

# Duke Hub

By Cadence Newman & Becky Parshall

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Professor Chen Guo

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# Chapter 1: Executive Summary

Many times, students at James Madison University have frequent trouble when it comes to finding trusted and reliable information about a professor and course. Currently, students have access to existing platforms through James Madison University as well as through third-party platforms such as Rate My Professor. However, when it comes to these platforms, many are difficult to navigate, scattered, biased, and not up to date. With this lack of user-friendly features and dependable information results in frustrating students and negatively impact planning and communication.

Our goal was to create a mobile app to assist students at James Madison University to solve these problems. Which resulted in the development of Duke Hub where it enhances student communication and creates easy access to information such as courses, professors, and textbooks. It includes, true professor ratings & reviews, course description with requirements, Q&A's, textbook marketplace, study groups, and lastly internships. Enhancing the connectivity between students through encouraging users to communicate by asking peers questions through Q&A's, textbook information, and study groups helps create that connection with peers we find difficult at times. Centralizing all this information into one place helps users find information that's accurate. Lastly, to help prioritize the safety for Duke Hub, user's students must sign in and get verified through JMU student accounts. This ensures that the information is trusted, up-to-date, and accurate.

# Chapter 2: Problem Statement

**Design Problem:**

A problem found among James Madison University students is the discouragement of not knowing where to find certain resources and affects at nearly every stage in their academic paths. Such as first-year students preparing and getting adjusted to the expectations in college to upperclassmen like seniors trying to be successful in planning for careers after college. Throughout these academic experiences, students are struggling with things like course advice or information about resources. That's why asking questions about professors, courses, or class content to peers is a huge resource for JMU students because there are no other programs that allow you to strictly read reviews about professors or receive advice from other students about a better class to take. While students do get access to academic support through advisors and career centers, it can be intimidating and hard to navigate. For example, students frequently need guidance when deciding which classes to take, buying cheaper textbooks or other tools, or even exploring internships. Collaborating and connecting with peers is a huge part of success in school, and these few components would make a huge difference.

# Chapter 3: Related Work

1. GroupMe

https://groupme.com

GroupMe is one of the biggest platforms that has simplified the way for group communication between organizations and teams. It doesn't matter how many people join or what phone product you use. They created a way to make sending messages, pictures, polls, videos, and much more cohesive. It identified the troubles that come along with regular messaging, such as group chat limits, and made it more efficient. To solve the problem, they use their own robust infrastructure so anyone can scan the QR code and join groups. Which helps us address our problem of making sure there is no limit when people join their major messaging group so peers can easily collaborate. A few points we'd like to include in our design later are the cross-platform usage and UI/UX designs. Some frustrating aspects in GroupMe we hope to address with ours are the spamming of scammers.

2. Rate My Professor

https://www.ratemyprofessors.com

The website Rate My Professor is greatly used among college students when trying to get more information on a professor and class. This platform allows users to anonymously review as well as rate and leave a review of a professor they had. Listing the teaching style, how they grade, and workload. Creating a way to fix the troubles of the lack of information on professors and courses when going to a big school. As a way to solve the risk of users getting in trouble, they made it anonymous so users could be as truthful as they like. Which helps us incorporate the feature to make sure the decision-making of what class and professor help students academically. Points that we'd like to use are how easily accessible the search feature is as well as the content generated by peers.

Frustrating aspects that come along with Rate My Professor, we hope to eliminate with the student verification is that professors can't leave good reviews about themselves. Since Rate My Professor is anonymous, anyone such as professors can leave reviews under their names. Lastly, one more frustrating aspect we hope to address is the lack of being able to ask follow up questions in a review. We want to make sure information is up to date and that you can easily communicate.

3. Campus Trade: Buy & Sell

https://campustrade.co.za/web

In South Africa they created an app called Campus Trade: Buy & Sell that helps provide ways for students to save money practically. They identified the struggles that students face when finding supplies such as affordable textbooks. To solve the problem, they created a way for students in the same area to trade, sell, and buy items to be cost efficient. This inspires us to incorporate a similar feature in the group chats to make a separate pinned chat where students can post textbooks; they have so that no one gets left behind academically in school due to costs. A point we really liked that they mentioned was using an edu login so not anyone can just access it, only students in that major/concentration can. The deficiencies we hope to address in our project that we hope to fix are to make it structured so people can easily find others and communicate before trading or selling.

4. Campus App

https://www.readyeducation.com/en-us/campus-app

Campus App by Ready Education is where students can access academic resources as well as communicate at their college. They identified the problem of staying connected to other students on campus can be difficult at times, especially peers from your majors. To solve it, they

created the app to help with student peer engagement on academic resources and support on campus. Which helped in our decision to make a platform where students at JMU can connect with their fellow peers and resources in group chats. Points we'd like to include is the centralized content so students can access everything in one app. The frustrating aspect in Campus Ready we hope to address is to not have too much clutter.

5. JMU Course Description Catalog

https://catalog.jmu.edu/content.php?catoid=62&navoid=3537

JMU Course Descriptions Catalog is a part of the JMU website where students can get descriptions on courses offered at JMU. They identified the problem of trying to find reliable and accurate course descriptions before registering. To solve the problem, they created this website where students can put course codes in and search on a reliable page. This inspires us to have an up-to-date catalog digitally of all the course credit hours available in your major along with prerequisites. A few good points we'd like to include is enough details for students to understand and make it reliable. The deficiencies this page has that we'd hope to address is maybe adding in the description if you need textbooks for the class.

# Chapter 4: Design Process

**Define Users:**

When grouping our users, we decided our primary users for this research would be on college students, specifically undergraduates who are looking for guidance here at James Madison University. Our users are those that feel unsupported due to the lack of structure that comes from courses and professors' information. Where they could get untrustworthy or biased information from websites such as Rate My Professor. Many students face discouragement and frustration due to key information not being centralized. Some of these problems entail finding professors, textbooks, and course advice where they must use many scattered platforms. This can cause stress and anxiety, especially around times of course registration.

We also decided to not just focus on certain majors and limit our interviewees but to take into account a variety of majors. This is due to us believing many struggles with the design problem and would be interested in features our app has to offer.

## 4.1 User Research

**Interview Procedure:**

Deciding on who to interview, we came to the decision to directly contact peers to conduct face-to-face interviews. When contacting them, we had no idea if they faced or did not face the struggles in our interview questions. These 10 undergraduate college participants are all different ages pursuing a wide range of majors from Secondary Education to Intelligence Analysis. As we were conducting these interviews, we made sure they were done either on campus or in their home to avoid distractions. As a way to record our data, we used video

recording as well as voice memo recording so we could go back and listen later if needed.

**Interview Questions:**

We asked participants the following questions:

Intro

1. Explain our project
2. Please state your name, age, year, and major

Understanding the User

1. Where do you read about the classes you will be taking?
2. Walk me through your experience picking classes?
3. What are ways you get information about courses or professors?
4. How long have you spent trying to find information on a professor?
5. Are there any obstacles you find when using Rate My Professor or other platforms?
6. Have you found barriers with contacting others in your major when you have questions about an assignment?
7. When you have quick questions about an assignment, who do you ask?
8. How does a professor's or advisor's response time normally affect you?
9. Do you find that you spend a substantial amount on textbooks or other tools or subscriptions for class? How do you overcome these struggles?
10. If there was a way to buy cheaper resources from others in your major, would you find that helpful?
11. If there was an app that does all of that, what features would you like to see?

**Interview Findings:**

1. **Where do you read about the classes you will be taking?**

   Students seem to rely on a mix of university resources and peer insight to learn about scheduling and picking classes. Many use the JMU course description pages and their official checklist with their major. They feel that they don't have a practical way to gain knowledge about the courses they're taking until the syllabus comes out. One interviewee said, "I mostly use the JMU course description page because that really is the only option."

2. **Walk me through your experience picking classes?**

   Students' experiences with picking classes vary by major size, class standing, and enrollment privileges. Students in smaller programs find it easier to select major classes. Some students get early enrollment, which allows them to receive the classes they need. Common challenges are classes filling up quickly, website crashes, and difficulties with class times fitting into their schedules. Many of them describe the process as stressful, competitive, and frustrating, especially for their general education courses. One interviewee said, "I find it very frustrating trying to pick my classes because every time I go to do it the website crashes and all the seats fill up."

3. **What are ways you get information about courses or professors?**

   Almost every student relies on Rate My Professor, though they mostly combine it with other tools since they recognize flaws in the platform. Students often ask friends or

classmates they trust to give them feedback. Course information is often accessed through the JMU website where they can find checklists and individual descriptions. Some also use alternative programs like Coursesicle or LinkedIn to get the most detailed insight. One interviewee said, “I normally get my information on Rate My Professor, however; I’m always cautious because most of the time it is biased.”

4. **How long have you spent trying to find information on a professor?**

   Students generally spend 5-20 minutes researching professors, sometimes more during enrollment. The lack of reliable platforms has many students giving up after a little while because the information isn’t always readily available. One interviewee said, “I have times where it was about 10 minutes and times where I’ve spent an hour looking for information on a professor.”

5. **Are there any obstacles you find when using Rate My Professor or other platforms?**

   All interviewees have found Rate My Professor and other platforms to be unreliable due to three main reasons. The first is that Rate My Professor typically has biased reviews and noted that ratings often reflect their negative experiences, and others cannot make a good decision based on that. Secondly, professors are sometimes missing from the platform, or do not have reviews for a specific course section students may need. Lastly, reviews often fail to provide useful insight into what the course may look like. One interviewee said, “I just

find the information on Rate My Professor not as reliable due to the students' experience with the professors' teaching ways."

6. **Have you found barriers with contacting others in your major when you have questions about an assignment?**

   Contacting peers has become a struggle for many students as they have reported difficulties in limited responsiveness, lack of formal communication platforms, or not having any of their contact information at all. Although, these problems seem more coherent with those with larger, and broader majors like communication studies. We have discovered that close-knit majors like education have a different experience and typically rely on group chats because everyone is able to get closer. One interviewee said, "I have found it extremely hard to connect and contact with my peers just because my classes are so big."

7. **When you have quick questions about an assignment, who do you ask?**

   When students have a quick question about their assignments or courses, most of them typically turn to classmates or close friends. Most say approaching their peers feels faster and more accessible, rather than reaching out to a professor. Professors are typically a secondary option, compared to when students cannot discover the issue on their own. One interviewee said, "I try to ask a peer and look at the canvas then I'll ask my professor if I can't find the information."

