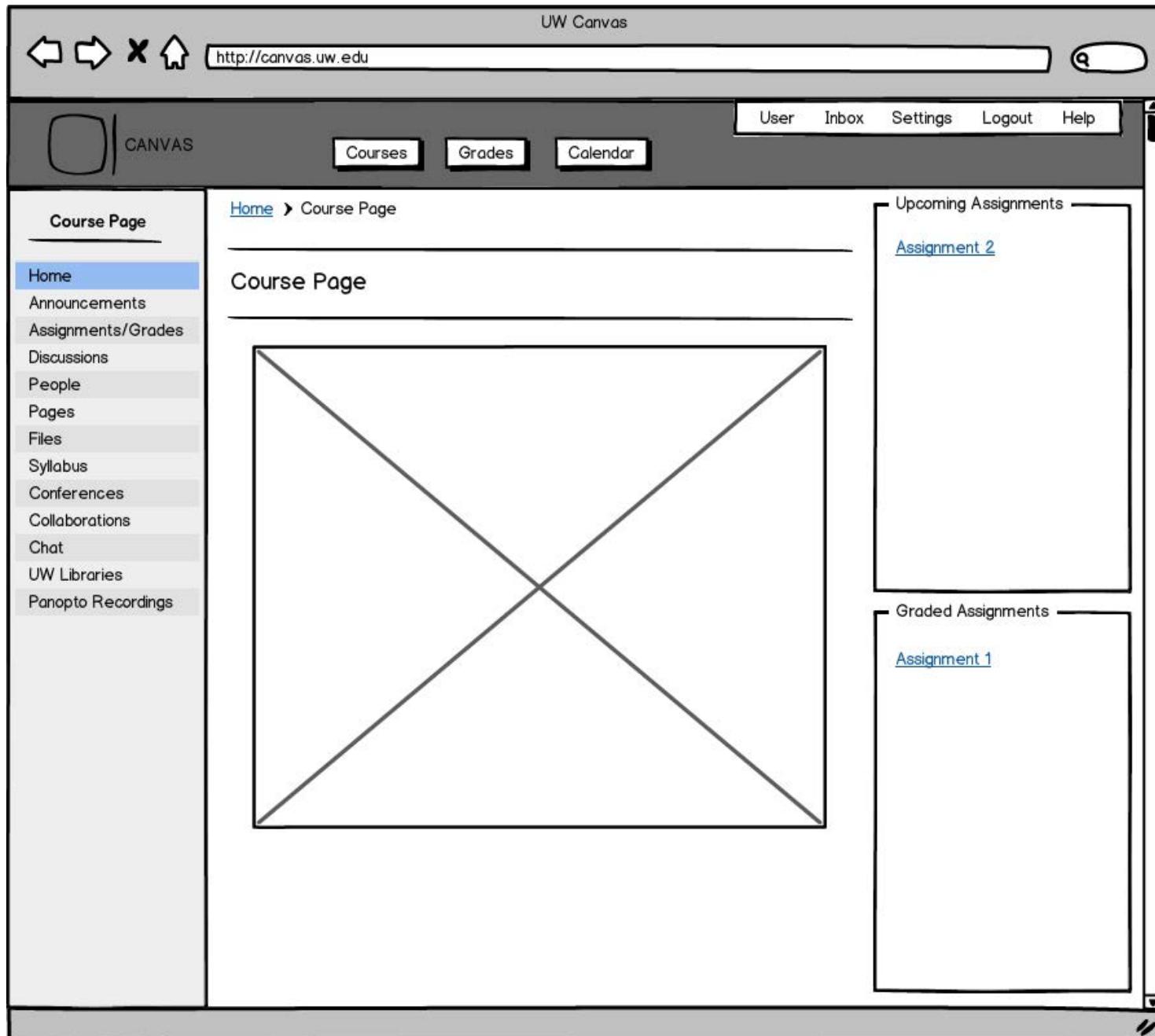
2

Replaced with Graded Assignments panel, which displays the most recently graded assignments.

3

Upcoming Assignments panel has been moved to upper right corner, since this is a highly visited section.

Stage 3: Prototyping/Evaluation



4

Removed To-Do, Coming Up, and Recent Feedback quick links on right-hand side.

