

My Book List

Interaction Heroes

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December 3, 2023

High-Fidelity Prototype: [Click Here](#)

My Book List

[IS_LT 7384 - DESIGNING GAMES FOR LEARNING](#)

Book Title	Author	Edition	Required
(Book title)	(Book author)	1st Edition	No
(Book title)	(Book author)	2nd Edition	Yes

[IS_LT 9461 - INTERACTION DESIGN](#)

Book Title	Author	Edition	Required
(Book title)	(Book author)	1st Edition	No
(Book title)	(Book author)	2nd Edition	Yes

Change TermPurchase Books

Executive Summary

The “My Book List” portfolio aims to improve the functionality and design of the “myZou” website. “MyZou” is an online resource for students at the University of Missouri (Mizzou). The website allows students to manage their classes, manage finances, and monitor academic progress. Through our problem analysis, we discovered that the “manage classes” tab had room for improvement and was missing a key feature. To further evaluate the need for these changes we turned to our target audience, Mizzou students. Our method of data collection was through the use of surveys. The surveys were given to current and former students of Mizzou. The students indicated a need for a redesign to the class schedule feature and the addition of a book list feature. You can see a detailed explanation of the changes throughout the portfolio. As a group, we strived to make improvements to the “myZou” website that were functional, easy to use, and improved the lives of Mizzou students. Click the link below to see the final prototype.

[Final Prototype](#)

Part I: Problem Analysis and Requirements

Description of Current Technology

Currently in myZou, the “Manage Classes” section allows undergraduate, graduate, and doctoral students to view information about the courses they are enrolled in. Course information displayed includes the course name, course number, dates, times, location, section, component, and start/end date. The purpose is to allow students to determine which courses and sections would fit best within their schedule, and to ensure they are not “overlapping” course dates/times. The “Manage Classes” section also has various planners and schedules available that present their course schedule in various ways.

Students are also able to search for courses for future semesters and enroll in them. Browsing the course catalog allows the user to see every course available through the university. In the “enrollment” section, they can add courses to their shopping cart, enroll, and withdraw from a course. The overall purpose of this section of MyZou is to give the student control in discovering and enrolling/withdrawing from their courses.

Introduction of Problem

Issues with interaction were uncovered by engaging in casual conversations with Mizzou students, directly interacting with the application, and gathering survey data from both current and past students of Mizzou. In its current state, the “Manage Classes” tab on myZou allows students to browse the course catalog, add/drop classes, and create a planner from enrolled classes. However, students are not fully utilizing these features. Students have expressed frustration with the usability of this area of myZou. The features need to be optimized to better benefit the student population.

Students will primarily be using this system to prepare for the Fall, Spring or Summer semesters. The task of enrolling in a course will begin a few months before, and the process of checking books and materials will occur between the time of enrollment to the beginning of the semester. Dropping/withdrawing from a course usually occurs within the first few weeks of the course.

Survey Data Analysis

In order to collect data on interaction issues, a group of three current and former students completed a survey on their experience using myZou (Appendix I).

The **demographic data** included:

- **Race/ethnicity:**
 - One participant identified as White/Caucasian
 - One participant identified as Asian/Pacific Islander
 - One participant identified as both White/Caucasian and Asian/Pacific Islander
- **Age:**

The participants we surveyed range from ages 24-25

 - One is in the 24-30 range
 - One is in the 36-40 range
 - One is in the 41-45 range
- **Education:**
 - Two participants are current graduate/law/vet/medical students
 - One is no longer attending the university, but previously graduated from a Masters program
- **Technology:**

The users all used either a laptop or desktop computer to access myZou.
- **Confidence with System:**

Two reported feeling moderately confident in using myZou, and one reported feeling highly confident.

The participants of the survey were asked about how they currently use the Class Schedule feature within myZou. 66% of participants reported using the class schedule feature never, with the remaining 33% reporting using it sometimes. Regarding whether the class schedule feature was easy to use, participants somewhat agreed or were neutral. We also asked the participants how they would choose to improve the Class Schedule feature. It is possible that the participants may have misunderstood the question, as they mention signing up for classes. A respondent proposed the idea of condensing all class information into a single, concise line.

Next, we asked survey participants about how they currently search for books or other required course materials. The data indicates that at least some students have looked for their book info in myZou. 66% of participants waited until they received the syllabus to find out what books are required, while 33% used the bookstore website. Data on whether it was easy to find required books and materials varied equally between somewhat difficult, neutral, and somewhat easy. 66% of participants reported feeling that a book list feature in myZou would be helpful.

Environmental Analysis

The environment in which this tool is used depends on how and where students access the internet and MyZou, as the tool is integrated into that system. This means that the site may be accessed on a phone, tablet, laptop, or desktop computer. These devices may be personal devices, or they may be public computers located on campus or a library. Keeping the current color scheme will allow the webpage to be viewed in any environment. Because this website/tool could be accessed in many different locations, it will need to be able to be accessed on any web browser. Because the product will be integrated into the myZou system students already use, the proper tools and physical equipment required should already be available.

Because different students will need to access it whenever it is convenient to them, this tool will need to be available to use 24 hours a day and 7 days a week. The system will see most use

during course enrollment blocks as well as shortly before the semester begins as students prepare for the upcoming semester. This includes the Fall, Spring, and Summer semesters.

Inclusivity and Cultural Analysis

This system will be used by both native and international students, including both native and non-native English speakers. Students will also vary greatly in age, from anywhere from 18 years old to 70+ years old. This age gap also includes a gap in technology and education experience. Because of these factors, the system will need to have clear labels and instructions available to users. In addition to these items, the system will need to be compatible with screen reader technology and be able to be used without a mouse.

User Personas

 <p>Jennifer Lin</p> <div> Background <ul style="list-style-type: none"> -26 years old -Master's student -Learning Technologies and Design -GPA 4.0 </div>	<div> Work <ul style="list-style-type: none"> -Internship -Responsibilities: Assists her internship supervisor in creating learning tools and learns new programs to complete assignments </div> <div> Technology Use <ul style="list-style-type: none"> -Primarily uses a desktop computer -Average time on computer is 4 hours per day -Seldom uses phone for website browsing </div> <div> Goals <ul style="list-style-type: none"> -Successful completion of her internship -Acceptance into the Information Science and Learning Technologies PhD program -Completion of Doctoral program </div> <div> Frustrations <ul style="list-style-type: none"> -Cluttered pages -Unclear navigation </div> <div> Likes <ul style="list-style-type: none"> -Simple designs </div>
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Jane Bennet

Background

- 38 years old
- Education Specialist program
- Learning Technologies and Design
- GPA 4.0

Work

- Educational Technologist
- Responsibilities: Completes course audits and builds e-learning courses

Technology Use

- Primarily uses a laptop computer
- Average time on computer is 9 hours per day

Goals

- Successful completion of her educational specialist degree
- Employment as an instructional designer
- Learning new programs and skills used in instructional design

Frustrations

- Lack of clarity when an action has been completed
- Unclear navigation

Likes

- Clean look
- Fun designs
- Alerts when actions have been completed



Maggie Lucas

Background

- 43 years old
- Bachelor's degree
- Former student/Alumni
- GPA 3.83

Work

- Data analyst
- Responsibilities: Compiles data and performs analysis, presents data in graphical representation

Technology Use

- Primarily uses a laptop computer
- Average time on computer is 6 hours per day

Goals

- Career growth: title and salary
- Better work/life balance
- Considering furthering her education

Frustrations

- Cluttered pages

Likes

- Minimalistic designs
- Designs conducive to quick browsing

Task Analysis

- **Class Schedule**

In order to view your class schedule:

1. Type myZou.missouri.edu into your browser
2. Select “myZou (Student Information System) | All Campuses” from the options
3. Select “Launch Task”
4. Log in to myZou by entering your student email address and password
5. Select “Manage Classes”
6. Select “My Class Schedule” to view

Plan 0:

- **If the user is a regular or experienced user:** Complete steps 3-4-5
- **If the user is a new use:** Complete steps 1-2-3-4-5-6

- **Book List**

In order to view your book list:

1. Type MyZou.missouri.edu into your browser
2. Select “myZou (Student Information System) | All Campuses” from the options
3. Select “Launch Task”
4. Log in to myZou by entering your student email address and password
5. Select “Manage Classes”
6. Select “My Book List” to view
7. Select the open boxes next to the books/materials you want to purchase
8. Select the “Purchase” button
9. Enter your name and shipping address, if applicable
10. Enter your payment information
11. Select “Complete Order”

Plan 0:

- **If the user is a regular or experienced user:** Complete steps 4-5-6-7-8-9-10-11
- **If the user is a new use:** Complete steps 1-2-3-4-5-6-7-8-9-10-11

1. Essential use case to View Class Schedule

User Intention	System Responsibility
Login to myZou	<ol style="list-style-type: none"> 1. Request credentials 2. Authenticate username and password 3. Takes student to myZou dashboard
Select “Manage Classes”	<ol style="list-style-type: none"> 1. Loads the manage classes page
View class schedule	<ol style="list-style-type: none"> 1. Authenticates the students registered courses 2. Loads the class schedule page

	3. Displays course information
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2. Use Case to View Schedule

1. The user opens the myZou application on their browser.
2. The system asks for username and password.
3. The student enters their username and password, and clicks "Login."
4. The system authenticates the users credentials.
5. The system loads the myZou dashboard.
6. The student selects "Manage Classes."
7. The system loads the "Manage Classes," page.
8. The student selects "My Class Schedule."
9. The system authenticates the student's registered courses.
10. The system displays the student's schedule.

Alternative Courses

4. If the username or password are invalid:
 - 4.1 The system displays an error message and prompts the student to retry, or reset their password.
 - 4.2 The system returns to step 2.
9. If the system cannot authenticate the student's registered courses:
 - 9.1 The system displays an error message and prompts the student to try again later or contact support.