8. **How does a professor's or advisor's response time normally affect you?**

    Students' experiences with professors and advisors 'vary, but overall, delays in communication are a significant source of stress. This stress is also coherent with time-sensitive situations like due dates and course enrollment. The response time between these students seems to vary between majors. Students with less popular majors like education or political science tend to get faster responses from staff. This feedback emphasizes that we need a faster, more reliable source of communication that can provide quick, accurate answers when staff are unavailable to respond. One interviewee said, "I find the lack of response to really affect how I complete certain tasks in class or trying to pick classes."

9. **Do you find that you spend a substantial amount on textbooks or other tools or subscriptions for class? How do you overcome these struggles?**

    The students unanimously spoke on the high costs of textbooks and class materials and how they all already use strategies to get out of buying textbooks as much as possible. Some of the interviewees said they would delay buying materials until one hundred percent need them or would ask friends if it's needed. Lastly, students have tried to compare prices across platforms like the campus bookstore and Amazon. Overall, these students are frustrated having to pay the costs of these unpredictable resources that they feel should already be provided with tuition. One interviewee said, "I have had semesters where I didn't spend a dime on a textbook and then others where I dropped hundreds."

**10. If there was a way to buy cheaper resources from others in your major, would you find that helpful?**

All students agreed that a system for buying textbooks and resources from others in their major would significantly reduce the amount they are spending and would be very beneficial. This peer-to-peer exchange system would lower expenses for all, and the textbooks would find a good home and be able to be recycled, as they would typically just be sitting somewhere not being used. One interviewee said, “I would find that extremely helpful and a great way to connect with peers.”

**11. If there was an app that does all of this, what features would you like to see?**

The students equally expressed that there is a need for a centralized platform that combines peer support with resource sharing. Major pain points from these students were that there is a lack of authentic, accessible information about professors and courses. Students expressed that some features they would like to see are a communication tool to receive answers to questions quickly especially about courses and professors, a buy and sell section where students can share resources with each other to save money, and lastly a tool to access study resources for specific classes. One interviewee said, “I would really like an AI help button.”

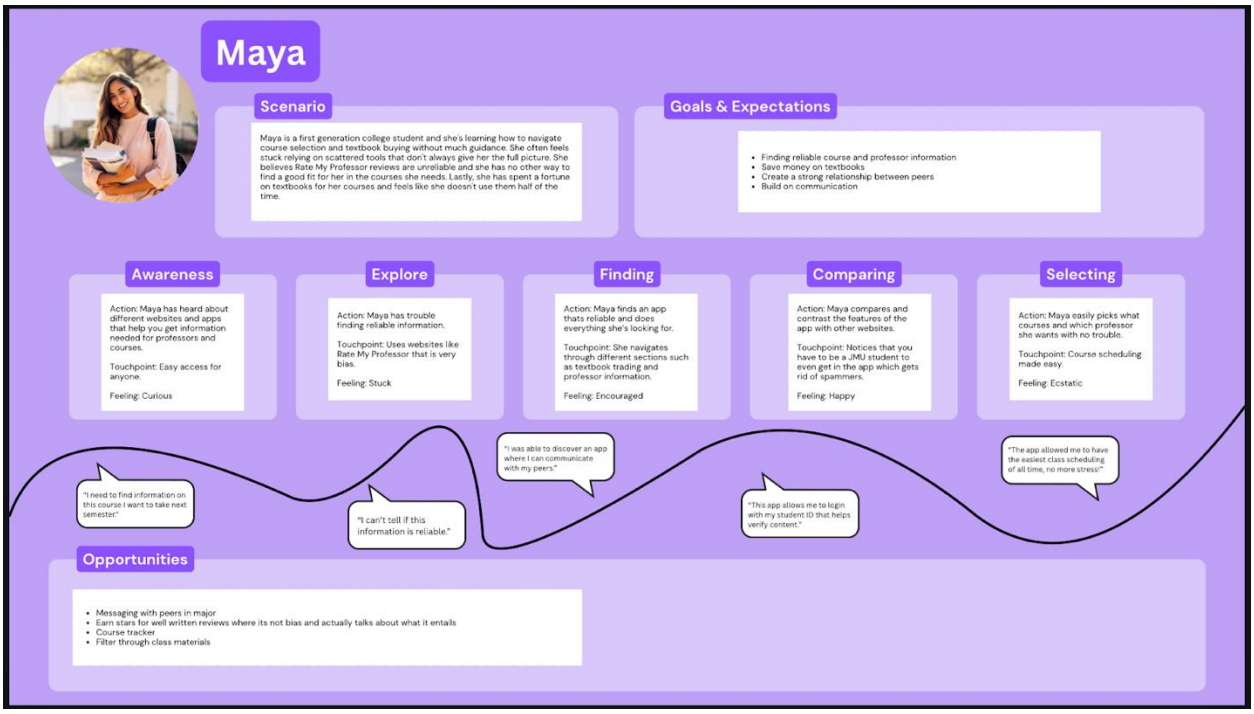
**Observations:**

- Many of the interviewees were very engaged and willing to answer every question.

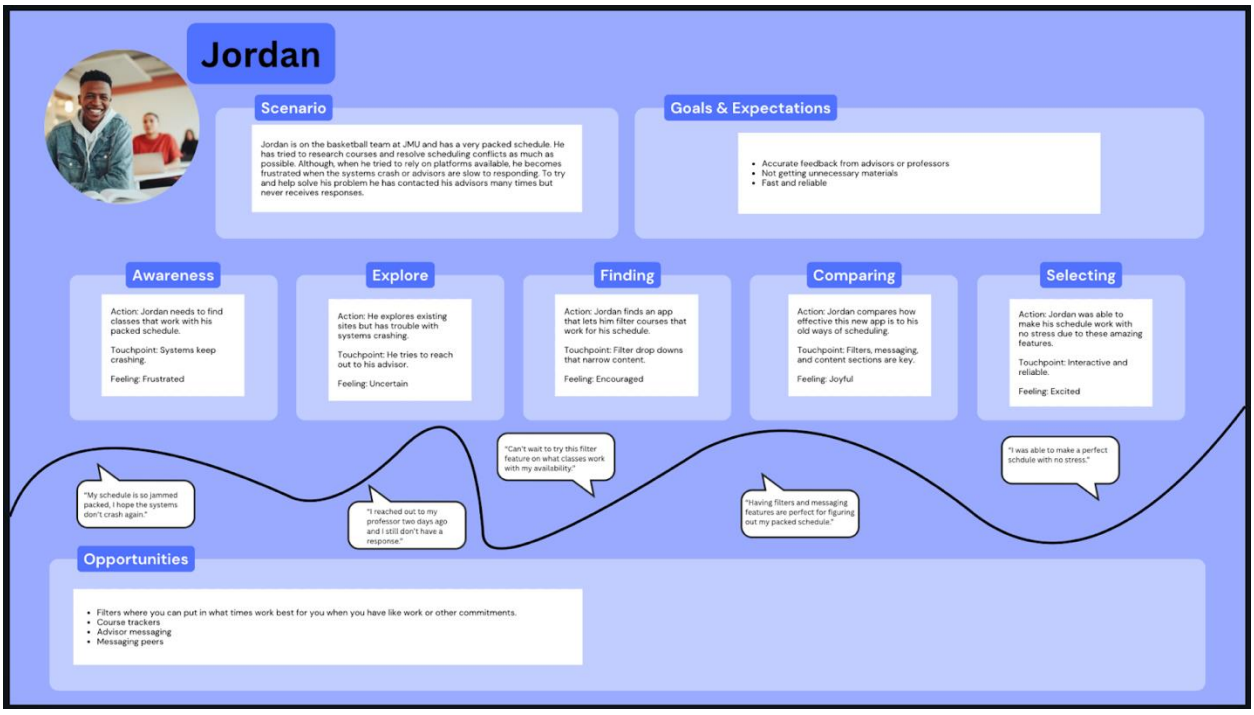
- Few were a little shy at first but became less ones they realized we were only recording their voice.
- The ones that we took videos had great posture and were well spoken.
- Noticed many were happy to talk about our topic due to many of them struggling with picking courses.
- Could tell some were visually frustrated by the lack of reliable resources there were available.
- Positive attitudes.
- Few talked actively with their hands and others didn’t.
- Few had great suggestions on what to include in an app to help make the process easier.