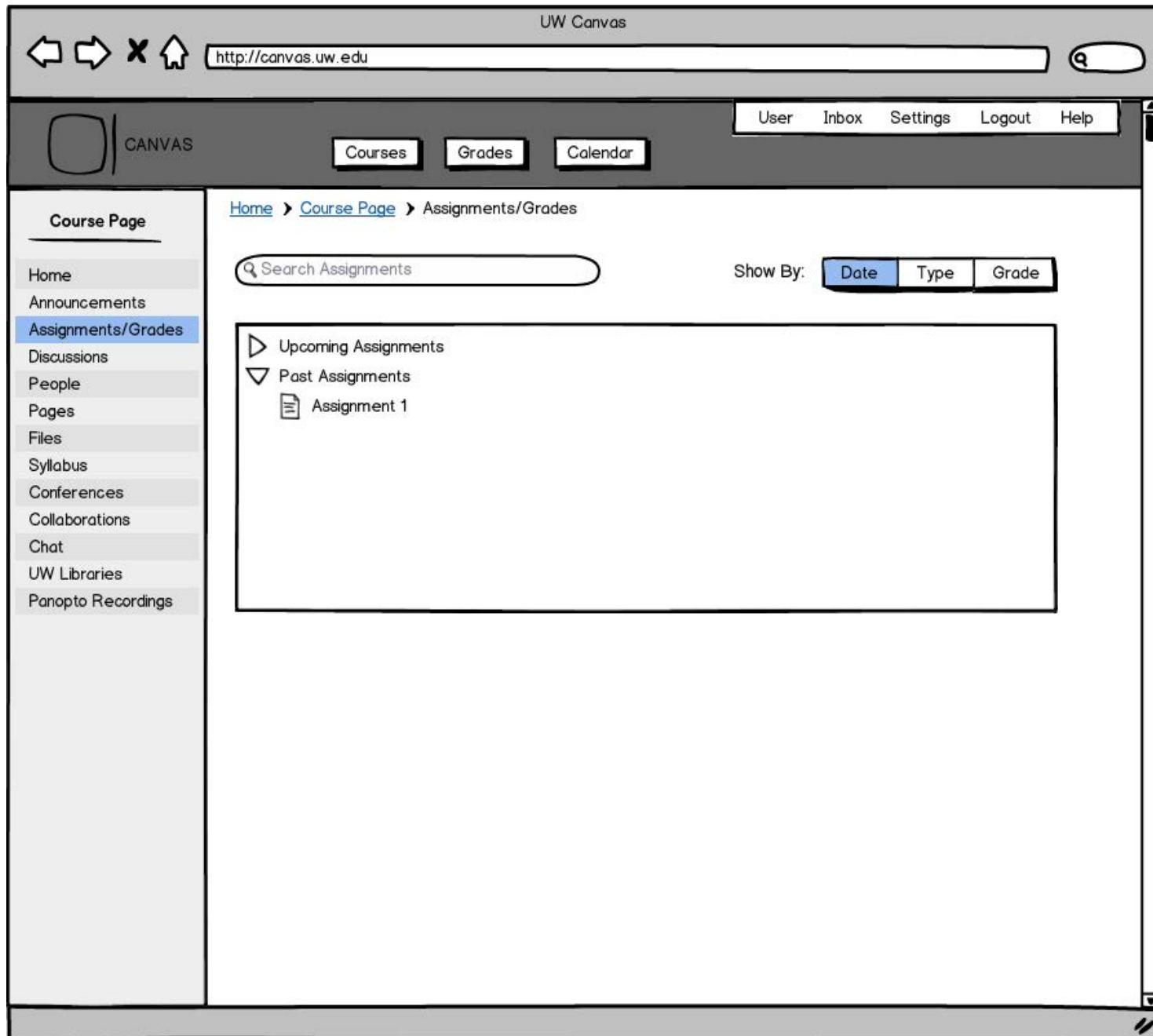
5

Replaced with Upcoming and Graded Assignments, so there is consistency between pages.

6

Merged Assignments and Grades pages on left-hand navigation panel, since they are redundant.

Stage 3: Prototyping/Evaluation



7

Changed original threaded design, into a nested tree for displaying assignments.