3. **Essential use case to View/Purchase required books and materials**

User intention	System Responsibility
Login to myZou	<ol style="list-style-type: none"> 1. Request credentials 2. Authenticate username and password 3. Takes student to myZou dashboard
Select "Manage Classes"	<ol style="list-style-type: none"> 1. Loads the manage classes page
View book list	<ol style="list-style-type: none"> 1. Authenticates the students registered courses 2. Loads the book list page 3. Displays book information
Select books to purchase	<ol style="list-style-type: none"> 1. Authenticate book selections
Purchase books	<ol style="list-style-type: none"> 1. Loads purchase page

	<ol style="list-style-type: none">2. Request address and shipping preferences3. Request payment4. Authenticate payment5. Complete purchase6. Confirms purchase
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Project Scope

This project focuses on the class schedule feature and adding in a book list feature under the “Manage Classes” section of myZou. We plan to streamline the class schedule options into one element, improving that element to be more user friendly in a simple and organized way. User analysis revealed that most students don’t use this feature. We believe that if it was less confusing and more straightforward to use, students may utilize it more.

MyZou currently does not have a booklist feature. We plan to include this feature in the “Manage Classes” section so that students may manage their student needs all in one place. 66% of our users reported that a book list option in myZou would be helpful. Ideally we would like the feature to be able to generate a list of required materials based on the students registered courses, with the option to purchase from there.

Part II: Project Management

Milestones

The group will communicate through the “Canvas Inbox.” It is expected that group members will check in 2–3 times per week to manage progress of the project. If the group feels it is necessary, they will meet weekly for an online video chat to discuss progress, problems, or other relevant information. Milestones are subject to change if the group feels they are falling behind on progress towards the final product.

Individual Roles and Estimated Task

The group will do its best to distribute work evenly. Each member will be assigned different sections of the final product to work on. When a section is completed the other group members will proofread the content and finalize the progress. Below are tentative assignments for the upcoming sections of the final product. These are subject to change based on the progress that is made in the upcoming weeks, difficulty, and unforeseen challenges.

Individual Roles		Completed By
Final Document		
1. Title Page	Casey	12/9/23
2. Executive Summary	Casey	12/9/23
Problem Analysis		
1. Analysis	Maria & Kristin	10/3/23
2. Task Analysis	Maria	10/3/23
3. Environmental Analysis	Kristin	10/3/23
4. Project Management	Casey	10/3/23
Design Plan and Low Fidelity Prototype		
1. Design Specifications a. Conceptual model b. Visual aesthetics c. Architecture blueprint	Maria, Kristin & Casey	10/19/23
2. Low Fidelity Prototype a. 6 detailed wireframes or mockups	Maria, Kristin & Casey (Two each)	10/24/23
3. Peer Evaluations	Maria, Kristin & Casey (One each)	10/28/23

High Fidelity Prototype		
1. Descriptions	Maria	11/14/23
2. Prototype (Version 1)	Kristin & Casey	11/10/23
3. Peer Evaluations	Maria, Kristin & Casey (One each)	11/17/23
Evaluation Report		
1. Evaluation Framework	Kristin	12/4/23
2. Observation Process	Maria	12/4/23
3. Evaluation Results	Maria	12/6/23
4. Design Evolution	Casey	12/9/23
5. Project Reflections and Recommendations	Casey	12/9/23
Final Document		
1. Proofreading of content.	Maria, Kristin & Casey	12/9/23
2. Submission	Casey	12/10/23

Design Plan and Low Fidelity Prototype

Conceptual Model

The product we are improving is the myZou student information system. MyZou is organized by general student-centered applications that encompass more specific actions or information that the student can access. The application that we are focusing on for this project is “Manage Classes.” Once the student has logged into their myZou account by typing in their university username and password, the student will be directed to the myZou dashboard. There are eight applications for the student on the dashboard, with the “Manage Classes” application being located in the first row and first column. Once the student selects the “Manage Classes” icon, they will be directed to the “Manage Classes” home screen. This screen is where we will be starting our improvements.




The home screen includes selections for class searching, course catalog, enrollment, schedule planner, planner, course schedule, weekly schedule, and final exam schedule on the left side of the screen. We will be condensing the options for weekly schedule and course schedule into one selection, and adding a selection to generate a book list. As student users, and using data from our problem analysis, the multitude of student schedule options was confusing. Our goal is to simplify this selection to make it less confusing and easier to use. We are including a book list feature because there is currently no such feature in myZou. Students

have to go externally through the bookstore website to search for, and purchase, any books for their courses. By incorporating a book list feature, students will be able to utilize myZou for all of their student needs related to their courses.

The weekly schedule and course schedule options will be condensed into one “My Class Schedule,” feature. After selecting this option, a screen to select the term will load. After selecting the term, a list of the student’s registered classes for that term will be displayed that includes the room number, dates, times, deadlines, credit hours, etc. We will include a shortcut from this page to the booklist page.

The booklist page can be navigated to by either selecting the shortcut from the class schedule page, or by selecting the option from the menu on the left side of the screen. After selecting “My Book List,” a screen will load for the student to select their term. Once this has been selected, the students’ required materials will be displayed, organized by each class, that provides the book title, author, edition, and whether the book is required. We will also incorporate a “Purchase Books” feature on this page. When the student selects “Purchase Books,” they will be directed to a purchase menu that displays their book list, with an option to select which books they want to purchase by selecting radio buttons next to each item. There will be a cart icon that will display the number of items to be purchased on this page as well. Once the student has selected all the items they want to purchase, they will select “Continue to Payment,” which will load a payment screen. This screen will display the items to be purchased and the student will type their billing and payment information. Once they have completed this task, they will select “Continue to Shipping,” which will load a screen to collect the student’s shipping information. If the user doesn’t fill out a required field in the payment and shipping pages, a red asterisk will appear next to the missed field and an error message will appear at the top of the screen alerting the user of the error. After the student has entered shipping information, they will then select “Continue to Submit,” which will load a screen where they can review their order and then select “Submit Order,” to complete their purchase. All the pages involved in purchasing books also include a back button to navigate to the previous page, in case any information needs to be edited or removed. The “Manage Classes,” left-side menu is always displayed on all pages. The last page for purchasing books is a confirmation page that will display all the details of the purchase, along with a confirmation number, and include the option to print the confirmation page.

The interface metaphors present in our design include the following:

	To access the book list
	To access the class schedule
	To add books and materials to purchase

Visual Aesthetics and Variables

We are improving an existing product, so we are very limited in our control of the visual aesthetics for our design. We will conform to the existing myZou visual aesthetics which utilizes the contrasting school colors (black and gold/yellow) and continue to use the high contrast background of white/very light gray and black font. Lines and borders will be used for grouping and separating in order to establish unity for items that belong together. Common regions will also be used to organize items in an intuitive manner. We have utilized ample white space where possible to avoid a chaotic, cluttered appearance. Balance has been used on several pages by organizing tables, fillable forms, and information on the screen, to create an aesthetically pleasing page.

The outcome variables that will be associated with our design include perceived usability and trustworthiness. Because our design conforms to the already existing design elements of myZou, we believe that students will feel secure in its use and will assume that it will work as intended because of the familiarity they already have with other aspects of myZou.

The moderating variables associated the most with our design are type of system, context of use, aesthetic fidelity, and cultural differences. Our design is for a computer application that will be largely utilitarian in its purpose and used for school related purposes. Our design, following the existing myZou visual design, is minimalistic and somewhat utilitarian in nature. We believe these variables help the user to accept this design and encourage feelings of usability and trustworthiness. Aesthetic fidelity will also be a factor as every element that we are including will be an intentional decision that will ideally be perceived by the user. Since our product will be used by students from all over the world, cultural differences could impact students' opinion of whether the interface is visually appealing, impacting trustworthiness and perceived usability.

Interaction Types

Interaction	Type
Enter username	Instructing
Hit "Next"	Instructing
Enter password	Instructing
Hit "Sign In"	Instructing
Select "Manage Classes"	Instructing
Select "My Class Schedule"	Instructing
Select term	Manipulating
Select "Continue"	Instructing
Select "My Book List"	Instructing
Select term	Manipulating

Select "Continue"	Instructing
Select "Purchase Books"	Instructing
Select book items	Manipulating
Select "Continue to Payment"	Instructing
Type payment information	Manipulating
Type billing information	Manipulating
Select "Continue to Shipping"	Instructing
Type shipping information	Manipulating
Select "Continue to Submit"	Instructing
Select "Submit Order"	Instructing
Clicking "Back"	Instructing
Select "Print"	Instructing
Searching	Instructing

Cultural and Inclusivity Decisions

Our product was designed with inclusivity and cultural differences in mind in order to make it accessible to a wide audience. The language and presentation used throughout were chosen in order to be usable by adults 18 years and older with a variable amount of computer skills. This fits with the target audience of MU students.

To keep the website accessible for a variety of users, clear and simple labeling is used throughout. Headers are often in bold or in a headings box so that the user is able to understand where to find specific information. Language used is typically the universal term, such as "term" and "book". Distracting or unnecessary text is not included in the design to help with clarity. To accommodate those using translation plug-ins or the visually impaired, the entire site will be readable by screenreaders.

Universal design is implemented throughout for a predictable experience. The tables are typical, with heading labels at the top and the categorized information underneath these headers. It follows a left to right, up then down reading path that is typically found on Western websites. The purchase screens are also typical in design to other websites, allowing the user to quickly identify what they will need to do on the screen. All icons used throughout the product are typical and predictable, such as a shopping cart for the shopping cart, and books for the book list.