# 4.2 User Journey Map

## User Journey Map 1:

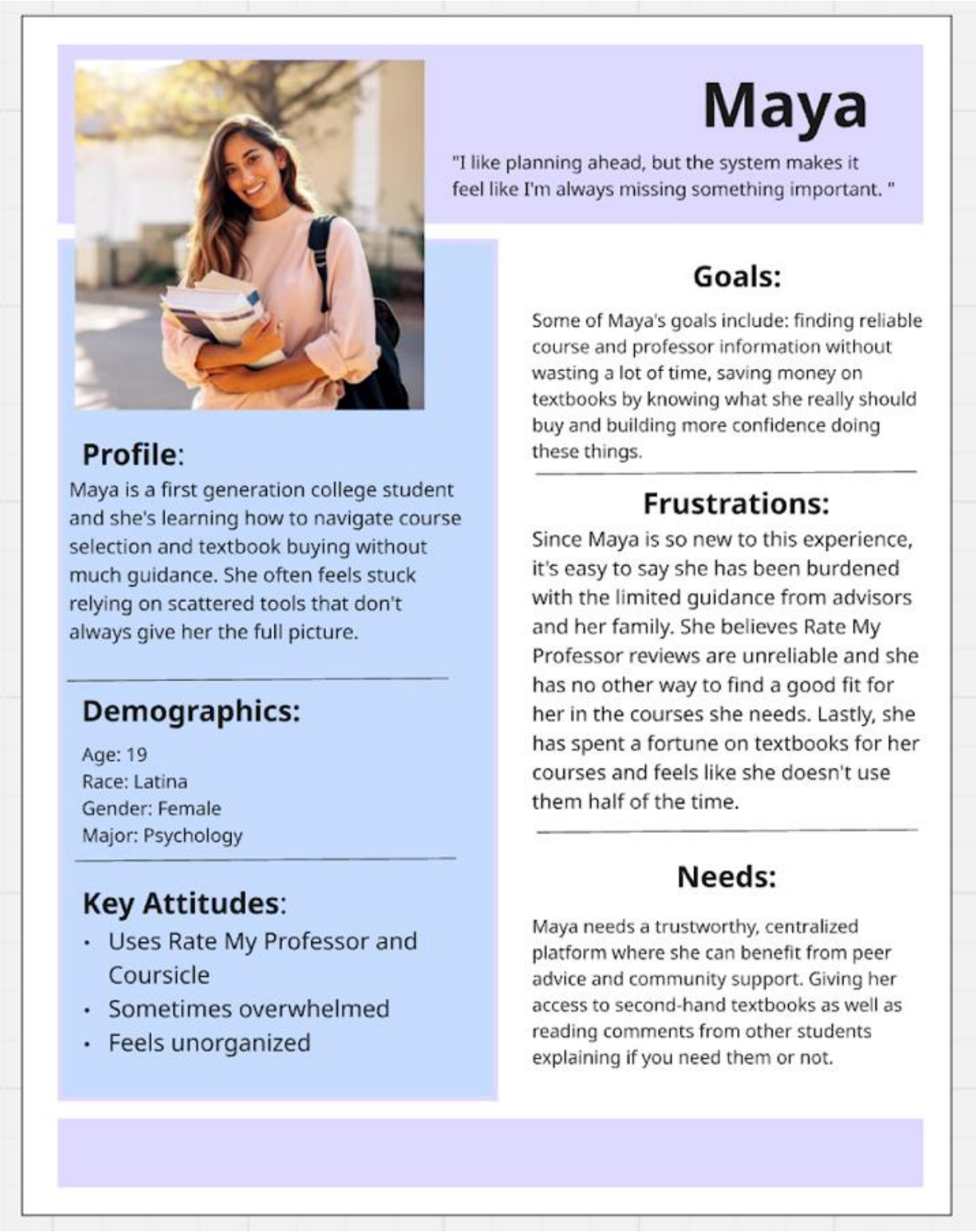



## User Journey Map 2:



# 4.3 Persona

## Primary Persona:



## Secondary Persona:



# Jordan

"I want to spend less time stressing about logistics and more time actually learning."

### Profile:

Jordan is on the basketball team at JMU and has a very packed schedule. He has tried to research courses and resolve scheduling conflicts as much as possible. Although, when he tried to rely on platforms available, he becomes frustrated when the systems crash or advisors are slow to responding.

### Demographics:

Age: 21
Race: Black
Gender: Male
Major: Business Administration

### Key Attitudes:

- Craving efficiency
- Pressed on time, very tight schedule
- Wants a more pratical way to handle priorities

### Goals:

Some of Jordans goals include: fitting courses around athletics commitments, accessing fast, accurate feedback from professors and advisors, and avoiding wasting time on unnecessary materials for his courses.

### Frustrations:

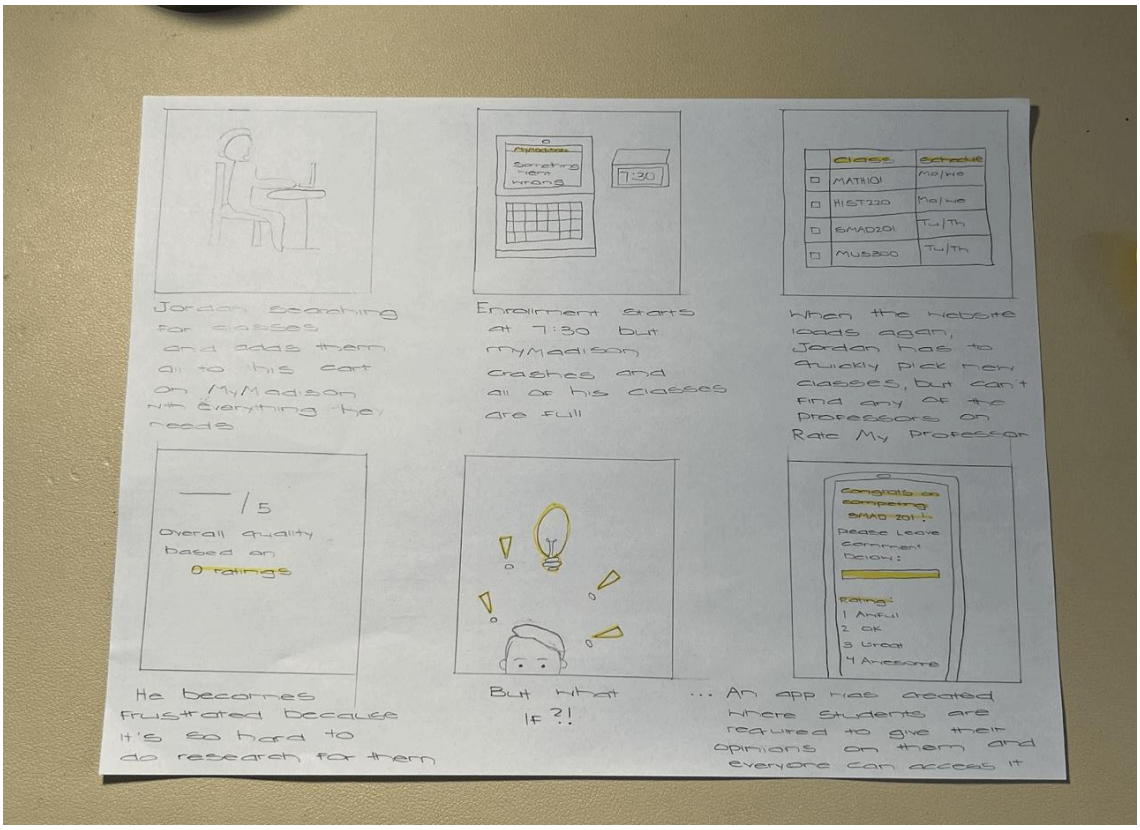
Jordan has expressed that everytime he tries to pick classes during registration on MyMadison, the system crashes. He also has tried to contact his advisor countless times, and never has received a response. He has had to speak to some of his professors to help him manage his packed schedule with less stress.

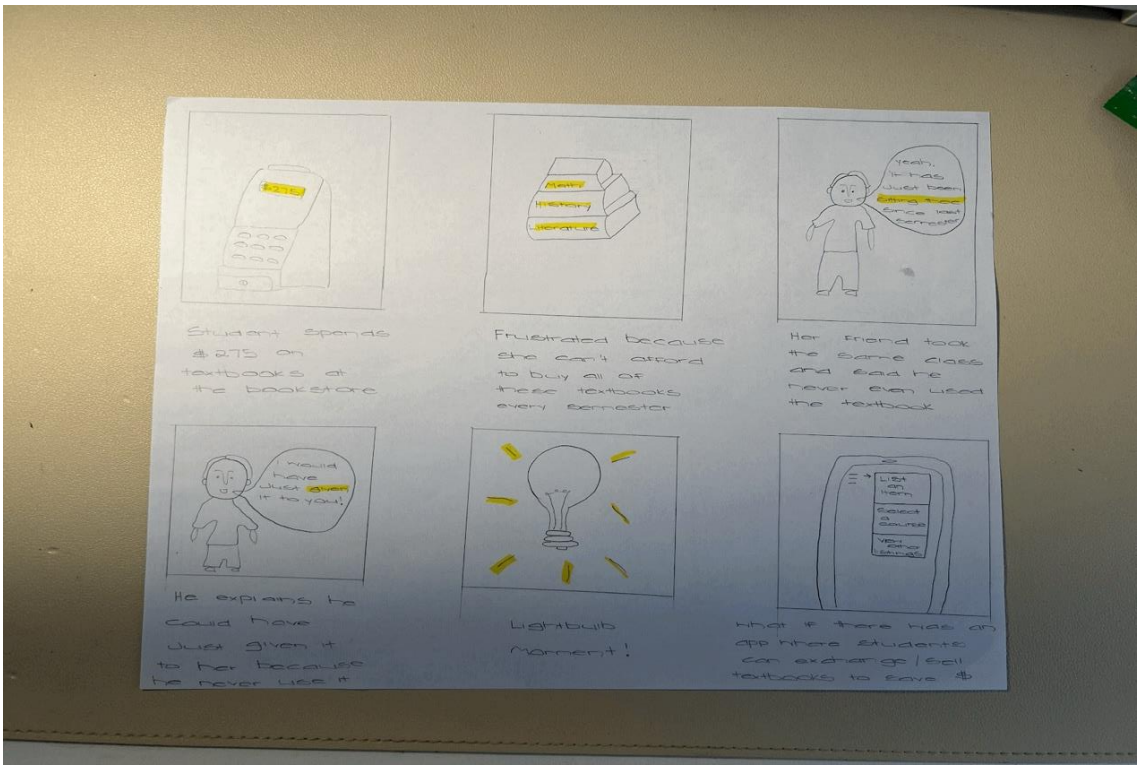
### Needs:

Jordan needs an easy way to connect with advisors, because understand their email inboxes can get packed and emails are easily missed. He also needs an all in one app for Q&Q, study sharing, reviews, and even a system to better plan his schedule.

# 4.4 Storyboards

## Storyboard Designs:




$275
Math
History
literature
Yeah, it has been since last semester
I would have just given it to you!
List an item
Select a course
Student spends $275 on textbooks at the bookstore
Frustrated because she can't afford to buy all of these textbooks every semester
Her friend took the same class and said he never even used the textbook
He explains he could have just given it to her because he never use it
Lightbulb moment!
What if there was an app where students can exchange/sell textbooks to save $

# 4.5 Design Requirements

**Data Analysis:**

Once we completed 10 face-to-face interviews, we utilized the closed sorting method. This resulted in helping us cluster our information, find the patterns, and make more concise categories we received to lead us in finding themes of differences and similarities in our users. To make it easier to understand, we also sectioned off, and color coded the key factors. This resulted in us making eight key categories:

- Course and Class Information
- Enrollment Challenges
- Professor Insight/Research
- Problems with Rate My Professor
- Peer Communication
- Response Times
- Textbook/Material Costs
- Desired Features

**Card Sorting Image:**




**Results:**

Looking at the data shown, it is clear that the need for a strong centralized platform where students can lead is crucial academically. Due to many platforms available today are not trustworthy and often crashing. Having an app with student messaging, course & professor reviews/descriptions, and material trading would help address these frustrations directly and support JMU students.