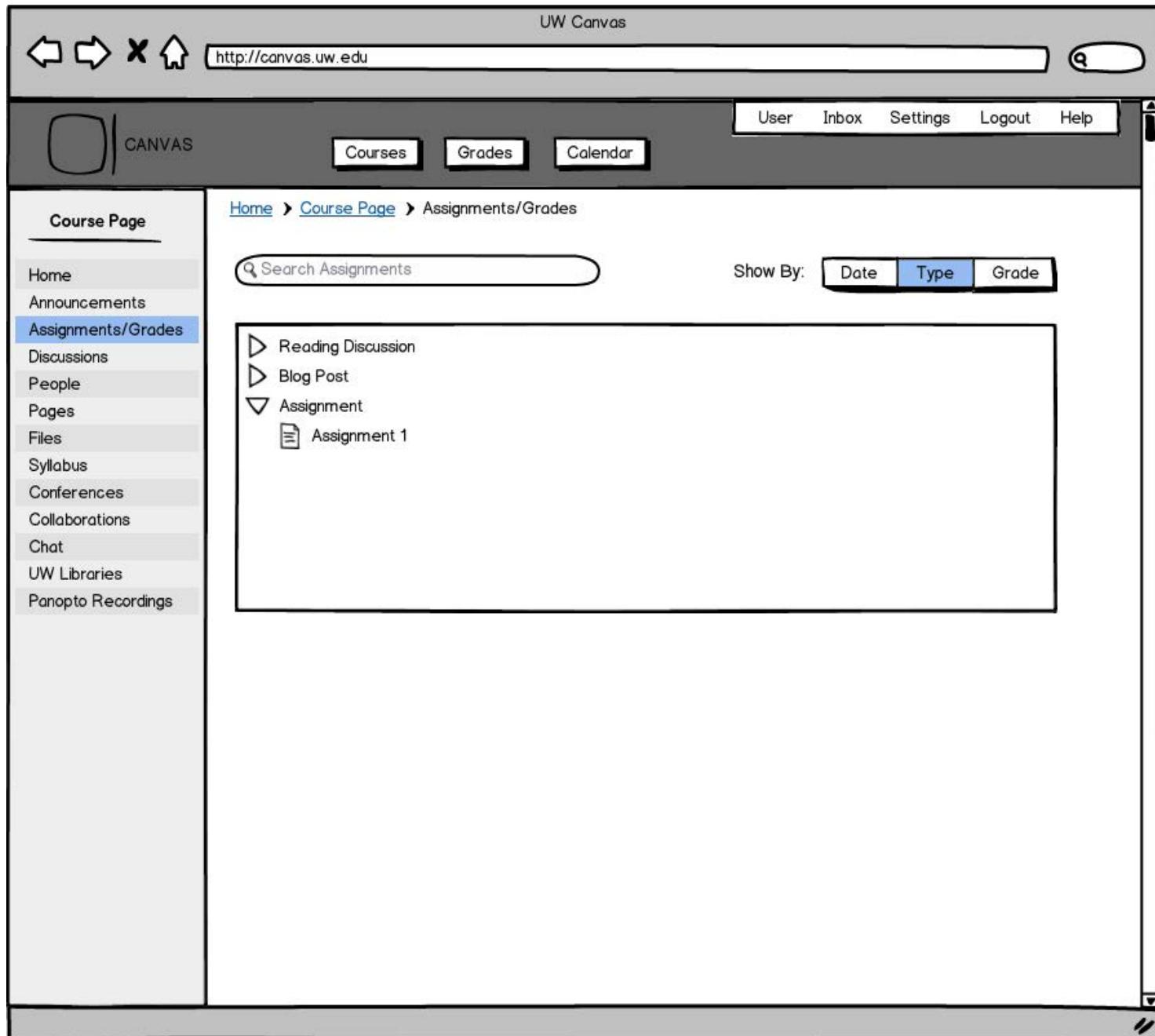
8

Added additional view option for grades, since Grades page for the course is no longer available.

9

Merged Assignments and Grades pages on left-hand navigation panel, since they are redundant.