Interaction Design Principles, Theories, and Guidelines

The design of the product includes several design principles, theories, and guidelines that exist to help the user navigate and use the website. The product as a whole is organized by information category. Each different page in myZou has information related to a specific category. This follows the information foraging theory for seeking information. We aimed to keep a strong “information scent” by placing the appropriate information in the appropriate page in order to make the information easy to find. These different categories follow task-oriented and topical schemes. For example, the user can expect to find all book information in the “My Book List” page.

The goal with the visual design was to provide an aesthetically pleasing design that did not put too much on the user’s cognitive load. To limit the cognitive load, there is not unneeded information on any of the pages. All the content aids itself to the specific task the user is trying to complete. White space is used throughout the design to help the user quickly scan the page and provide a grounding effect. Charts are used across several of the pages to create enclosed spaces for information. These help the user understand the information on the page, such as being able to quickly identify which books belong to which courses. Each page, while different, uses the concept of “unity” by keeping design and label elements uniform across each page. This helps the user understand that each task and information section belong together.

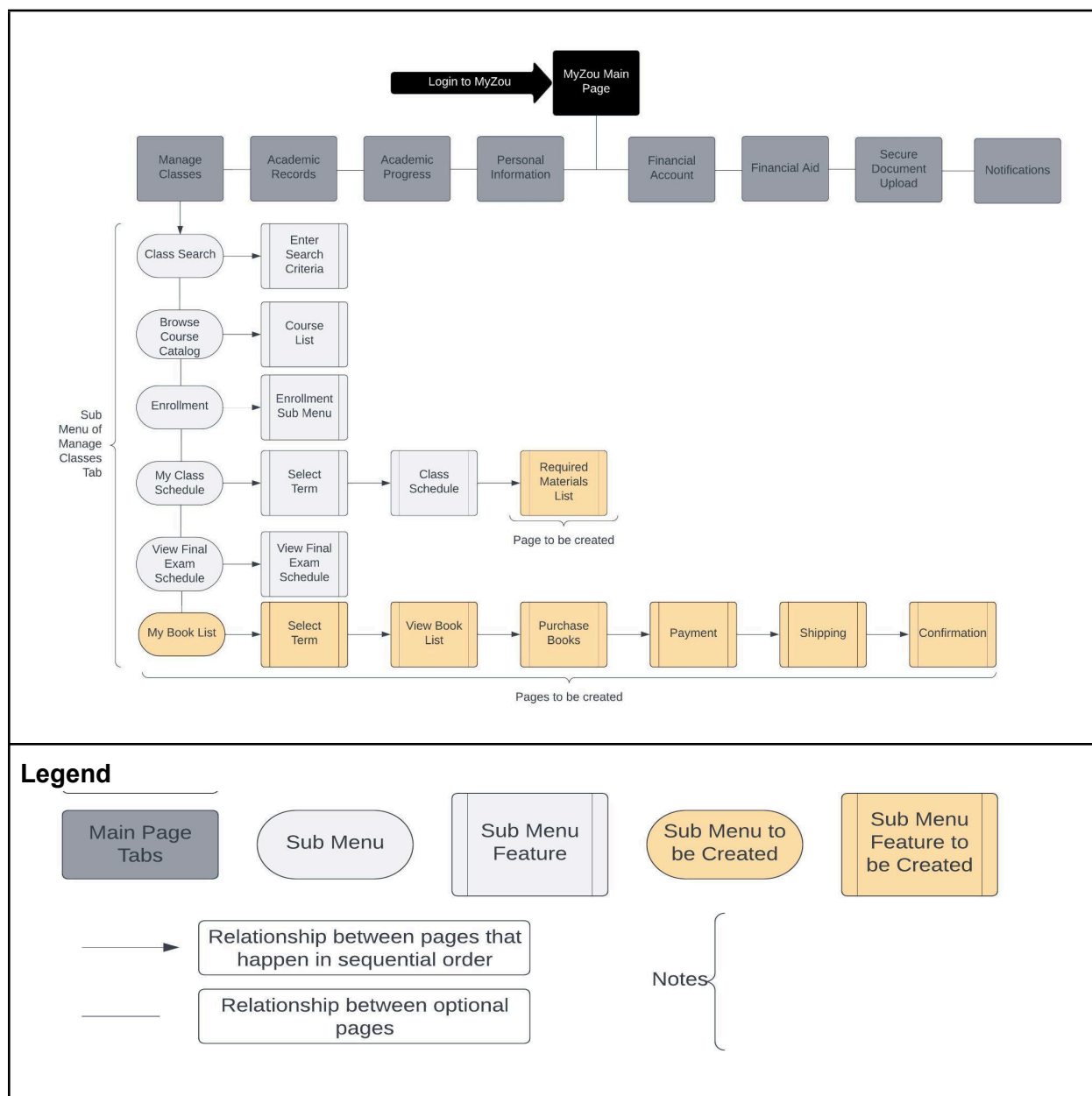
Several Gestalt rules can also be found throughout the design. Proximity is used to communicate to the user which elements are related/together. For example, the payment screen groups the products and prices together at the top of the page. This communicates to the user that these are the items they are purchasing, and the prices near each item belong to that item. The booklist table is an example of a common region used in the design, helping relate the list of books to a specific course.

Information Needs

For the proper execution of the tasks in this product, there is information and data that needs to be considered. Each professor will need to enter the required materials for their course by a specific date before the semester begins. This information will then need to populate in the user’s Book List and Class Schedule. This will appear similar to how course names and professor names currently appear with the “My Class Schedule” feature.

The other feature that will require data transfer will be the Purchase Books feature. There will need to be data exchanged with the MU BookStore in order to purchase books from myZou. The bookstore will need to transfer data on availability and prices to myZou. Then, myZou will need to transfer the following data to the Mu Bookstore so that the books are purchased and shipped to the user: Billing Information, Shipping Information, which products are being purchased, user Payment Information.

Architectural Blueprint



One Plus, One Minus Scenario

Scenario: An incoming freshman to Mizzou is looking at their first semester schedule. They would like to gather all required materials (textbooks, school supplies, etc.) before the semester begins.

Positive Outcome	Negative Outcome
The incoming freshman logs into MyZou for	The incoming freshman logs into MyZou for

the first time without any issues. The menus are clear and easy to follow. They then explore the "Manage Classes" tab to find their first semester of classes. When looking at their class schedule, they are able to find a list of required materials they will need before classes begin. The student then looks at the required textbooks under the "My Book List" tab. There they are able to purchase all of their textbooks in one purchase. The student feels prepared and ready for the semester.

the first time without any issues. The student sees the different menus and feels overwhelmed. They are unsure of where to go to find the information they are looking for. They spend a long time browsing through the menus to find their class schedule. The student also looks at the "My Book List" tab, but is unsure if they need to order the listed books. Since this is their first semester, there is some confusion on whether they truly need these books for class or if they are optional. Because of the uncertainty, the student decides not to order the books. The student will be unprepared for class.

Similar Products and Product Differences

Similar Products and Product Differences Ordering textbooks for college courses differs depending on the institution you are attending. The program that many institutions, including Mizzou, use for their students is through their university bookstore. Students are able to go on to the bookstore website and search for the classes they will be taking for the semester. The website will then populate the required textbook for those courses. The student can decide to order the books through the website.

Our project design streamlines the process of searching for and ordering textbooks. The student will be provided with textbook information on the MyZou website. Which is a website that all students will need to use and be familiar with as they complete their degree. Our design will also provide the student with a full list of books they will need for the semester on one webpage. The university bookstore website is a longer process because it requires the student to look up classes one by one.

Both the university bookstore and our project design have positives and negatives. The university bookstore allows the student to look at the required textbooks of all classes offered at the university. They are not limited to the classes a student is taking. Students will also be familiar with the current system since it has been in use for years. However, the university bookstore is more time consuming since the system only allows you to search for one class at a time. Our project design looks to simplify the textbook ordering system. The new design will be streamlined so that students will be able to look at a full list of textbooks without having to search for their classes. The new design will also be incorporated in a commonly used website for university students. The biggest con to the new design will be the lack of freedom to search for other classes. This can be integrated in the future if students show a need to search for other classes. Overall, we feel this is an improvement over the old system and university students will welcome the change.