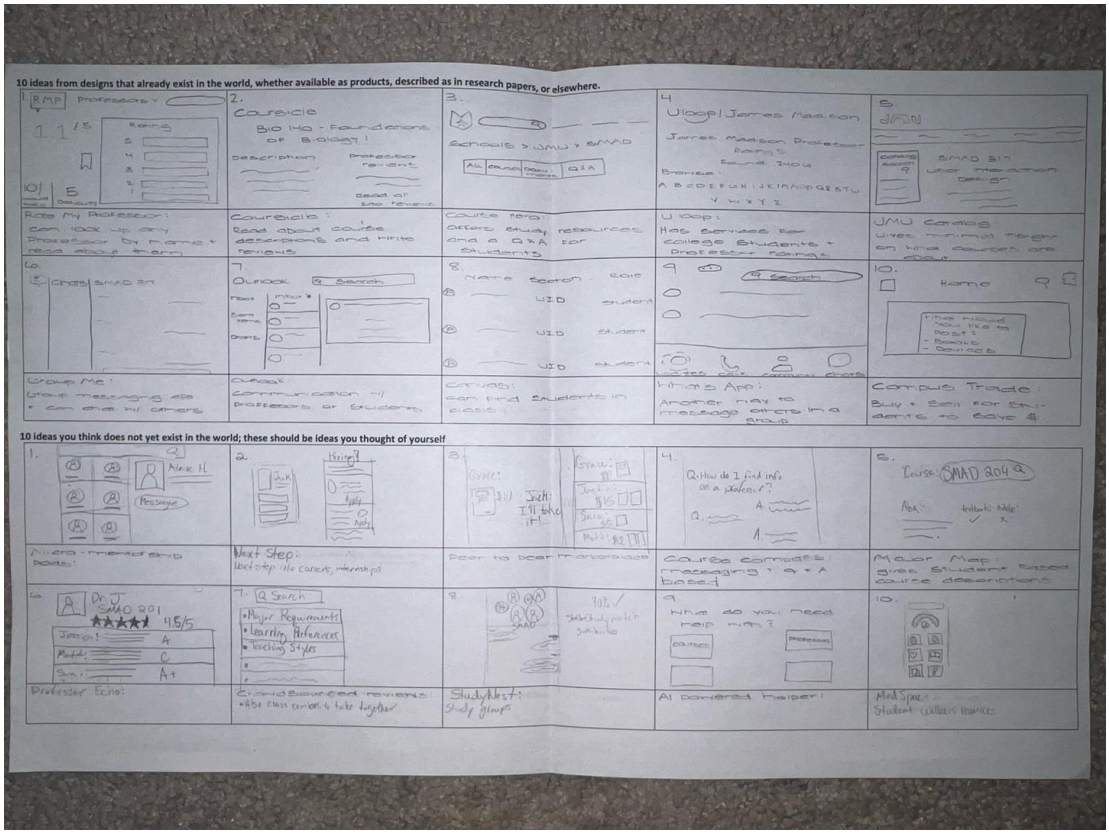
**Design Requirements:**

- **Data Requirements:**
  - The platform will collect and store data on professors, courses, majors, and reviews.
  - It should allow users to manipulate data filtered by major, course, and professor.

    - This product should store content from users such as questions, ratings, and resources.
    - This product should save bookmarks the user made for professors or courses.
    - This product should maintain the exchange of items listed for sale with prices and descriptions.
- **Functional Requirements:**
    - This platform should allow users to submit, edit, and delete reviews for professors and courses.
    - The system must also be updated when new submissions are posted.
    - This product should be able to filter and search for information and results by major, course, or professor.
    - The system must record and display an average rating for each professor based on user inputs for teaching style, workload, and responsiveness.
- **Contextual Requirements:**
    - This product must follow design standards to accommodate all types of users.
- **User Requirements:**
    - This platform should allow users to sign in with their JMU student email and password and go through the OKTA verification steps.
    - This product should allow users to personalize their profile by updating courses and other academic elements.
- **Technical Requirements:**
    - This product must show it can provide secure login and data protection for user's privacy.
    - This platform must be usable on both mobile and desktop devices.

# Chapter 5: Design Solutions
# 5.1 Idea Generation

## Brainstorming & Sketching:

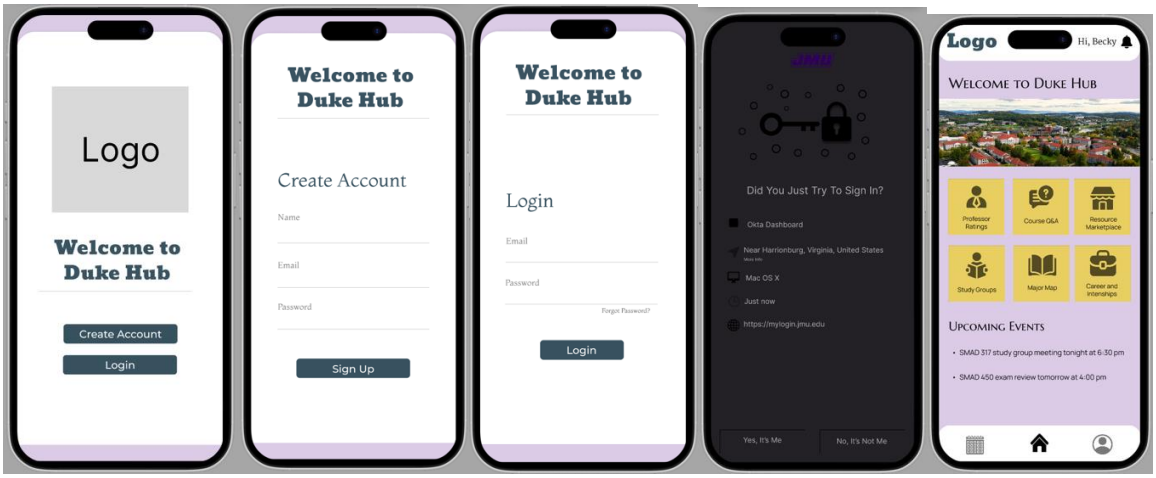



During this phase of the project of brainstorming and sketching we had the task of creating ten old ideas that already exist and then ten new ideation sketches. These tasks focused on what made them different or unique from the already existing ideas. This allowed us to make similar features in our apps that would help fix and solve the issues of the already existing ones.

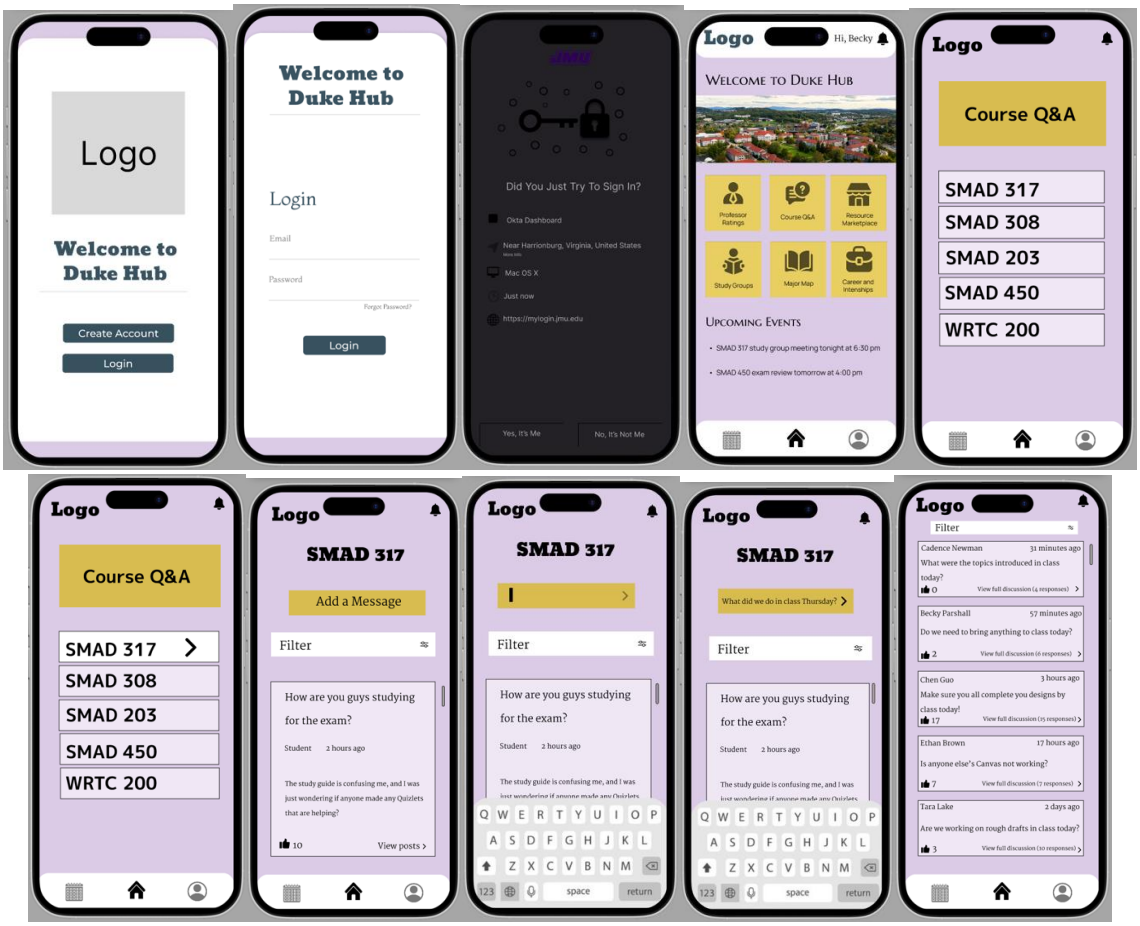
Once we finished with the sketches, we conducted a NUF (New, Useful, Feasibility) test on where we ranked each idea and highlighted the top three. These top three were next step, peer to peer marketplace, and AI powered helper.