Stage 3: Prototyping/Evaluation



Stage 3: Prototyping/Evaluation

The screenshot shows the UW Canvas Course Page. On the left, there's a sidebar with links like Home, Announcements, Assignments/Grades (which is selected and highlighted in blue), Discussions, People, Pages, Files, Syllabus, Conferences, Collaborations, Chat, UW Libraries, and Panopto Recordings. The main content area has a breadcrumb navigation: Home > Course Page > Assignments/Grades. It features a search bar labeled "Search Assignments" and a "Show By:" dropdown menu with options Date, Type, and Grade (the Grade option is selected). Below these are two rows of assignment data in a table:

Name	Due	Score	Out of	Feedback
Assignment 1	Apr 3 by 5pm	5	5	<input checked="" type="checkbox"/>
Assignment 2	Apr 12 by 5pm	*	5	<input type="checkbox"/>

10

Moved grade data from original Grades page to Assignment/Grades page

11

Followed similar format to previous Grades page so user is familiar with layout

12

To view overall/final grades for the course, user can select Grades button at the top of the page.

Results

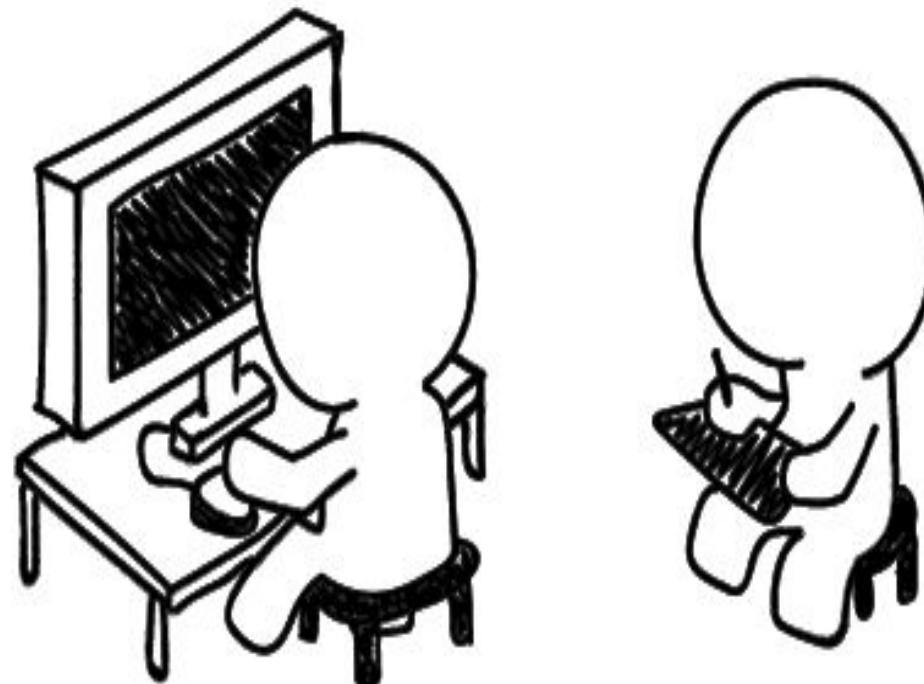
User	Task 1	Task 2	Task 3	Task 4
A	<ul style="list-style-type: none"> I found the “Courses” link easy to find, but feel it could be changed to “My Courses” No issue finding the Assignment link from the quick links panel 	<ul style="list-style-type: none"> Quick links panel on Homepage is the easiest Yes, requires less steps 	<ul style="list-style-type: none"> Yes, especially since you can scan more quickly than before I usually use Date view for the most recent assignments 	<ul style="list-style-type: none"> Yes, it's easy to quickly view your grades I like having it all in one place, but I wonder how you would display grading feedback, since it doesn't look like there is room to show the comments?
B	<ul style="list-style-type: none"> Yes, it's fine the way it is I prefer the old design which had the To Do list, since you could mark/remove completed assignments 	<ul style="list-style-type: none"> The homepage was easier, since it was faster Yes, but like I said before, I like having the To Do list instead 	<ul style="list-style-type: none"> It works well, but I also didn't have any issues with the previous design I always use Date view, since it shows upcoming assignments 	<ul style="list-style-type: none"> Yes, but I wish it had the table on the side that shows the weight of each group of assignments The table works well, but again, wish it had another table to show the weight of each assignment on the final grade
C	<ul style="list-style-type: none"> No problem with the current design Maybe allow the user to hover over link to preview assignment? 	<ul style="list-style-type: none"> Either is fine, depends which page I'm on Yes, it's helpful 	<ul style="list-style-type: none"> Yes both Date and Type Views were easy to use I think I've always used Date view, never seem to need Type View 	<ul style="list-style-type: none"> Yes it works well I like the table, since it is easy to scan through all your grades column by column