Low Fidelity Prototype

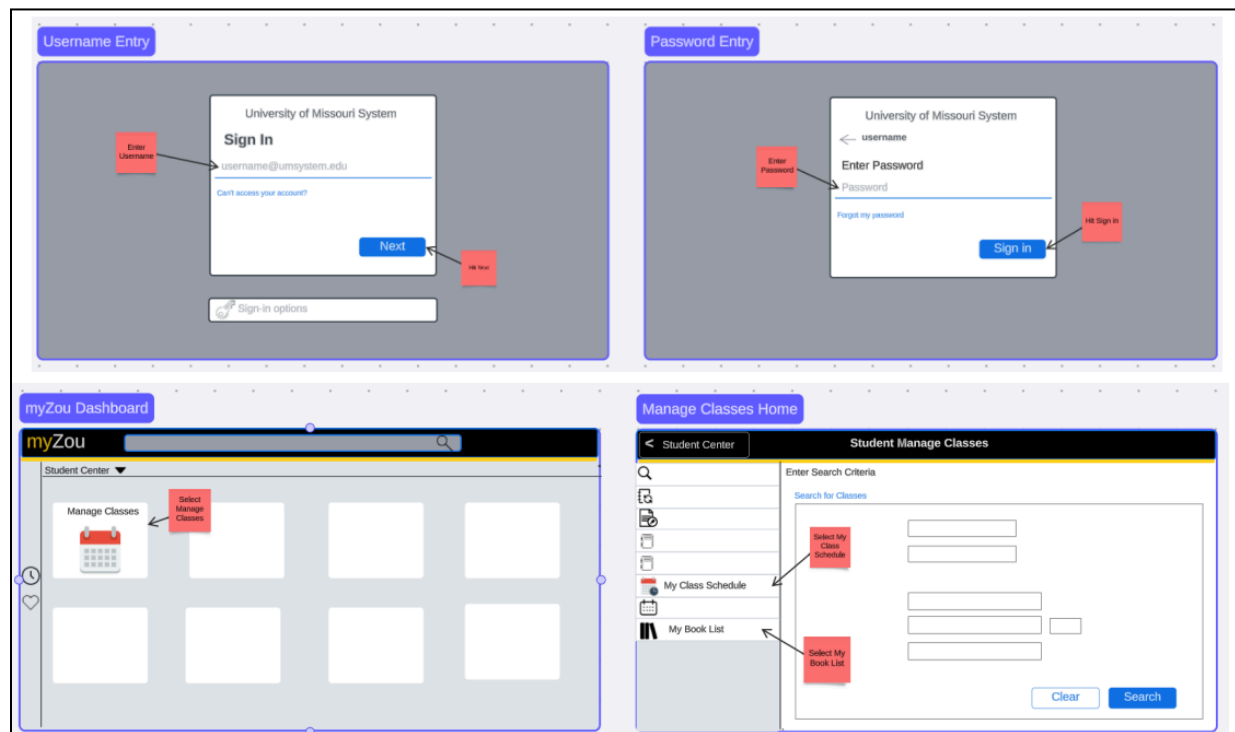
Summary of Feedback

Our low-fidelity prototype was evaluated by two individuals. Our evaluators acknowledged that because we are improving an existing product, we are limited in our design options in order to maintain consistency with the existing application. Both evaluators agreed that our prototype was well constructed in the placement of our features to support user interactions and that our prototype maintained consistency and adhered to industry standards. They both also felt that our design aligned with expected user tasks very well. Our evaluators did not agree on what areas our prototype needed improvement and gave mixed feedback on improvements to be made. The areas they signaled that needed improvement were:

- Navigation
- Information organization
- Visual Aesthetics

Our evaluators offered suggestions in order to improve these areas. The suggestions offered were:

- Streamlining our navigation to avoid redundancy to better support user tasks
- Clarify the terms found on some of the pages
- Adding a breadcrumb trail to the term select page
- Refinement of checkout process
- Including the ISBN for the books
- Including multiple payment options
- An alternate checkout sequence
- Changing the current icons in the “Manage Classes” navigation bar



My Class Schedule Term Select

Student Center

Student Manage Classes

Search

My Class Schedule

My Book List

Select a term then select continue

Term	Career	Institution
<input type="radio"/>		
<input type="radio"/>		
<input type="radio"/>		
<input type="radio"/>		

Continue

My Class Schedule Selected

My Class Schedule

Student Center

Student Manage Classes

Search

My Class Schedule

My Book List

Term | Career | Institution

Change Term

My Book List

Class #1

Status	Units	Grading	Deadlines	Start/End Date

Section

Day/Times	Room	Instructor	Required Materials

Class #2

Status	Units	Grading	Deadlines	Start/End Date

Section

Day/Times	Room	Instructor	Required Materials

Required materials could be books, equipment, learning tools, etc.

My Book List Term Select

Student Center

Student Manage Classes

Search

My Class Schedule

My Book List

Select a term then select continue

Term	Career	Institution
<input type="radio"/>		
<input type="radio"/>		
<input type="radio"/>		
<input type="radio"/>		

Continue

My Book List Selected

My Book List: Term Booklist

Student Center

Student Manage Classes

Search

My Class Schedule

My Book List

Term | Career | Institution

Change Term

Purchase Books

Class #1

Book	Author	Edition	Required
			Yes/No
			Yes/No
			Yes/No

Class #2

Book	Author	Edition	Required
			Yes/No
			Yes/No
			Yes/No

Booklist after selecting "My Book List" button

Purchase Books

Student Center

Student Manage Classes

Search

My Class Schedule

My Book List

Select books you wish to purchase from the lists below

Class #1

Select	Book	Author	Author Name	Ed.	Required
<input checked="" type="radio"/>	Book name 1		Author Name	Ed.	Yes/No
<input type="radio"/>					Yes/No
<input type="radio"/>					Yes/No

Class #2

Select	Book	Author	Author Name	Ed.	Required
<input type="radio"/>					Yes/No
<input type="radio"/>					Yes/No
<input type="radio"/>					Yes/No

Cart icon will display number of items in cart

User selects books they wish to purchase

Back to List

Continue to Payment

Payment

Student Center

Student Manage Classes

Search

My Class Schedule

My Book List

Cart

Product	Quantity	Price	Remove
Book Name	1	\$0.00	X
Subtotal		\$0.00	
Shipping		\$0.00	
Total		\$0.00	

Can remove books from cart

Payment Method

Cardholder Name

ex. Jane Smith

Card Number

1111 1111 1111 1111

Exp. CVV ZIP Code

MM/YY 111 11111

Back

Continue to Shipping

Billing Information

First Name

Last Name

Email Address

Street Address

City ST

ZIP Code

User will enter payment and billing information here

If they do not fill out a field, a red * will appear on the blank field and they will receive an error message at the top of the screen

Shipping

Student Center

Student Manage Classes

Search

My Class Schedule

My Book List

Cart

Billing Information

Billing information listed here

Shipping Information

First Name

Last Name

Email Address

Street Address

City ST

ZIP Code

Back

Continue to Submit

If they check the box that says they have a different shipping address from their billing they can fill out the form below

If they do not fill out a field, a red * will appear on the blank field and they will receive an error message at the top of the screen

Review

Student Center

Student Manage Classes

Search

My Class Schedule

My Book List

Review Order

Product	Quantity	Price	Remove
Book Name	1	\$0.00	X
Subtotal		\$0.00	
Shipping		\$0.00	
Total		\$0.00	

Billing Information

Billing information listed here

Shipping Information

Shipping information listed here

Payment Information

Payment information listed here

Back

Submit Order

User can review order before submitting it

Confirmation		Student Center		Student Manage Classes																					
 	<h3>Order Confirmation</h3> <p>Order Number: 1111111111111111</p> <table border="1"> <thead> <tr> <th>Product</th> <th>Quantity</th> <th>Price</th> <th>Remove</th> </tr> </thead> <tbody> <tr> <td>Book Name</td> <td>1</td> <td>\$0.00</td> <td>X</td> </tr> <tr> <td></td> <td></td> <td>Subtotal \$0.00</td> <td></td> </tr> <tr> <td></td> <td></td> <td>Shipping \$0.00</td> <td></td> </tr> <tr> <td></td> <td></td> <td>Total \$0.00</td> <td></td> </tr> </tbody> </table> <p>Billing Information Shipping Information</p> <p>billing information listed here shipping information listed here</p> <p>Payment Information</p> <p>payment information listed here</p> <p style="text-align: right;">Print</p>					Product	Quantity	Price	Remove	Book Name	1	\$0.00	X			Subtotal \$0.00				Shipping \$0.00				Total \$0.00	
	Product	Quantity	Price	Remove																					
	Book Name	1	\$0.00	X																					
			Subtotal \$0.00																						
		Shipping \$0.00																							
		Total \$0.00																							
<div style="background-color: #f0f0f0; padding: 10px;"> <p>My Class Schedule</p> </div>																									
<div style="background-color: #d3d3d3; padding: 10px;"> <p>My Book List</p> </div>																									
<div style="background-color: #fff2cc; padding: 10px; border: 1px solid #f0e68c;"> <p>This page will confirm the order and give the user an order number.</p> </div>																									
<div style="background-color: #fff2cc; padding: 10px; border: 1px solid #f0e68c;"> <p>User can print a confirmation page</p> </div>																									

High Fidelity Prototype

Part I

Functionality and Features

This prototype is an improvement over the myZou student information system. MyZou is a website used by Mizzou students to manage their classes, monitor their academic progress, and manage their student finances. This prototype will focus on improving the “Manage Classes” tab on myZou. Specifically, we will be simplifying the selection process and adding additional features for users. More detailed descriptions are listed below.

The first improvement to myZou was the condensing of the “Manage Classes” page. The current page has buttons for class searching, course catalog, enrollment, schedule planner, planner, course schedule, weekly schedule, and final exam schedule on the left side of the screen. Some of the features are underutilized, while there are other features that could be included. Our changes have created a page that will serve Mizzou students much better. We have combined the weekly schedule and course schedule since they are essentially doing the same thing. We have also included an additional button to generate a booklist for a selected semester of class. These changes will create a page that is more user-friendly and will better meet the needs of the students.

The second improvement was to add a way for students to purchase books for their classes straight from the myZou website. In its current state the students must go to the bookstore website and search for their classes individually. This is a long and troublesome process. We want to create a streamlined approach within the myZou website. Which is a website that all Mizzou students are familiar with. In the prototype the “Manage Classes” page has received an additional “My Booklist” button. This button will allow the user to select a term to see what books are required for each course. The user will then be able to select the books they want and purchase them straight from the myZou website. This will create a quicker and more streamlined process for students to order their books.

The prototype will allow you to try out both improvements. The prototype starts at the myZou home page. From here, you can select the “Manage Classes” tab. You will then see the simplified button layout as well as the additional “My Booklist” button. The two buttons on this page that are functional include the “My Class Schedule” and “My Booklist.” When selecting either button, the user will be able to preview their improved functionality. The “My Class Schedule” button will preview the process of selecting a term and seeing the schedule. The “My Booklist” button will show how the user will select a term, select specific books, and purchase them from the myZou website. All other buttons of the prototype are unable to be clicked due to the fact that they remain unchanged from the original myZou page.