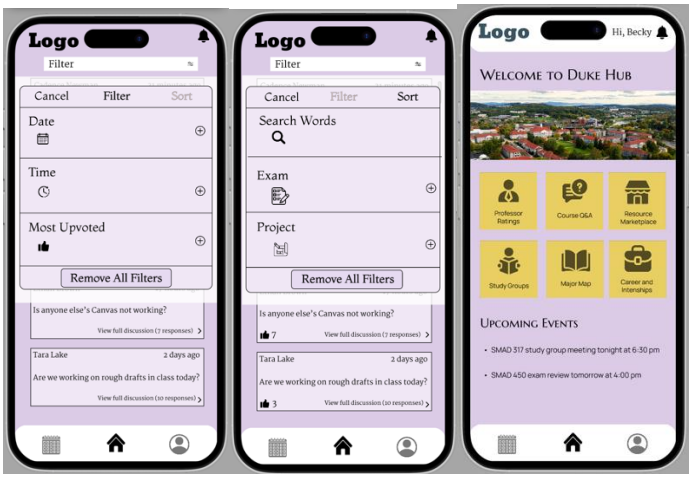
# 5.2 Low-fidelity Prototype and Feedback

## Task 1: Sign In/Login

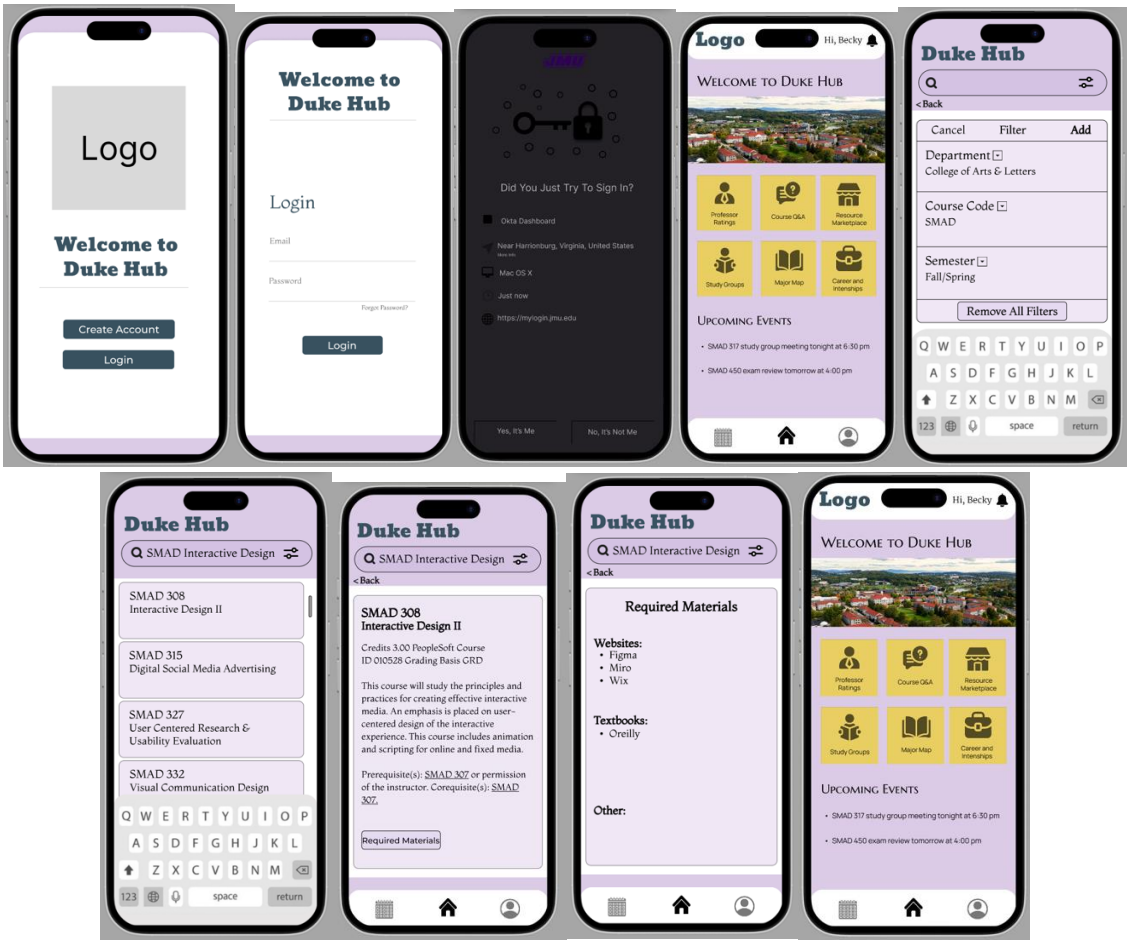



## Task 2: Course Q&A

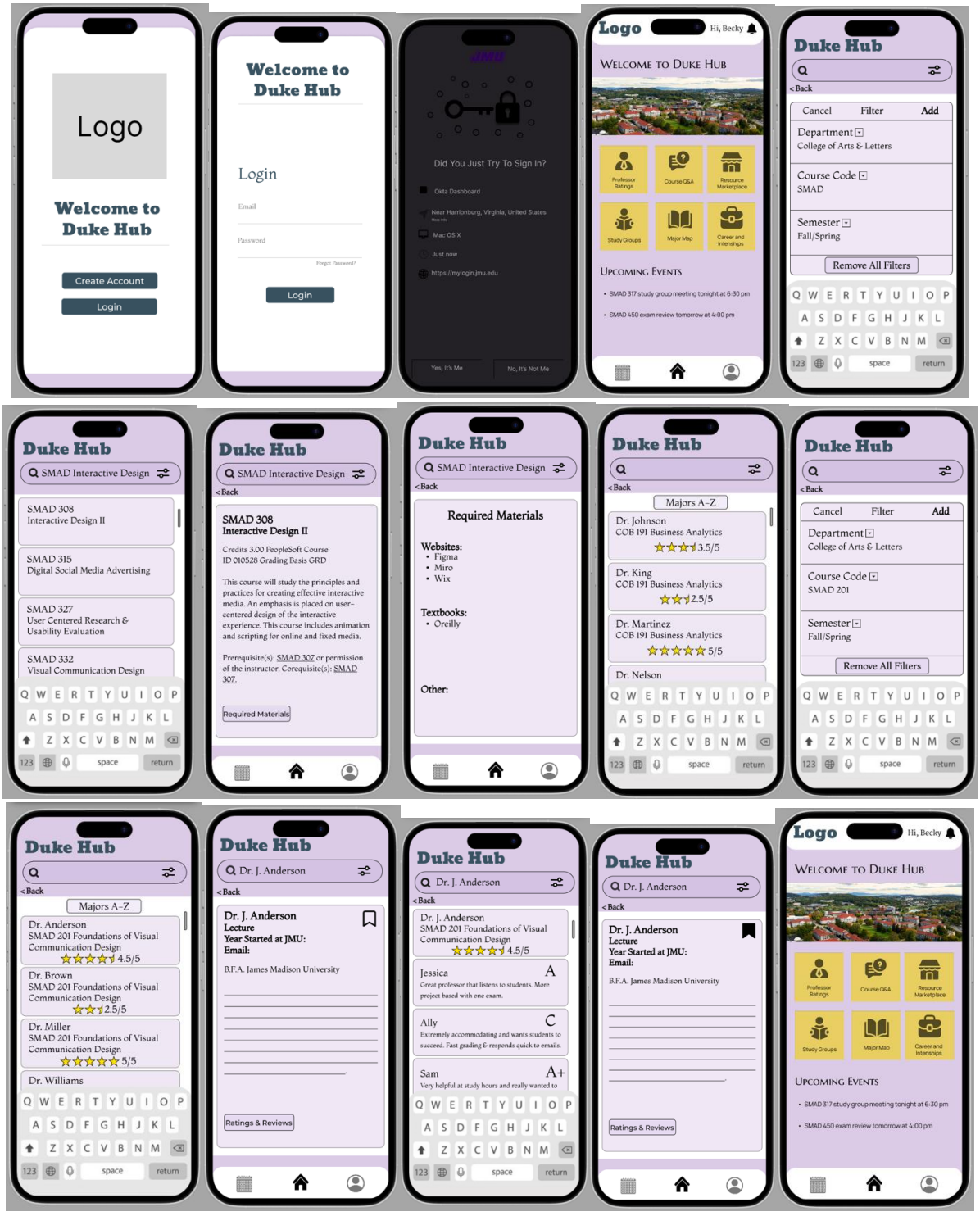




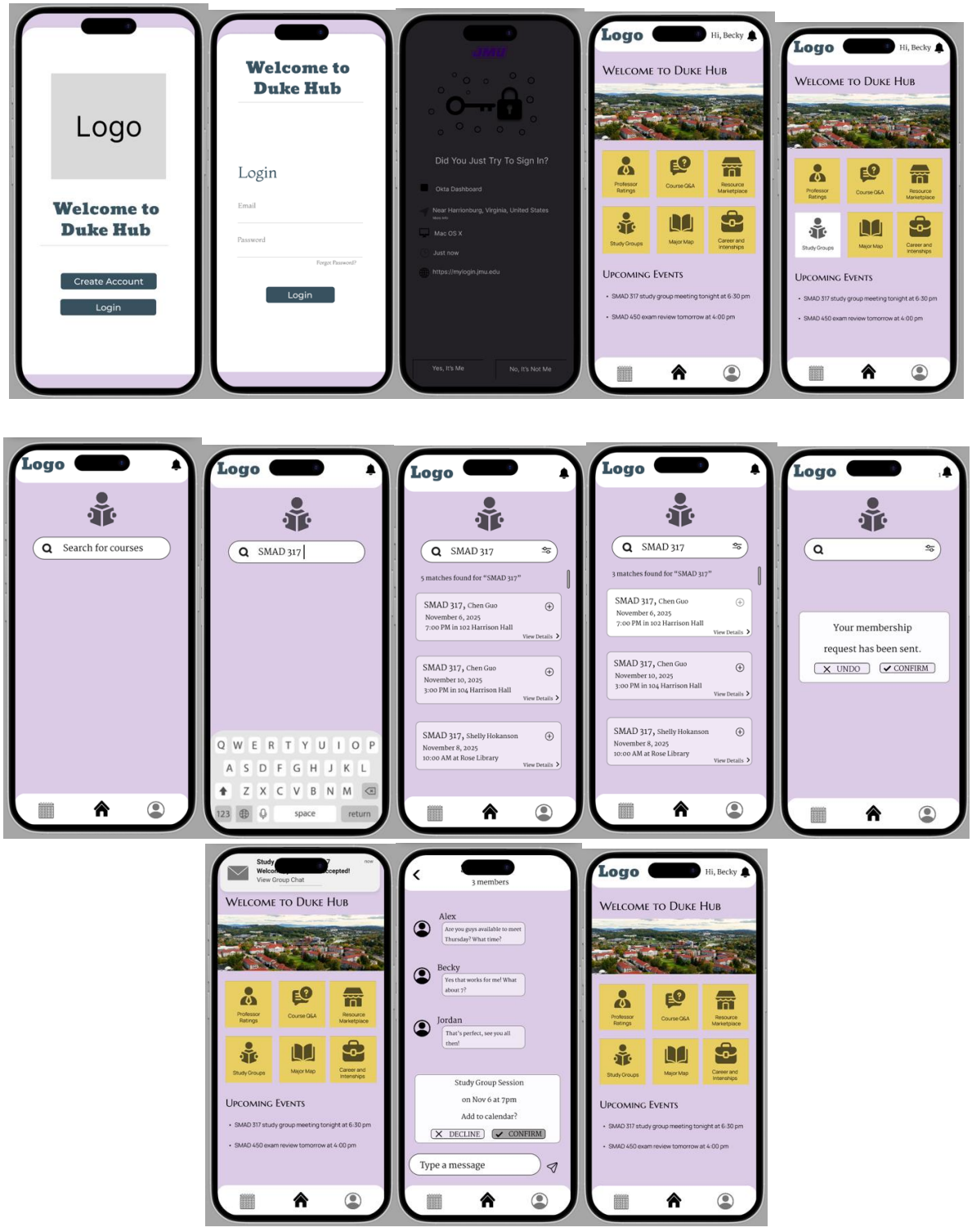

# Task 3: Major Map



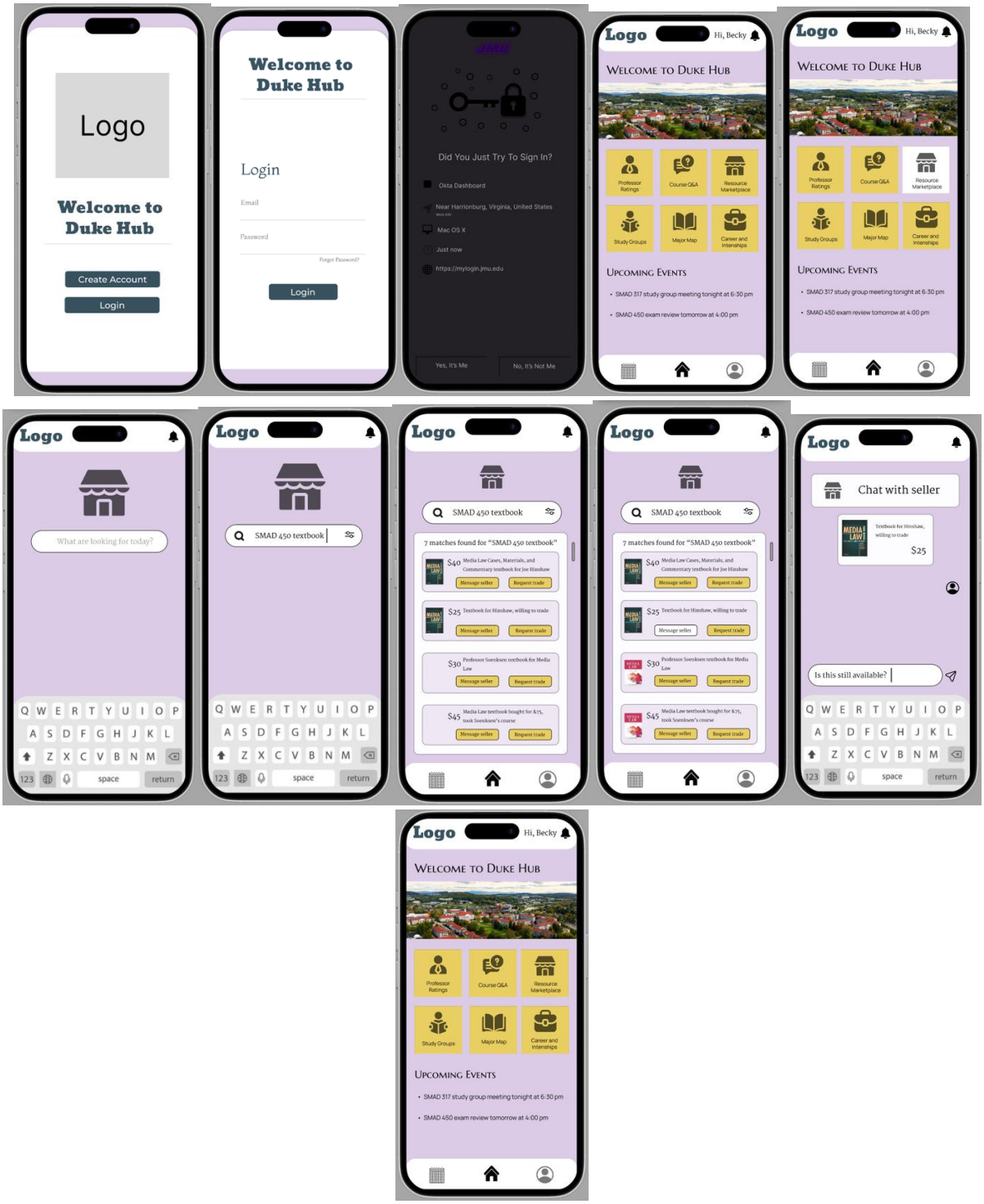

# Task 4: Professor Ratings & Reviews



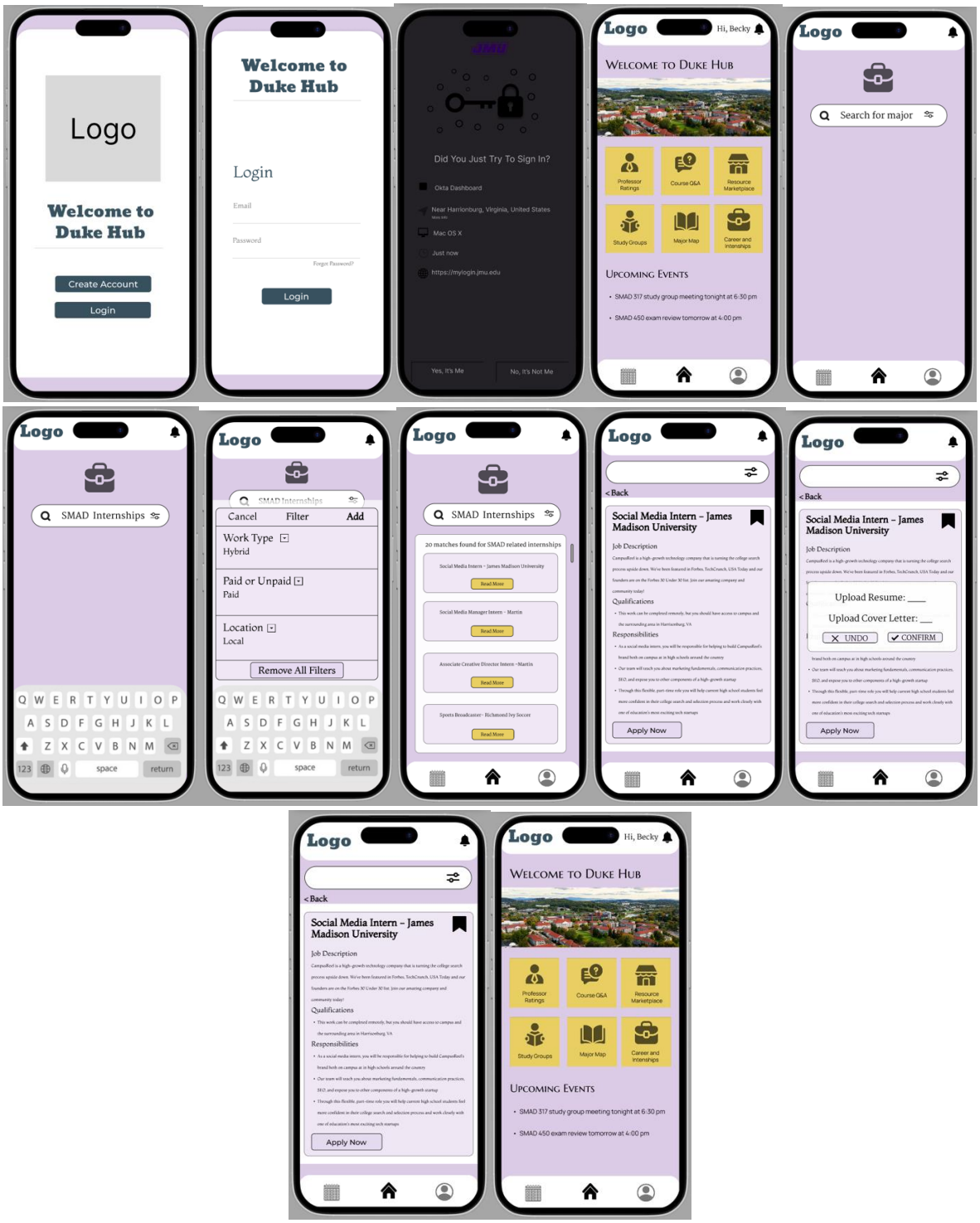

## Task 5: Finding and Joining a Study Group




# Task 6: Peer to Peer Marketplace




# Task 7: Career & Internships




**Feedback:**

**Overall →**

- There is no need to start from the log in page in every task, users should assume they are already logged in.
- Add notifications to some of the pages, so it looks like the app is being used.
- More buttons should be visible to make users less confused in the tasks, as they sometimes don't know where to click to navigate to the next page.
- There should be a calendar and profile task flow for users so it is understood how tasks can be added to the calendar and how the profile is set up.
- Icons could be changed to make clarification for tasks, as well as changing font to make sure readability is better for users.

1. **Course Q&A**
    - Each page needs to be labeled more specifically so the user understands what they are viewing.
    - There should be buttons on the pages for the user to be able to go back to the previous page.
    - A suggestion was presented to potentially turn the courses into a tab carousel rather than just list them out vertically.
    - There should be more consistency on where the filter element is located.
    - The scroll button should be working.
    - The button where users can add a message should be made visible in the different pages as well.
2. **Major Map**
    - Another page should be added before the filter page so the user is aware they are in the correct place.
    - A confirmation message for users to understand their task was completed should be added.

3. **Professor Ratings and Reviews**
    - The ratings and reviews button is confusing because it looks like the user can click on it to leave their individual reviews. It should be replaced as a button where you can access the other reviews that have been left.
4. **Finding and joining a study group**
    - Back buttons should be added to make sure you can go back to the previous page.
    - There should be a page where you can view that the session was actually added to the calendar.
    - There should be a way to view messages more universally for every task. Right now the messages are performed through the buttons on the home page and there isn't an easier way to view the messages.
5. **Peer to peer marketplace**
    - Confirmation should be included that the message was sent to the seller.
    - The search bars should have a place for users to send the text they have typed to actually search.
6. **Career and internships**
    - Include more action buttons, especially for the search button so it is known what to click when the user is done typing.
    - A confirmation should be added for the resume upload.