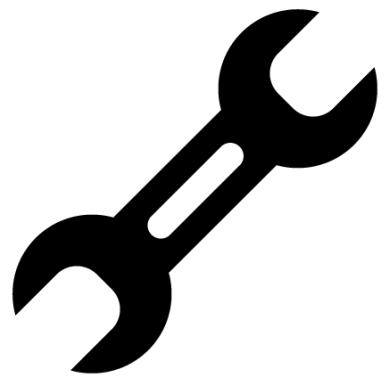
Evaluation of Results

Based on the feedback received during the user test, the changes to the homepage and coursepage worked well across all users. Some were fine with existing design, but expressed that the new design also worked for them.

However, there were conflicting views on the changes to the grades page. Due to the multitude of information available on the grades page, such as having a table on the side with the weight of each assignment category, some users wished for additional information for the Grades view in the redesign.

Another concern was the spacing of the new grades/assignment page, specifically the table. Since there is a feedback column, which is clickable, users wondered if it would expand like the original design did. Since it's now a table, and not a threaded design which can expand to show the grading comments/feedback, the best potential method would be displaying a popup upon clicking the feedback check mark.





Stage 4: Production

High Fidelity Mockups

Based on the feedback received from the user tests and the insights gained from the first three stages, I built a high fidelity interactive prototype using Axure.

Link to live prototype:
www.chungware.com/test/home_page.html

The screenshot shows a Canvas LMS assignment page. At the top right, there is a navigation bar with links for Christopher Chung, Inbox, Settings, Logout, and Help. The main header has the Canvas logo and navigation tabs for Courses, Grades, and Calendar. On the left, a sidebar for the course HCID 510 A (Spring 2016) lists various links: Home, Announcements, Assignments (which is selected), Discussions, Grades, People, Pages, Files, Syllabus, Conferences, Collaborations, and Chat. The main content area displays the assignment details for 'P5: Final Project Part 5: Production'. It includes the assignment title, due date (Sunday by 5pm), points (10), and submission instructions (Submitting a file upload, File Types pdf). Below this, under 'VISUAL DESIGN', there is a section about visual skinning and a note about using UW's brand colors. It also mentions that more pages than specified are allowed. Further down, there is a section about creating high-fidelity visual comps and a note about creating comps for wireframes.

Christopher Chung Inbox Settings Logout Help

W | Canvas

Courses Grades Calendar

HCID 510 A
Spring 2016

Home Announcements Assignments Discussions Grades People Pages Files Syllabus Conferences Collaborations Chat

P5: Final Project Part 5:
Production

Submit Assignment

Due Sunday by 5pm Points 10
Submitting a file upload File Types pdf

VISUAL DESIGN

Now that you have created your wireframes and had a chance to test them, you can go ahead and skin them as high fidelity comps. There are a few things to keep in mind before your visual skinning:

- If UW was our actual client, we would be constrained to their brand and its colors (outlined here <https://www.washington.edu/brand/graphic-elements/primary-color-palette/> (Links to an external site.)), however feel free to explore beyond this if you like. If your visual design analysis and tastes lead you to a different palette please by all means incorporate those colors into your UI. The color wheel tool at Adobe (Links to an external site.) may be useful for you to find a desirable palette.
- You can do MORE pages than the ones I specify in the assignment. This is just the minimum required...

Page 1 : Summary of visual design/UI work

Tell the reader about your visual design/UI exploration and process. What were some of your findings from earlier in the project? What have you noticed about the current instance that could be improved? Do you want to mention any of Nielson's heuristics? What style and mood are you trying to evoke? Who is your audience? Use photos, illustrations or graphics to support if you feel they help. Take liberty to craft the narrative in whatever form you feels represents your story most strongly.

Page 2-5: High fidelity visual comps

Create comps for the wireframes you tested. Your comps should be high fidelity, meaning they should have icons, colors, and graphics that would be similar to those you would find in a 'live', finished product. You are to do at least 4 screens, but may do more if you would like.