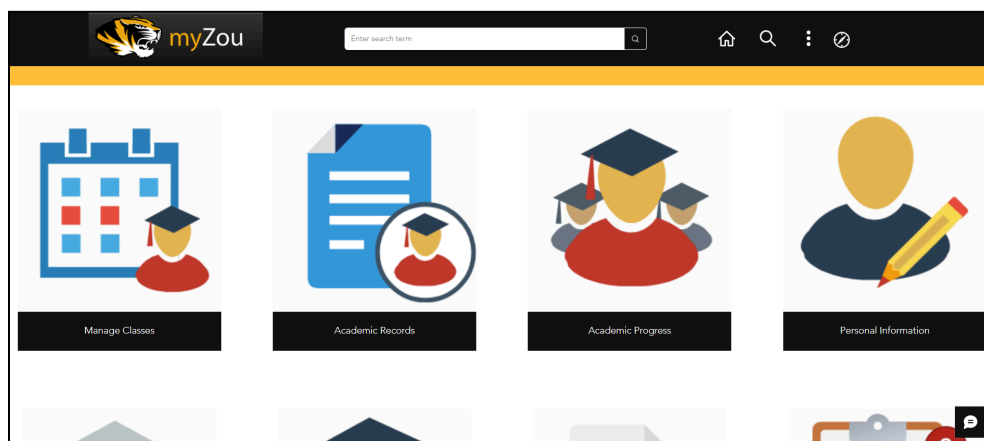
Tools, Applications, and Technology Used

The high-fidelity prototype was created using Wix, which is a website building website. Wix simplifies the website editing process by providing tools to create any website you envision. The user can start from scratch, or they can select a template to speed up the process. Websites are edited using their drag and drop system. Wix provides many different premade elements that you can drag to exactly the place you need them. This simple system is perfect for users who do not have a lot of experience creating websites or coding. We found Wix to be simple and easy to use. The design tools allowed us to create exactly the prototype we envisioned.

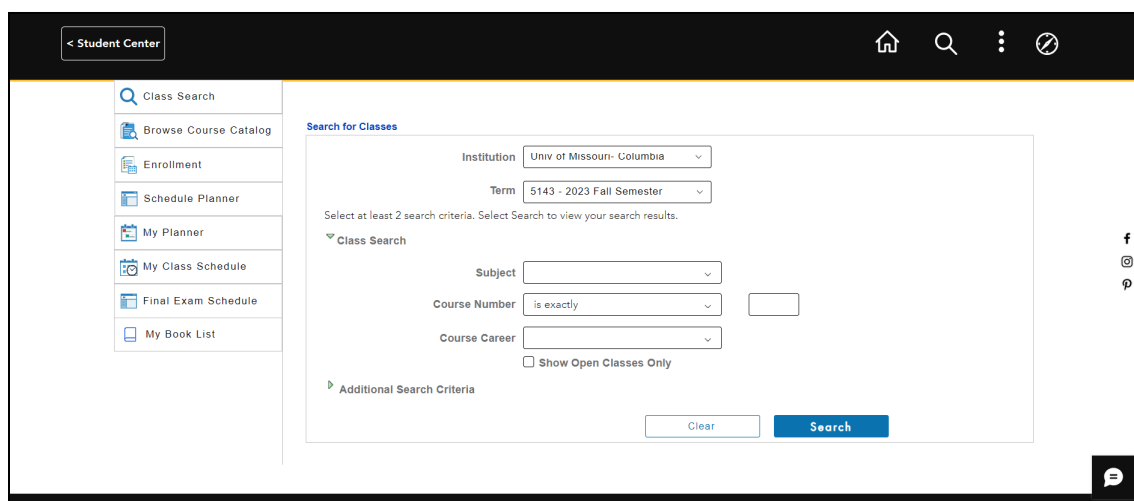
We did not need to use any other tools or applications to finish the prototype. This again is an improvement over an existing system, so we were able to reference the original MyZou page to help create this prototype.

Key Elements of Design

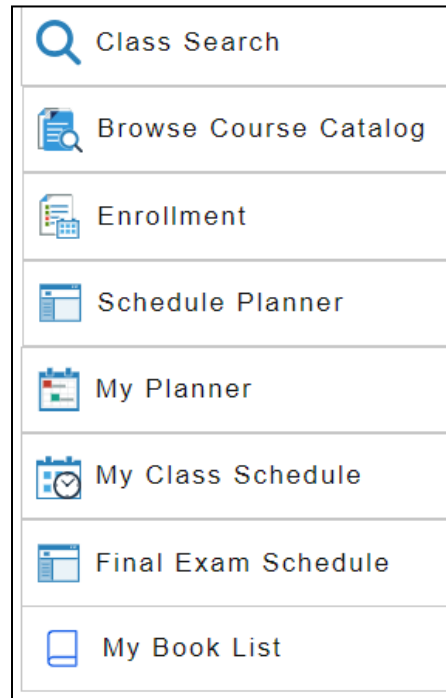
1. MyZou homepage remains unchanged



2. "Manage Classes" tab with updated menu



3. Closer look at updated menu



4. Additional “My Book List” button. (Notice the “Purchase Books” button.)

Class Search

Browse Course Catalog

Enrollment

Schedule Planner

My Planner

My Class Schedule

Final Exam Schedule

My Book List

My Book List

IS_LT 7384 - DESIGNING GAMES FOR LEARNING

Book Title	Author	Edition	Required
(Book title)	(Book author)	1st Edition	No
(Book title)	(Book author)	2nd Edition	Yes

IS_LT 9461 - INTERACTION DESIGN

Book Title	Author	Edition	Required
(Book title)	(Book author)	1st Edition	No
(Book title)	(Book author)	2nd Edition	Yes

Change Term

Purchase Books

5. Closer look at the “Purchase Books” button

Edition	Required
1st Edition	No
2nd Edition	Yes

[Change Term](#)
[Purchase Books](#)

6. First step of purchase books process, selecting books

[Class Search](#)
[Browse Course Catalog](#)
[Enrollment](#)
[Schedule Planner](#)
[My Planner](#)
[My Class Schedule](#)
[Final Exam Schedule](#)
[My Book List](#)

Select books you wish to purchase from the list below, then select Continue

IS_LT 7384 - DESIGNING GAMES FOR LEARNING

Select	Book Title	Author	Edition	Required
<input checked="" type="checkbox"/>	(Book Title)	(Book Author)	1st Edition	No
<input checked="" type="checkbox"/>	(Book Title)	(Book Author)	2nd Edition	Yes

IS_LT 9461 - INTERACTION DESIGN

Select	Book Title	Author	Edition	Required
<input type="checkbox"/>	(Book Title)	(Book Author)	1st Edition	No
<input type="checkbox"/>	(Book Title)	(Book Author)	2nd Edition	Yes

[Back to List](#)
[Continue to Payment](#)

7. Second step, payment

[Class Search](#)
[Browse Course Catalog](#)
[Enrollment](#)
[Schedule Planner](#)
[My Planner](#)
[My Class Schedule](#)
[Final Exam Schedule](#)
[My Book List](#)

Cart

Product	Quantity	Price	Remove
Book Title	1	\$0.00	
		Subtotal	\$0.00
		Shipping	\$0.00
		Total	\$0.00

Payment Method

Cardholder Name *

Card Number *

Exp. * CVC * ZIP Code *

Billing Information

First Name *

Last Name *

Email Address *

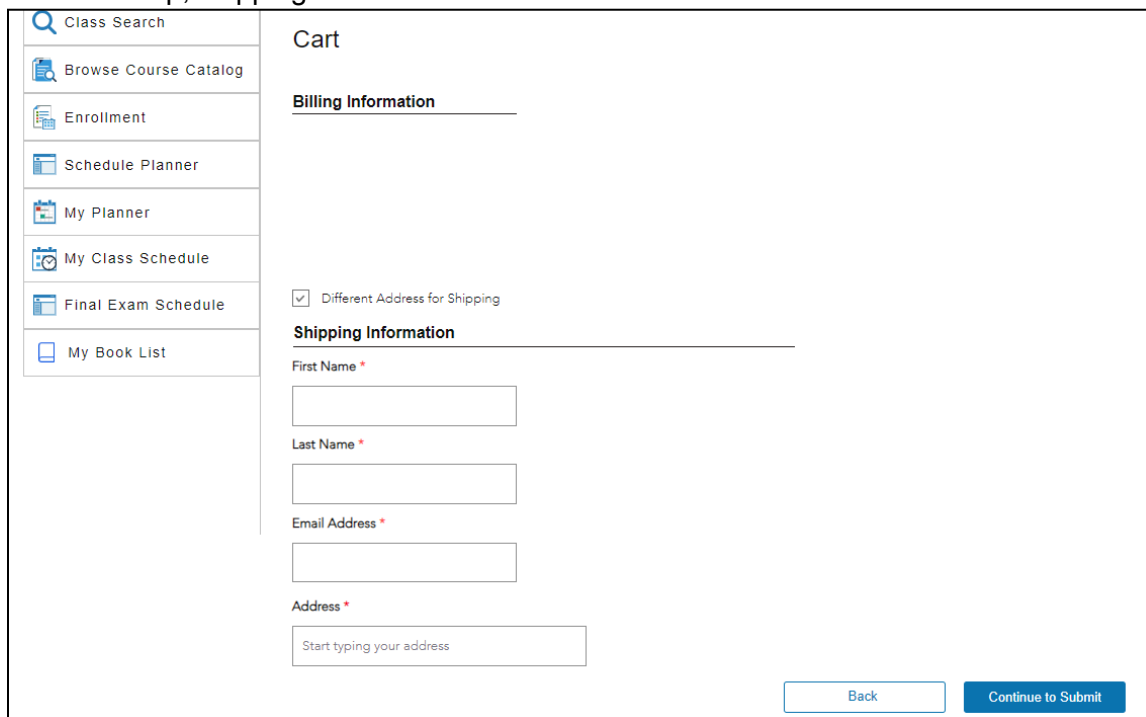
Address *

City *

State * ZIP Code *

[Back to Book Selection](#)
[Continue to Shipping](#)

8. Final step, shipping information



The screenshot shows a web interface for a 'Cart' page. On the left is a sidebar with the following links: Class Search, Browse Course Catalog, Enrollment, Schedule Planner, My Planner, My Class Schedule, Final Exam Schedule, and My Book List. The main content area is titled 'Cart' and contains a 'Billing Information' section (which is currently empty) and a 'Shipping Information' section. The 'Shipping Information' section includes a checkbox for 'Different Address for Shipping' (which is checked), followed by form fields for 'First Name *', 'Last Name *', 'Email Address *', and 'Address *'. The 'Address' field has a placeholder text 'Start typing your address'. At the bottom right of the form are two buttons: 'Back' and 'Continue to Submit'.