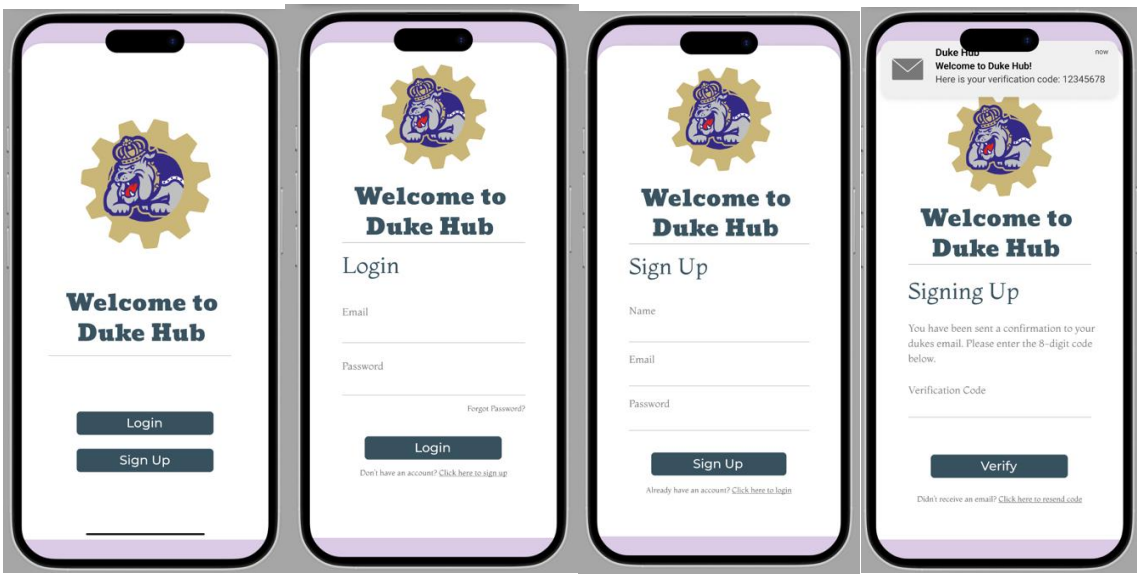
**Improvement:**

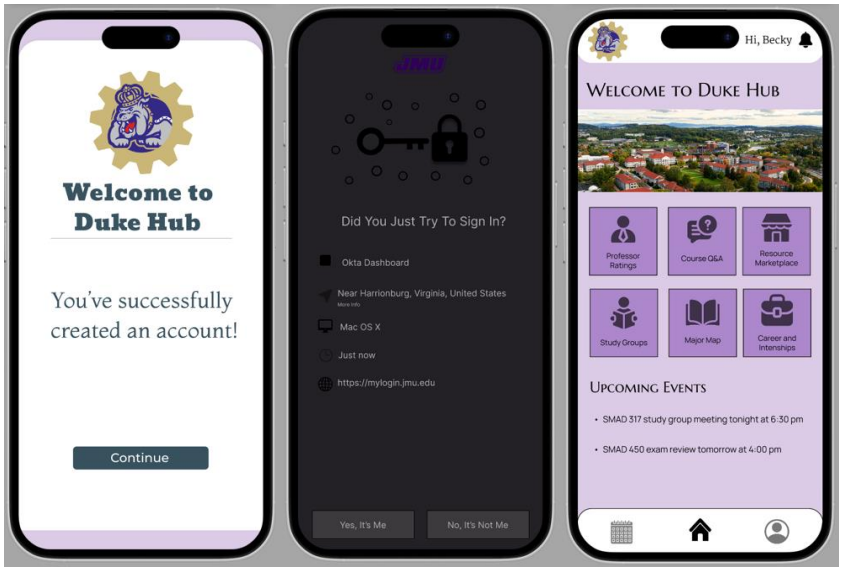
Based on the feedback we received from our low-fidelity prototype testing, our main refinements will be consistency and usability across all of the tasks. We will ensure the login page stands alone as its own task, and the other tasks will have the assumption that the user is already logged in. All tasks will begin on the home page, and it will have a

notification center for important updates for the user to navigate to. To enhance this navigation, we will provide a consistent design with the button, filter, and scrolling features. We plan to simplify layouts and include confirmation messages to indicate when the user completes an action. Additionally, we will add task flows to show the calendar and profile buttons and what they will allow the user to do. These changes aim to create a cohesive user experience and make the process organized and seamless.