Stage 4: Production

The screenshot shows the Canvas student dashboard. At the top, there's a purple header bar with the Canvas logo, user name 'Christopher Chung', and navigation links for 'Inbox', 'Settings', 'Logout', and 'Help'. Below the header, the main content area has three tabs: 'Courses' (underlined), 'Grades', and 'Calendar'. On the left, a 'Recent Activity' sidebar lists notifications: 21 Announcements (CSE 512 A, HCID 531 A, MHCID Class of 2016), 3 Conversation Messages (Tad Hirsch and Justin Hamamacher), 37 Assignment Notifications (HCID 531 A, HCID 510 A, CSE 512 A, and Canvas Sandbox for Students), and 16 Discussions (HCID 510 A, CSE 512 A, and Canvas Sandbox for Students). On the right, there are two panels: 'Upcoming Assignments' (listing Turn in Final Project Proposal, Turn in P5: Final Project Part 5, and Peer Review for A5v) and 'Graded Assignments' (listing Assignment 2: Exploratory A2, Discussion 2: Interactive HCI, and Peer Review for A4v).

1
Removed To-Do quick links on right-hand side. Can be confusing to new users.

Upcoming Assignments panel has been moved to upper right corner, since this is a highly visited section.

2
Replaced with Graded Assignments panel, which displays the most recently graded assignments.

Stage 4: Production

The screenshot shows the Canvas Learning Management System interface. At the top, there is a purple header bar with the user's name "Christopher Chung" and links for "Inbox", "Settings", "Logout", and "Help". Below the header is a dark purple sidebar on the left labeled "W | Canvas" with "Recent Activity". The main content area has a light gray background. A vertical navigation bar on the right side, highlighted with a purple border, contains links for "Announcements", "Assignments", "Discussions", "Grades", and "Syllabus". The "Assignments" link is currently selected, showing a list of assignments for the course "CSE 512 A: Data Visualization" (enrolled as Student (Sp '16)). The first assignment listed is "Project Proposal" due May 10 at 5pm. Other assignments include "Final Project Part 5" due May 22 at 5:00pm, "Peer Review for A5v" due Feb 11 at 11:59pm, "Assignment 2: Exploratory A2" (13 out of 15 points), "Discussion 2: Interactive HCI" (1 out of 1 points), and "Peer Review for A4v" (4.5 out of 5 points).

3
Added second level navigation panel. This allows users to access course assignments, grades, etc. in a single click.

Previously, required 2 to 3 clicks in order to reach course assignments or grades page.

Stage 4: Production

The screenshot shows the Canvas LMS interface. At the top, there's a purple header bar with the 'Canvas' logo and navigation links for 'Courses', 'Grades', and 'Calendar'. Below the header, the course information 'HCID 510 A' and 'Spring 2016' is displayed. On the left, a sidebar lists various course sections like 'Discussions', 'Grades', 'People', etc. The main content area shows a table of assignments:

	Due Date	Assignment Name	Assignment Description	Points
	Due Apr 24 at 5:00pm	P5: Final Project Part 2: Investigation/ideation	You will be turning in pages in 11x17 PDFs (horizontal) that showcase your thinking and work in the ...	10 points
	Due May 1 at 5:00pm	P4: Final Project Part 3: Ideation	You will be turning in pages in 11x17 PDFs (horizontal) that showcase your thinking and work in the ...	10 points
	Due May 15 at 5:00pm	P3: Final Project Part 4: Prototyping/Evaluation	This week you will be creating wireframes and testing your designs with users. I suggest you use ...	10 points
	Due May 22 at 5:00pm	P2: Final Project Part 5: Production	Now that you have created your wireframes and had a chance to test them, you can go ahead and ...	10 points

4 Added additional sort option for Grades. This allows users to toggle between Date, Type, and Grade views of their assignments.

5 Replaced original assignment layout with table, which allows the user to scan through upcoming assignments more quickly.

6 User can also toggle the arrow next to Due Date to sort assignments in ascending or descending order.

Assignments are also shaded based on whether they've been submitted or still need to be submitted. Grayed out text indicates the assignment has already been submitted

Stage 4: Production

The screenshot shows the Canvas LMS interface for the course HCID 510 A (Spring 2016). The left sidebar lists various course sections: Home, Announcements, Assignments (selected), Discussions, Grades, People, Pages, Files, Syllabus, Conferences, Collaborations, and Chat. The main content area displays the assignments page with the following structure:

- Participation:** Class Participation (10% of grade)
- Timeline Assignment:** Timeline A1, Timeline A2 (30% of grade)
- Final Project:**
 - P1: Final Project Part 1: Investigation
 - P2: Final Project Part 2: Investigation/Ideation
 - P3: Final Project Part 3: Ideation
 - P4: Final Project Part 4: Prototyping/Evaluation
 - P5: Final Project Part 5: Production (due May 22 at 5:00pm)(70% of grade)

7
Changed original threaded design, into a nested tree for displaying assignments.

8
Added grade weights on the right hand side, to provide additional grading information based on assignment category

Stage 4: Production

The screenshot shows the Canvas LMS interface. At the top, there's a purple header bar with the Canvas logo, user name 'Christopher Chung', and navigation links for 'Inbox', 'Settings', 'Logout', and 'Help'. Below the header, the main content area has a dark grey background. On the left, a sidebar lists course-related links: Home, Announcements, **Assignments** (which is selected and highlighted in blue), Discussions, Grades, People, Pages, Files, Syllabus, Conferences, Collaborations, and Chat. The main content area displays the 'Assignments' page for the 'HCID 510 A' course, which is set for the 'Spring 2016' semester. The breadcrumb navigation shows the path: Home > HCID 510 A > Assignments. There's a search bar labeled 'Search Assignments' with a 'Go' button, and a 'Show By' dropdown menu with options 'Date', 'Type', and 'Grade' (the 'Type' option is selected). The assignments are categorized and listed as follows:

- Participation**: Class Participation (10% of grade)
- Timeline Assignment**:
 - Timeline A1: due Apr 3 at 11:59pm
 - Timeline A2: due Apr 10 at 11:59pm(30% of grade)
- Final Project**:
 - P1: Final Project Part 1: Investigation due Apr 17 by 5:00pm
 - P2: Final Project Part 2: Investigation/Ideation due Apr 24 by 5:00pm
 - P3: Final Project Part 3: Ideation due May 1 at 5:00pm
 - P4: Final Project Part 4: Prototyping/Evaluation due May 15 at 5:00pm
 - P5: Final Project Part 5: Production due May 22 at 5:00pm(70% of grade)

9

To hide secondary information, users are given the ability to toggle the due dates on and off.

This is because the dates can be easily viewed and sorted in the Date view, while the Type view groups assignments by category.

Stage 4: Production

The screenshot shows the Canvas Grades page for the course HCID 510 A, Spring 2016. The left sidebar lists various course sections like Home, Announcements, Assignments, Discussions, and a expanded Grades section. The main content area shows assignments categorized by type:

- Participation:**
 - Class Participation: * out of 20 points
- Timeline Assignment:**
 - Timeline A1: 5 out of 5 points
 - Timeline A2: 5 out of 5 points
- Final Project:**
 - P1: Final Project Part 1: Investigation: 9.5 out of 10 points
 - P2: Final Project Part 2: Investigation/Ideation: 10 out of 10 points
 - P3: Final Project Part 3: Ideation: 10 out of 10 points
 - P4: Final Project Part 4: Prototyping/Evaluation: * out of 10 points
 - P5: Final Project Part 5: Production: * out of 10 points

On the right, there are radio buttons for "Show By": Date, Type, or Grade. The "Grade" option is selected, showing the following breakdown:

Category	Weight	Score	Percentage
Participation	10% of grade	0 points	0%
Timeline Assignment	30% of grade	10 points	100%
Final Project	70% of grade	29.5 points	98%

At the bottom, the **Final Grade:** is listed as 98.75%.

10

Original Grades page can now be accessed directly from the Assignments page, simply by using the radio buttons in the upper right hand corner.

The page has been simplified, since much of the original information available has been incorporated into the Type view.

11

Grade weights, which are visible on the Type view, are also visible on the Grades page.

Below them are the subscores, which are calculated based on graded assignments. These are then aggregated and displayed as the Final Grade on the bottom.

Summary of UI Exploration

01 Findings

During the investigation phase, several issues were identified, primarily through the interviews and heuristic analysis.

Two major issues were the top navigation panel which had poor “recognition rather than recall” and the assignment and grade pag, which lacked “flexibility and efficiency of use”

02 Changes

To visualize the changes made, low fidelity paper sketches were generated, which later evolved into higher fidelity mockups.

Changes were made to the homepage, assignment page, and grades page. User tests were conducted using wireframes, for feedback to include in the final prototype.