Unimplemented Features

The high-fidelity prototype included all the improvements that we included in our original low-fidelity prototype. We were able to include functional buttons and features that show exactly the improvements that need to be made. In our case, it was the improved button layout and the addition of the booklist and book ordering feature. The Wix website was effective at allowing us to create a prototype that was not only functional, but also a visual match. However, not all features of myZou were included. The main reason for this was because we were not changing any other features from the current myZou website. We focused on improving the “Manage Classes”. All other tabs of the home page remain unchanged.

The book purchasing function is where we ran into some limitations from the Wix tool. While the interactions present in the store are reflective of our end goal, this store does not operate as a true “store” and therefore the user is not able to actually purchase a book from the prototype. For the purchase confirmation and cart pages, examples are used on these pages that reflect what the end user would see. The actual product data is not pulled page-to-page because that would have required setting up an actual store within the Wix application. The purpose of the “Purchase” feature in the prototype is to give an idea of how the final process will work.

Part II: Prototype (Version 1)

Link to high-fidelity prototype: <https://kmcvd7.wixsite.com/myzou>

Summary of Feedback

The feedback for this prototype was generally positive with most agreeing that our design did an excellent job supporting user tasks and goals. Common themes that became apparent through this feedback was that our task-based organization was simple and easy to navigate, with our information organization making sense to the user. The areas that were consistently mentioned as needing improvement included:

- Adding more content to our sections. This was the most consistent issue mentioned.
- Adding the name of the page and term at the top of the different pages
- Include the ISBN for the books
- Include the cover pictures for the books
- Adding more options for payment
- Change icons on the home page

Evaluation Report

Evaluation Framework

The goal of the evaluation is to measure the ease of use of the new and redesigned features of the Manage Classes section of myZou. The specific questions of the evaluation include:

- Does the simplification of options within myZou's "Manage Classes" section allow for easier navigation?
- Are users able to easily find required texts and materials for enrolled courses on myZou?
- Are users able to easily navigate and purchase books and materials through myZou?

In this evaluation data was collected through in-person observation, questions at the end of observation, and a System Usability scale. These methods allow for a well-rounded analysis of the new myZou features. Observations were located in an office setting and in-person so that the observer could observe how they navigate the website. The observer gave the participants a series of tasks, and took notes on the user experience. The three tasks were:

- Accessing the Class Schedule
- Accessing Your Booklist
- Select and Purchase Books

Specifically, the observer would take notes of how long it took them to complete the task and errors or problems identified by the user. The observer would then follow up the task with three interview questions:

- On a scale of 1-3, with 1 being the easiest, how would you rate the difficulty of that task?
- What do you like about this page/feature?
- What do you dislike about the page/feature?

This process would be completed for each of the three tasks listed above. Upon completion of the observation, the participant was asked to fill out a System Usability Scale questionnaire (Appendix B). This questionnaire was comprised of several "I" statements about the user experience using the website. Participants responded to each statement on a scale of 1 - Strongly Disagree to 5 - Strongly Agree.

Evaluation Question	Data Collection Instrument/Method	Data Analysis Method
Does the simplification of options within myZou's "Manage Classes" section allow for easier navigation?	Observations, Interviews Data, System Usability Scale	<ul style="list-style-type: none"> • Number of navigational errors before and after redesign • Reduced time navigating myZou • Qualitative analysis to determine common themes from interview data

Are users able to easily find required texts and materials for enrolled courses on myZou?	Observations, Interviews Data, System Usability Scale	<ul style="list-style-type: none"> • Time it takes to find My Booklist under 2 minutes • Qualitative analysis to determine common themes from interview data
Are users able to easily navigate and purchase books and materials through myZou?	Observations, Interviews Data, System Usability Scale	<ul style="list-style-type: none"> • Number of navigational errors in the book selection and purchasing process • Qualitative analysis to determine common themes from interview data

Observation Process

Overview of Participant Information:

1. Participant 1:
 - Age/Gender: 20-year-old Female
 - Internet Experience: Very experienced
 - Profession: Intern/Undergraduate Student
2. Participant 2:
 - Age/Gender: 35-year-old Female
 - Internet Experience: Experienced
 - Profession: Instructional Designer/Graduate Student
3. Participant 3:
 - Age/Gender: 21-year-old Male
 - Internet Experience: Very experienced
 - Profession: Intern/Undergraduate Student

Overview of Observation and Interview Data:

(For full observation and interview data, see Appendix C)

1. Task 1: Accessing the Class Schedule:
 - **Participant 1:** ~30 seconds; Difficulty: Easy; No errors; Liked the streamlined design
 - **Participant 2:** <30 seconds; Difficulty: Easy; No errors; Liked simplicity and straightforwardness
 - **Participant 3:** <30 seconds; Difficulty: Easy; No errors; Liked simplicity and convenience but confused by "My Planner" and "My Class Schedule"
2. Task 2: Accessing Your Booklist:
 - **Participant 1:** 30-60 seconds; Difficulty: Easy; No errors; Liked ease of finding information

- **Participant 2:** 30-60 seconds; Difficulty: Okay; Identified date discrepancy on class schedule page; Liked book cover picture;.
 - **Participant 3:** <20 seconds, Difficulty: Easy; Identified odd slider on book list; Liked printing schedule but confused by "My Planner" and "My Class Schedule"
3. Task 3: Select and Purchase Books:
- **Participant 1:** 3-4 minutes; Difficulty: Okay; No errors; Liked convenience and pictures.
 - **Participant 2:** 3-4 minutes; Difficulty: Okay; Identified button location inconsistency; Liked features but disliked lack of menu order logic
 - **Participant 3:** ~3 minutes; Difficulty: Okay; Identified potentially missing address input confusion; Liked features but suggested changes in menu and button labels

Overview of System Usability Scale Data:

Questions	Participant 1 Response	Participant 2 Response	Participant 3 Response
I think the tool was easy to use and navigate	5	4	5
I was not overwhelmed by the numerous options and complexity of the tool	5	5	5
The tool performed the way I expected	4	4	4
I found it easy to determine my location in the tool (i.e, path, linear, or hierarchical order, etc)	5	4	4
All interaction elements, such as buttons or moveable objects, worked as expected	4	4	4
I thought the visual design was pleasing	5	5	5
The content was easy to understand and was aligned with the purpose of the tool	5	4	5
I found the technical functioning very good regarding audio, video, animation speed, and content display	5	4	5
The visual design and media (text, audio, video, and animation) work together to form one cohesive program	4	4	4
My overall experience with the tool was very good	5	4	5

The user participants in the evaluation process consisted of two undergraduate students who were ages 20 and 21 years old, and one graduate student who is 35 years old. All participants described themselves as either experienced or very experienced in terms of internet experience, and used a mix of both Windows and Mac computers. All three participants used Google Chrome as a browser during the observations.

While accessing the class schedule, all participants were able to complete the task quickly, taking at most 30 seconds to access the schedule. Feedback for this feature was generally very positive, with all describing the task as easy, straightforward, and streamlined. The second task, accessing the booklist, was also completed quickly by all participants. Some errors were identified in this task, such as a date discrepancy at the top of the page (“Fall Semester 2023” is displayed for Spring Semester 2024), and the appearance of a horizontal slider bar where it was not needed. The task of selecting and purchasing books took the longest to complete, anywhere from 3-4 minutes, however this was to be expected as it is the most complex of the three tasks. All participants noted that this feature was very convenient and liked that it was included. However some errors were reported during this task. One participant noted that the submit and back buttons at the bottom of the screen were not consistent in their location. Another pointed out some unusually sized gaps between input fields, and also noticed that there was not an input field for city, state, and zip code on the shipping page.

General feedback across participants was generally positive, with participants noting that they enjoyed the simplicity, convenience, and features like book cover images and the ability to review orders before submission. The inclusion Purchase Books function was praised and all participants felt it was a good feature to implement into myZou. However, there were some aspects of the prototype that participants either disliked or caused confusion. One suggestion by a participant was to reconsider menu organization, as she felt there was not consistent logic to the order (sub as alphabetical order). All participants felt that the Purchase Books task was a bit long and contained a lot of clicks, but most acknowledged that this was a consistent issue they have will all online shops. Another participant wondered if they selected a “used” book, would they have any control over the quality or would it be randomly selected by the bookstore.

On the System Usability Scale questionnaire, ratings from the three participants indicated a generally positive experience while using the prototype. The questionnaire contained “I” statements covering a range of topics, including ease of use and navigation, avoidance of overwhelming complexity, alignment with performance expectations, and effectiveness of interaction elements. All participants consistently rated the tool positively, with all scores falling within the 4 to 5 range on a scale of 1 to 5 (1 being Strongly Disagree; 5 being Strongly Agree). Participants appreciated the pleasing visual design, found the website easy to understand and navigate, and felt that the interactions and features aligned with the website’s overall purpose. The responses suggest an overall positive user experience.