03 Audience

This redesign is primarily targeted at general users of Canvas, which are students who want to have convenient access to their assignments, readings, etc.

Other stakeholders involved are instructors and IT support, who want a LMS that has a low learning curve, while being easily scalable, with low licensing and maintenance costs.

04 Style/Mood

The redesign was constrained by the required university branding/color style, which is dark purple, on white/gray background. As a result, much of the original color/font style was left untouched.

To gain a better understanding of the mood, a mood board was constructed, with a focus on ease of use and productivity. This was reflected in the redesign through a more streamlined and minimalistic interface, which removed redundant text/links to declutter the screen.

Moving Forward

One aspect that was not considered in the redesign was showing the overall/final grade for the class. I made the assumption that the Grades page, which can be found in the top navigational panel, would be a separate page from the newly designed assignment/grades page. As a result, a good next step for future iterations of this redesign, would be to focus on redesigning the overall grades page.

Currently, this page allows users to toggle through every course, and view their overall/final grade. However, compared to the assignment/grades page, it does not provide as detailed of a view of the grade distribution. Perhaps the newly designed Grades page could include additional data visualizations that could help the user better understand their current progress across all classes. The visualizations might even help them identify which classes are their weak points, and possibly provide suggestions to improve.

Another possible next step is to branch the redesign into the tablet space. The current Canvas app on tablet lacks many of the features available on the desktop version. Perhaps many of the changes made in this redesign could be ported or translated over. Obviously several design constraints exist on tablet, due to the smaller screen real estate, and the interaction method of touch over mouse. However, this would only be necessary if there was a surge in Canvas users on tablet, as currently, desktop is still the dominant platform.

References

1. <http://depts.washington.edu/lingta/CanvasVsCatalyst.pdf>
2. <https://itconnect.uw.edu/wp-content/uploads/2013/12/document2.pdf>
3. <https://www.emaze.com/@ALQIQZIC/Slack-Competitive-Analysis-Slides>
4. <http://www.alamo.edu/mainwide.aspx?id=22961>
5. <https://www.trustradius.com/compare-products/blackboard-vs-canvas>
6. http://elms.umd.edu/sites/elms.umd.edu/files/webfiles/documents/doc/ComparisonChart_JULY18.pdf
7. <https://www.montclair.edu/media/montclairedu/oit/tti/Canvas-vs-Blackboard--Comparison-table-links-only.pdf>

Appendix - Test Script

Introduction:

Thank you for volunteering for our study. We appreciate your time and efforts talking with us. Our study will be testing a wireframe prototype of a redesigned assignment and grades page for the Canvas LMS. We will ask you some background info questions and then run you through several tasks.

Background Info: (3 minutes)

- How old are you?
- What major are you currently studying?
- What devices do you own? (i.e. tablet, laptop, smartphone)

Using Canvas: (3 minutes)

- How frequently do you use Canvas every week?
- Are there any classes where you don't use Canvas, or use another tool in conjunction with Canvas? (i.e. Slack)
- What device(s) do you use to submit assignments on Canvas?
- Do you have any issues with the current assignment or grades pages on Canvas?

Task 1: Navigating to the Assignments Page from Homepage (6 minutes)

Instructions:

- Please find the link to the Courses Page
- Then find the link to Assignment 1

Questions:

- Was it intuitive to look for the courses page under Courses?
- Was it easy to find the assignment page for the assignment specified?

Task 2: Navigating to the Assignments Page from Coursepage (6 minutes)

Instructions:

- Please find the link to the Assignments Page
- Then find the link to Assignment 1

Questions:

- Which method do you prefer for accessing the assignment page?
- Did you find the quick links panel on the right hand side of the coursepage/homepage helpful?

Task 3: Viewing Assignments by Date/Type (6 minutes)

Instructions:

- Please select the Date view on the Assignments Page
- Then switch to the Type view on the Assignments Page

Questions:

- Was the Date view easy to use? How about the Type view?
- Which viewing method do you prefer, Date or Type?

Task 4: Viewing Assignments by Grade (6 minutes)

Instructions:

- Please select the Grade view on the Assignments Page
- Then look for the grade received for Assignment 1

Questions:

- Was it easy to quickly view the grades?
- Do you like the table format for grades, or would you prefer something else?

W | THANKS FOR READING