Evaluation Results

Summary of Data Analysis

Low-Fidelity Prototype

Our low-fidelity prototype was evaluated by two individuals. Our evaluators acknowledged that because we are improving an existing product, that we are limited in our design options in order to maintain consistency with the existing application. Consistent themes that both evaluators agreed on was that our prototype was well constructed in the placement of our features to support user interactions and that our prototype maintained consistency and

adhered to industry standards. They both also felt that our design aligned with expected user tasks very well. The low-fidelity evaluations were mixed on what areas that our prototype needed improvement. Our first evaluator commented that our navigation needed improvement in order to better support user tasks. This evaluator suggested streamlining our navigation to avoid redundancy and to clarify the terms found on some of the pages. They also suggested adding a breadcrumb trail to the term select page. Our second evaluator felt that both our information organization and visual aesthetics needed improvement. This evaluator felt that our checkout process needed some refinement and suggested including the ISBN for books as well as multiple payment options. This evaluator also suggested an alternate checkout sequence for book purchasing. For visual aesthetics, this evaluator mentioned that they felt that the current icons used in the myZou “Manage Classes” navigation bar were confusing, and that if we were going to improve some parts of this section to consider replacing some of these icons as well. Instructor feedback was generally positive, mentioning that we need to clarify if more features were being improved besides the addition of the booklist feature, and that we needed to maintain color choices that align with MU branding.

High-Fidelity Prototype

Our high-fidelity prototype was evaluated by three peers, three usability testers, and our instructor. The feedback for this prototype was generally positive with most agreeing that our design did an excellent job supporting user tasks and goals. Common themes that became apparent through this feedback was that our task-based organization was simple and easy to navigate, with our information organization making sense to the user. The areas that were consistently mentioned as needing improvement included adding more content to our sections. This was the most consistent issue mentioned. Adding the name of the page and term at the top of the different pages so that users would know where they were was also mentioned as a way to improve our prototype. The second most suggested element was to include both the ISBN and cover pictures for the books, as well as including more options for payment. Aesthetics-wise, the evaluators noted that the icons on the homepage were large and slightly blurry. Finally, the instructor mentioned having the pages linked so that each specific term option would link to a term-specific page.

Tabulation of Ratings- Usability System Data(1 being Strongly Disagree; 5 being Strongly Agree)

Questions	Average Rating
I think the tool was easy to use and navigate	4.67
I was not overwhelmed by the numerous options and complexity of the tool	5
The tool performed the way I expected	4
I found it easy to determine my location in the tool (i.e, path, linear, or hierarchical order, etc)	4.33
All interaction elements, such as buttons or moveable objects, worked as expected	4
I thought the visual design was pleasing	5
The content was easy to understand and was aligned with the purpose of the tool	4.67
I found the technical functioning very good regarding audio, video, animation speed, and content display	4.67
The visual design and media (text, audio, video, and animation) work together to form one cohesive program	4
My overall experience with the tool was very good	4.67

Summary of Observations

	Task 1	Task 2	Task 3
Task Description	Accessing the Class Schedule	Accessing Your Booklist	Select and Purchase Books
*Average difficulty rating in completing task	1	1.33	2

*Difficulty rating: 1 = easy, 2 = okay, 3 = difficult

Comments

The most notable comments that were given for our prototype were that it was well designed to support user tasks and goals, while maintaining consistency with the MU design that is currently in place. The users mentioned the minimalistic design and simple, user-friendly navigation as strengths in our design. The book covers provided for the books were also consistently

mentioned as positive elements in our prototype. The comments that noted confusion, or areas needing improvement, centered around the left-side menu buttons. The evaluators found these buttons to have confusing labels and icons, and an irregular and illogical layout in our early design. The fact that there was a lot of clicking to go through the purchase cycle was also mentioned as a weakness with our design. Another notable comment from instructor feedback was that the specific term selections should be linked to a page with that specific information on it.

Negative Feedback

The evaluation scores for our prototype were all very positive. The feedback that indicated improvements that needed to be made included more content needing to be added, the left-side menu buttons needed to be improved, and term-specific selections needed to be linked to information for the term specifically.

Several of our evaluators noted that they would have liked to see more content in the “My Class Schedule” page and the “My Book List” page. These areas had several blank sections initially, but this was improved after the peer evaluations. The left-side menu buttons were not lined up perfectly for the first iteration of the high-fidelity prototype, with some of the buttons not quite matching up. The usability testers also mentioned confusion at some of the button titles. They mentioned “My Planner,” and “My Schedule” being similar and this was confusing. The instructor feedback mentioned that when selecting the term radio buttons for the class schedule and the book list, the page should be directed to content specific for that selection. Our prototype had linked all semester/term options to one page after selection.

The need for more content was addressed by including more specific information regarding the courses and books, adding the ISBNs for the books, adding book cover images, and displaying shipping and billing information for a fictional student. The layout of the buttons was tidied up to be more consistent and organized, but we kept the icons and labels for most of them to maintain consistency with the current myZou design. We were unable to determine how to link the radio button selections to specific pages for this prototype. As such, this element has remained as it was in the first iteration.

Design Evolution

Changes From Low to High Fidelity

The changes made to our prototype from low-fidelity to high-fidelity were influenced by our feedback received and features available within our prototyping tool. Our low-fidelity prototype included the login sequence, but we ultimately decided to eliminate this from our design as we were not making any changes to this element of myZou. All of our low-fidelity prototype icons were replaced with actual icons and images from the myZou program for our high-fidelity prototype. Finally, the layout and content of our course listings were changed to more accurately reflect the layout and content currently used in myZou, while streamlining the design for a more user-friendly experience.

Major Changes

The most significant change that we incorporated was the inclusion of more information for the class schedule and book list. All of our evaluators (peers and instructor) mentioned that more content would help them to get a better feel for how the application would be used. We included specific course information, such as instructor name, course dates, and credits earned. For the book list, we included the ISBN for the books, an image of the book cover, and multiple formats

of the text for purchase. Several of the evaluators mentioned that many students would be looking for the least expensive way to obtain their course materials and that including a used, rental, or ebook option would be beneficial so we changed our book purchasing format to include this.

Another major change was switching the icons used for our prototype. Our evaluators mentioned that the icons on the homepage were too large and blurry, and our low-fidelity prototype evaluators mentioned that the icons used in our prototype were confusing. To overcome these aesthetic and usability issues, we saved the icons directly from myZou and used them to replace the existing icons. This made our high-fidelity prototype more consistent with the product in place and made the icons on the homepage more aesthetically pleasing.

Evaluation Method

The evaluation method that was most useful for us to improve our final prototype was the peer evaluations for the high-fidelity prototype. These evaluations were completed by fellow students who also had access and experience with myZou. This gave them the unique qualities of being able to look at our prototype from both a design perspective and from the perspective of a student who uses myZou. They were able to give us specific feedback on what did and did not work, as well as suggestions on how to improve our design using interaction design principles as their frame of reference.

Revision Log

Source (UT, PE)	Issue Priority (Low, Medium, High)	Issue Description	Recommendation	Changed (Yes/No)
PE-Low	Low	Original myZou icons don't make sense	Replace with icons that represent the selection better	No. We kept the original myZou icons to maintain consistency with the existing program
PE-High	Medium	The navigation button and page titles don't match up	Match button and page titles	Yes
PE-High	Medium	The back to book list button broken	Fix button	Yes
PE-High	Medium	Book list page doesn't navigate to class schedule	Fix button	Yes

PE-High	Low	Corners on the buttons were not consistent	Change all corners to one style	Yes
PE-High	Medium	Sidebar navigation buttons don't line up	Line up all buttons together	Yes
PE-High	Low	Grammar inconsistent in left sidebar navigation buttons	Delete "Browse" so that all buttons start with a noun	Yes
PE-High	Low	Purchase page has a zip code input in the same line as the cvc	Remove the zip code input	Yes
PE-High	Low	Booklist icon is not consistent with the other icons	Change the booklist icon to one more consistent with the existing icons	Yes
PE-High & Low	High	No ISBN, makes it difficult to match books exactly when searching	Add ISBN for books	Yes
PE-High	High	No book title and author information in book list and purchase pages	Add title and author info	Yes
PE-High	High	No image for book covers	Add images for book covers	Yes
PE-High	High	Only one option for book purchase	Add used, new, rental, and ebook options	Yes
Instructor-High	High	Radio buttons for term select for class schedule and book list don't	Link radio button selections to pages with term-specific info	No. We could not determine how to get this feature to work. It could

		link to specific pages for that term		have been a limitation of the program we used, or we didn't have enough time to discover how to do this. We opted to maintain the radio button style rather than using regular buttons, which we would have been able to link, to keep it consistent with the current design of myZou.
PE-High	Low	No order confirmation email pop up	Include an order confirmation email pop up message	No. We included a confirmation page and felt that an additional pop up message about an email being sent would be redundant
Instructor-High	Medium	Print button doesn't actually work	Make the print button functional	No. We were unable to determine how to make the print button functional with the program we used
PE/Instructor-High	Medium	Icons on the homepage are too large and blurry	Resize the icons and get higher quality images	Yes

Instructor-High	High	Yellow text on white background for state selection was difficult to see	Change text to something darker	Yes
Instructor-High	Medium	Number inputs have up and down number selectors	Remove the up and down selectors	No. We could not determine how to remove or hide these buttons with the program we used
PE/Instructor-High & Low	High	Pages were lacking, or had incorrect term labels so users didn't always know what page they were on	Add and/or correct term label	Yes

Project Reflections and Recommendations

After completing this project, the group has learned some valuable lessons about design and development. First is the level of detail needed to create or improve a functional product. Every step of the process needs to be well thought out and planned. Challenges will eventually arise as you work through the design process, but detailed plans can help keep a project on track. Another key lesson is the value of communication. Oftentimes we think that we can take on the world by ourselves. But a project to this extent takes a team. Our team did a tremendous job of communicating each week and we believe it shows in the final product. Deadlines and the quality of our work was never an issue due to our strong and constant communication. Lastly, we found that evaluation is vital to creating quality functional products. When we design a product we know every single detail about it. The designer perspective may cause you to overlook, underutilize, and create confusing products. However, a user will be looking at your product for the first time and discovering how to use it. Feedback from the users is critical to the development of your products. Much of the design may be excellent, but the only way to discover this is through testing and evaluations.

In an ideal scenario, we would have implemented more extensive changes. "MyZou" has features that are not being fully utilized by students. From the manage classes tab we focused on adding a booklist and redesigning the class schedule feature. In this tab alone we could have continued the redesign to increase useability and update the interface to a more modern design. In addition to the manage classes tab, we could have also explored the other tabs. There will surely be additional features that could or need to be added. There may also be outdated designs that need to be updated. "MyZou" is a complex website with many different features. Redesigning the entire website will take time to complete. But it may be something that would be beneficial for the university and its students.

Appendix A: Sample Observation Form

Participant 1		
User Profile	Age / Gender	
	Internet Experience	
	Profession	
Test Context	Usability Test Method	
	Date of Test	
	Platform / Browser	

Summary of Observations

	Task 1	Task 2	Task 3
Task Description			
Time spent to complete the task(s)			
*Difficulty rating in completing task			
Errors or problems identified by user			
Overall user comments (likes and dislikes)			

*Difficulty rating: 1 = easy, 2 = okay, 3 = difficult

Appendix B: Sample Usability Form

	Strongly Disagree		Neutral		Strongly Agree
1. I think the tool was easy to use and navigate	1	2	3	4	5
2. I was not overwhelmed by the numerous options and complexity of the tool	1	2	3	4	5
3. The tool performed the way I expected	1	2	3	4	5
4. I found it easy to determine my location in the tool (i.e., path, linear or hierarchical order, etc.)	1	2	3	4	5
5. All interaction elements, such as buttons or movable objects, worked as expected	1	2	3	4	5
6. I thought the visual design was pleasing	1	2	3	4	5
7. The content was easy to understand and was aligned with the purpose of the tool	1	2	3	4	5
8. I found the technical functioning very good regarding audio, video, animation speed, and content display	1	2	3	4	5
9. The visual design and media (text, audio, video, and animation) work together to form one cohesive program	1	2	3	4	5
10. My overall experience with the tool was very good.	1	2	3	4	5

Appendix C: Full Observation and Interview Data

Participant 1		
User Profile	Age / Gender	20 year old Female
	Internet Experience	Very experienced
	Profession	Intern/ Undergraduate Student
Test Context	Usability Test Method	Observation
	Date of Test	12/4/2023
	Platform / Browser	Mac OS; Google Chrome

Summary of Observations

	Task 1	Task 2	Task 3
Task Description	Accessing the Class Schedule	Accessing Your Booklist	Select and Purchase Books
Time spent to complete the task(s)	~ 30 seconds	30 - 60 seconds	3 - 4 minutes
*Difficulty rating in completing task	1	1	2
Errors or problems identified by user	none	none	none
Overall user comments (likes and dislikes)	<p>Liked how the design is streamlined and straightforward</p> <p>Liked that it's easy to find important information</p> <p>No dislikes</p>	<p>Liked how easy it is to find the books she'd need</p> <p>Liked the pictures</p> <p>Liked the convenience</p> <p>No dislikes</p>	<p>Likes how it feels very typical for online stores</p> <p>Mentioned that it seems like a lot of fields to fill out, but also said that's typical of all online stores</p> <p>No dislikes</p>

*Difficulty rating: 1 = easy, 2 = okay, 3 = difficult

Participant 2		
User Profile	Age / Gender	35 year old Female
	Internet Experience	Experienced

	Profession	Instructional Designer/Graduate Student
Test Context	Usability Test Method	Observation
	Date of Test	12/4/2023
	Platform / Browser	Mac OS; Google Chrome

Summary of Observations

	Task 1	Task 2	Task 3
Task Description	Accessing the Class Schedule	Accessing Your Booklist	Select and Purchase Books
Time spent to complete the task(s)	Less than 30 seconds	30-60 seconds	3 - 4 minutes
*Difficulty rating in completing task	1	2	2
Errors or problems identified by user	none	Pointed out that it says "Fall Semester 2023" at the top of some class lists, when that's not the one she selected	Back and Next buttons are not consistently in the same locations
Overall user comments (likes and dislikes)	Liked that it was simple and straightforward No dislikes	Likes the pictures of the book covers Liked the feature overall and felt it was very convenient and helpful Disliked that the menu on the left-side was not in a logical order (such as alphabetical)	Liked the confirmation receipt was onscreen when you complete a purchase Liked that you can review your order before you submit Disliked that it feels like a lot of clicks through the purchasing process

*Difficulty rating: 1 = easy, 2 = okay, 3 = difficult

Participant 3

User Profile	Age / Gender	21 year old Male
	Internet Experience	Very experienced
	Profession	Intern/Undergraduate Student
Test Context	Usability Test Method	Observation
	Date of Test	12/4/2023
	Platform / Browser	Windows 10; Google Chrome

Summary of Observations

	Task 1	Task 2	Task 3
Task Description	Accessing the Class Schedule	Accessing Your Booklist	Select and Purchase Books
Time spent to complete the task(s)	Less than 30 seconds	Less than 20 seconds	~ 3 minutes
*Difficulty rating in completing task	1	1	2
Errors or problems identified by user	none	Horizontal slider bar on first list seems odd	Larger than normal gap between First Name and Last name fields Missing specific City, State, and ZIP fields from Address - confused if they should write it all as one line or not
Overall user comments (likes and dislikes)	Liked that it was simple and easy to understand Liked that you can print the schedule with the button on the page Confused by the difference between “My Planner” and “My Class Schedule”	Liked the convenience of the feature Liked that the book covers are shown Thought that there should be a link to the booklists for a specific class on the “My Class Schedule” section	Noted that people might be confused because “Purchase Books” is not on the menu- it can only be accessed through My Book List Wondered if they selected “used”, if

	Task 1	Task 2	Task 3
Task Description	Accessing the Class Schedule	Accessing Your Booklist	Select and Purchase Books
Time spent to complete the task(s)	Less than 30 seconds	Less than 20 seconds	~ 3 minutes
		instead of the only option being that you have to use the side menu to access it	<p>they have any control over the quality</p> <p>Should the "Continue to Submit" button say "Continue to Submit Order"?</p> <p>Liked that they could review order before submitting</p>

*Difficulty rating: 1 = easy, 2 = okay, 3 = difficult

Appendix D: Sample of Change Log Form

Source (UT, PE)	Issue Priority (Low, Medium, High)	Issue Description	Recommendation	Changed (Yes/No)

Appendix F: Copy of Problem Analysis User Survey

Default Question Block

The purpose of this survey is to gain information that will guide improvements to MyZou regarding the class schedule feature, and book lists and purchases. The survey is anonymous so please answer openly and honestly. Thank you for your time and efforts!

What is your age?

Please select the choice that includes your age from the options below.

- ☐ 17-23
- ☐ 24-30
- ☐ 31-35
- ☐ 36-40
- ☐ 41-45
- ☐ Older than 45

What year of college are you currently in?

Please select the answer from the choices below.

- ☐ I am a freshman
- ☐ I am a sophomore
- ☐ I am a junior
- ☐ I am a senior
- ☐ I am in graduate/medical/law/vet school
- ☐ I am no longer currently attending

Which of the following best describes you?

Please select all that apply from the choices below.

- ☐ Asian or Pacific Islander
- ☐ Black or African American
- ☐ Hispanic or Latino
- ☐ Native American
- ☐ White or Caucasian
- ☐ More than one race
- ☐ A race/ethnicity that is not listed here

What is your level of confidence using **MyZou** to manage your student needs?

Please select the option that best describes your feelings from the choices below.

- ☐ Very high
- ☐ High
- ☐ Moderate
- ☐ Low
- ☐ Very low

What type of device do you use the **most** to access MyZou?

Please select the option that you use the **most** from the choices below.

- ☐ Desktop Computer
- ☐ Laptop computer
- ☐ Tablet
- ☐ Smartphone
- ☐ Something else. Please specify in the box below.

How often do you use the **class schedule** feature in MyZou?

Please select the answer from the choices below.

- ☐ Very often
- ☐ Somewhat often
- ☐ Sometimes
- ☐ Not very often
- ☐ Never

Please select the answer that best describes your feelings about the statement below.

The **class schedule** feature in MyZou is easy to use.

- ☐ Strongly agree
- ☐ Somewhat agree
- ☐ Neither agree nor disagree
- ☐ Somewhat disagree
- ☐ Strongly disagree

How would you improve the **class schedule** feature?

Please type your answer in the box below.

Have you ever searched MyZou to find your **books** and **materials** required for your courses?

Please select the answer from the options below.

- ☐ Yes
- ☐ No

How do you find what **books** and **materials** you need for your courses?

Please select the answer from the options below.

- ☐ I go to the bookstore for help
- ☐ I use the bookstore website
- ☐ I wait until I get the syllabus
- ☐ I ask friends/classmates

How easy is it to find what **books** and **materials** you need for your courses?

Please select the answer that best describes your feelings from the options below.

- ☐ Extremely easy
- ☐ Somewhat easy
- ☐ Neither easy nor difficult
- ☐ Somewhat difficult
- ☐ Extremely difficult

How helpful would a **books** and **materials** feature on MyZou be to you?

Please select the response that best describes your feelings below.

- ☐ Very helpful
- ☐ Somewhat helpful
- ☐ Neither helpful or unhelpful
- ☐ Somewhat unhelpful
- ☐ Unhelpful

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