# 5.3 High-fidelity Prototype and Evaluation

## Task 1: Sign In/Login



# Task 2: Open Calendar Element




# Task 3: Open Profile Element



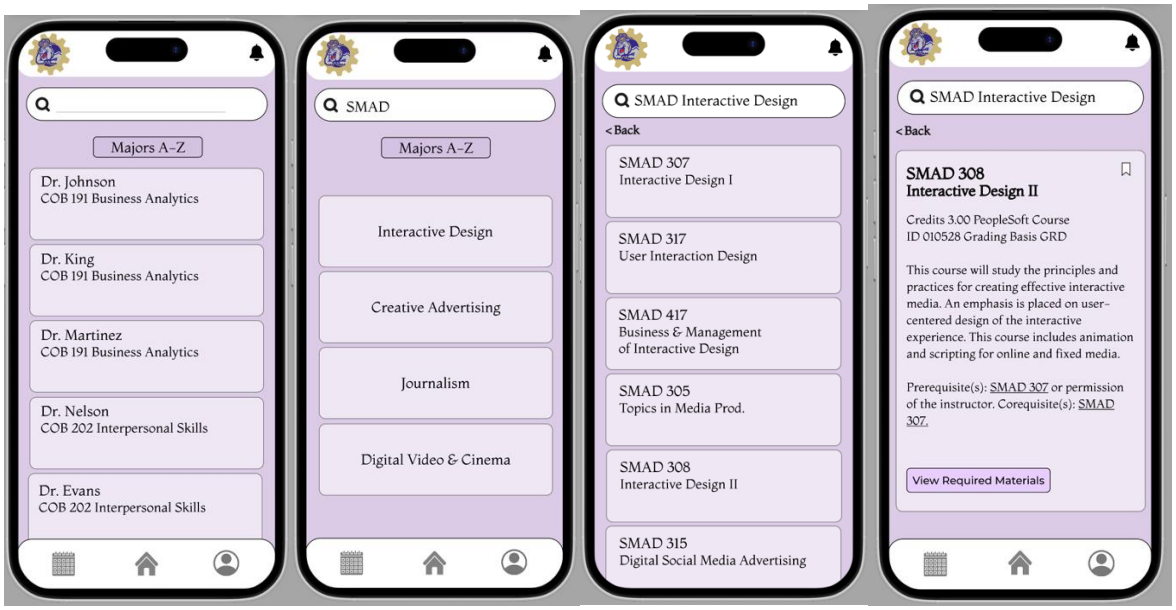


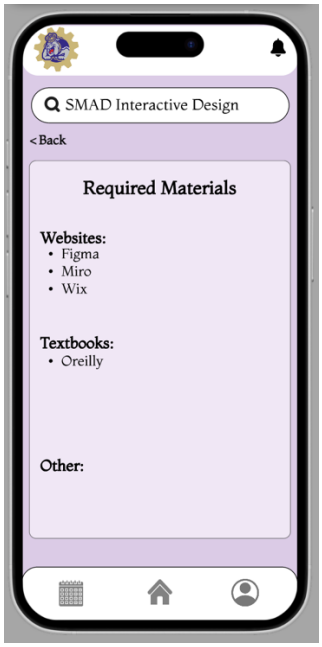

# Task 4: Course Q&A and Adding Message



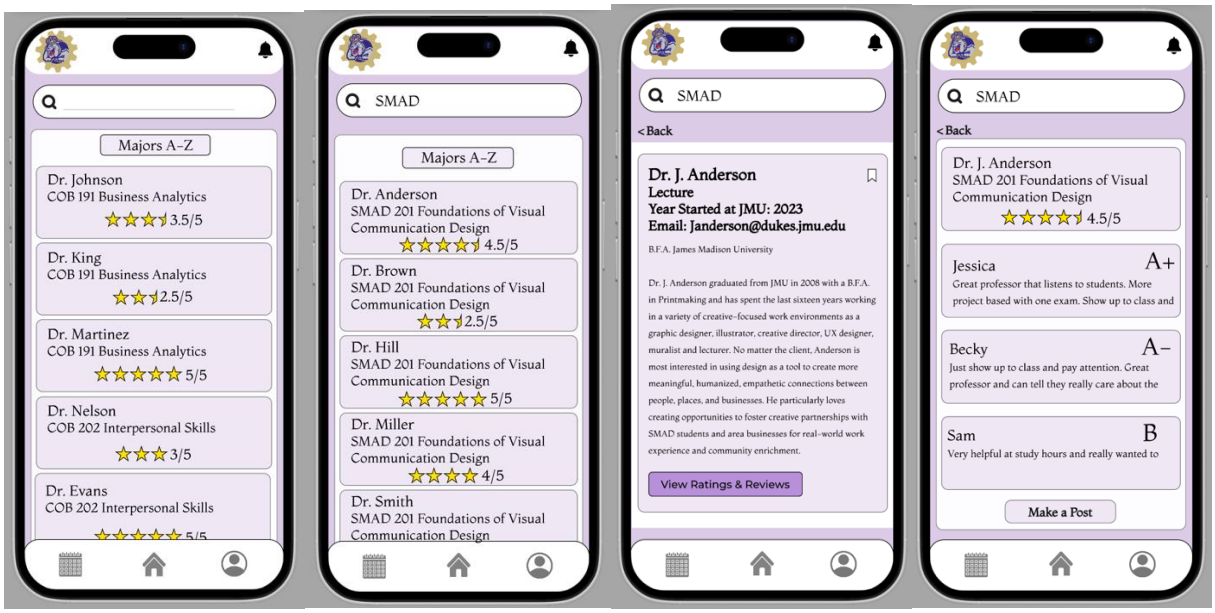


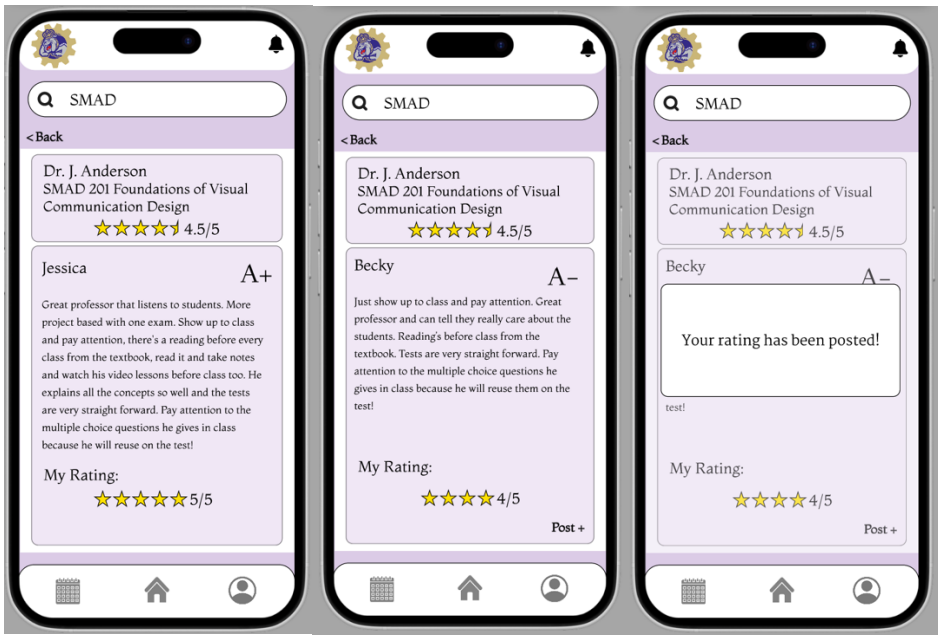

# Task 5: SMAD 308 Course Description and Required Materials






## Task 6: Reading Professor Reviews & Ratings



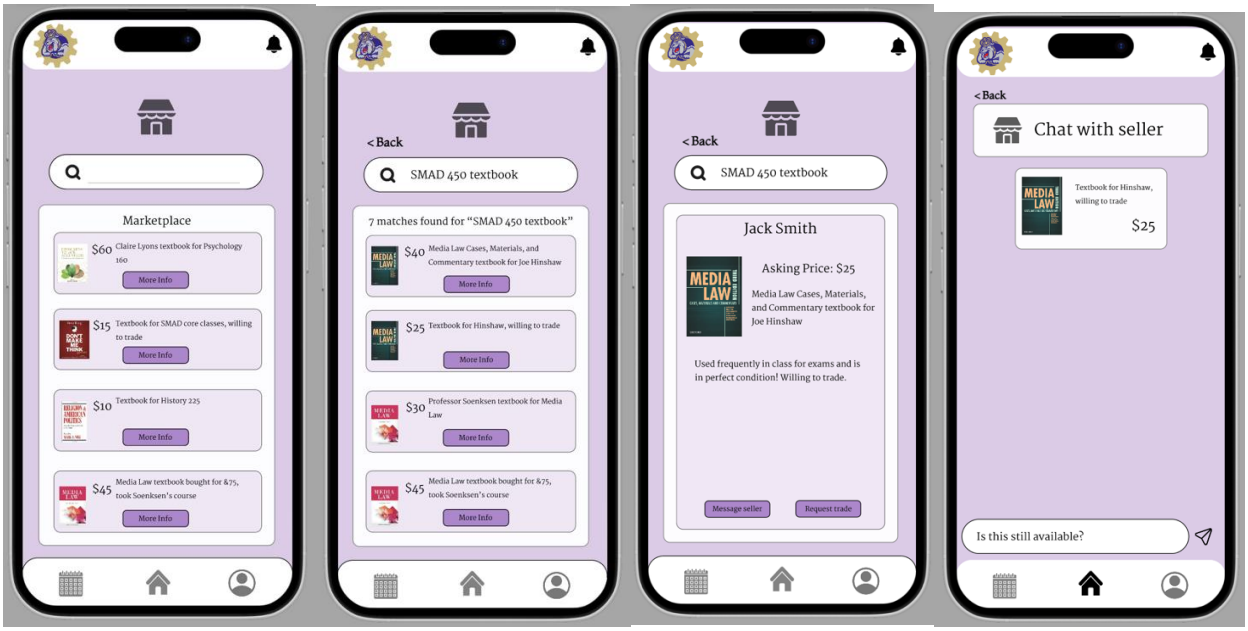



## Task 7: Finding SMAD 317 and Joining a Study Group & Adding the Meeting to Calendar





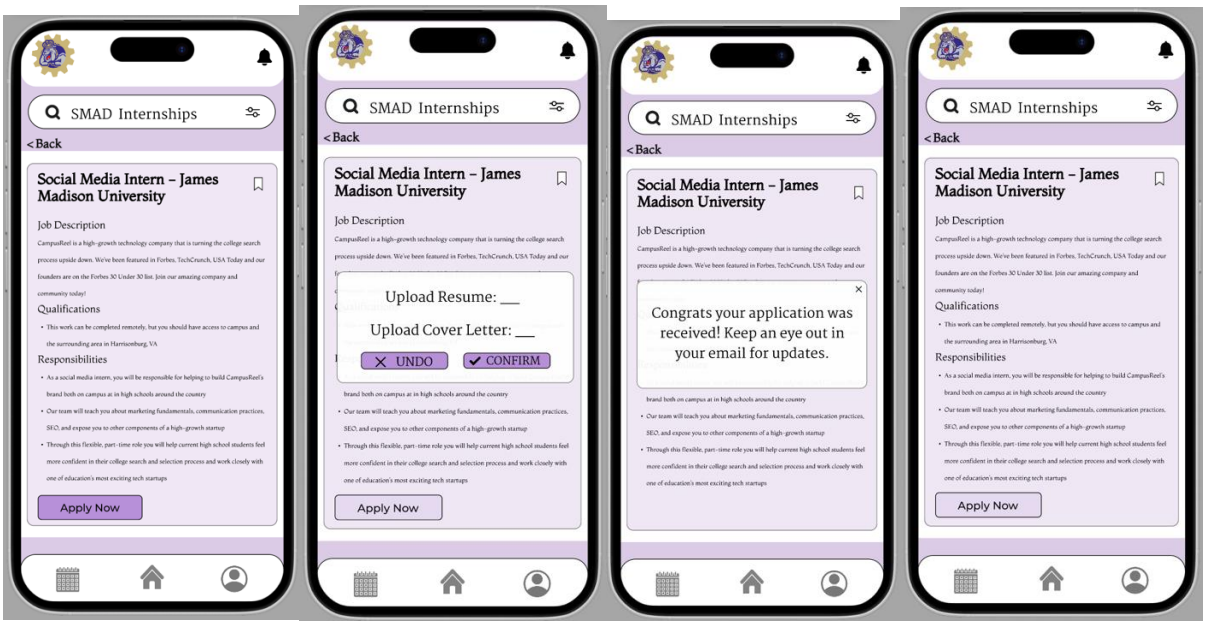

# Task 8: Searching for SMAD 450 Textbook and Messaging Seller






## Task 9: Search Through SMAD Internships for Social Media Intern and Upload Cover Letter & Resume






**Changes Made:**

For the high-fidelity prototype, we ended up changing a good amount of the tasks. We found that many things were missing during our feedback trials. Our goal is to give users a very simple interface to navigate. We added many more buttons to make navigation painless. We also added a lot more confirmation to the tasks, so the user will know they are completed. We created a logo that demonstrates the Duke Hub perfectly, as this was missing throughout our low-fidelity prototype.

During our revisions, we decided to add an ‘open profile element.’ This was needed during our low fidelity prototype because the user was unable to click on the profile navigation at all previously. This time there were many features made available on the profile element. First, you can click on the button at the bottom of the home page. You will then be able to edit your profile, view your bookmarked list, view and edit your resume and portfolios, and upload your course schedule.

Next we included a task to be able to open the calendar also located on the home page and throughout the bottom icons in most of the pages. In this element, you can access the calendar by month and click on the individual days to see what you have scheduled for that day. You can also add new events to that day. Lastly, in this element you will be able to search your schedule. This feature was not created during our low fidelity prototype.

# 5.3 Usability Testing and Design Recommendation

## 5.3.1 Participants

**Participant 1: Sadie Young**
Age: 21 years old
Year: Senior
Major: Kinesiology Major
Apps or websites used similar to ours: Sadie said she uses Google Calendar for all events as well as Canvas to-do list and sometimes Rate My Professor.
Quote: “I really enjoyed the confetti popping up after hitting confirm for some of the tasks.”

**Participant 2: Maya Perez**
Age: 21
Year: Junior
Major: International Affairs Major
Apps or websites used similar to ours: Maya uses primarily Google Calendar and then Outlook for work and other school related events.
Quote: “I really enjoyed how easy it was to tell what task went to what on the homepage I really didn’t have to think too much about it.”

**Participant 3: Andrew Bradford**
Age: 20
Year: Sophomore
Major: Psychology Major
Apps or websites used similar to ours: Drew uses Google Calendar a lot as well as Rate My Professor and lastly MyMadison for class information.
Quote: “Would you guys possibly think about adding an AI chat bot to help with questions along the way?”

**Participant 4: Riley Rodman**

Age: 20

Year: Sophomore

Major: Double Major is Justice Studies and Philosophy

Apps or websites used similar to ours: Google Calendar and BeInvolved for reminders.

Quote: “I would really enjoy having an app like this especially the textbook trade or sell feature because I know some students use the Snapchat story's but that's not as reliable and sometimes my books can be over hundreds of dollars so something like this would help take a stressor off.”

**Participant 5: Tara Lake**

Age: 21

Year: Senior

Major: Nursing Major

Apps or websites used similar to ours: Canvas, Outlook email, and Google Calendar.

Quote: “I really liked the different ideas like the resume upload and make/join a study group I feel like those two can really help students out.”

# 5.3.2 Testing Methods

**Briefing:**

“The app we created is called Duke Hub. It’s a platform where you can connect with peers in your major as well as find information on a variety of resources. Duke Hub brings together key features such as organization and planning for courses and reviewing professors and ratings, and finding resources for your classes at a fraction of the cost in one centralized platform. Through usability research and testing, we found it essential to create an easily accessible app that won’t leave the user confused navigating information. We created this platform to help simplify your experience as a student and guide you to find more reliable information.”

**Pre-session Questionnaire:**

“Before we get started, we need to gather some information.

- Can you tell me your name, age, and major?
- What apps or website do you currently use to manage your schedule, classes or campus involvement?
- One a scale 1 to 5 how often do you have trouble finding information or resources quickly?
- Lastly, what are you hoping an app like Duke Hub will help you with the most?”

**Tasks Presented During Testing:**

1. Sign Up/Login
2. Open Calendar Element
3. Open Profile Element
4. Go through course Q&A and what happened in class
5. Searching through SMAD course descriptions and required materials
6. Searching for SMAD professors, viewing ratings, and making a post

7. Searching and adding a study group to your calendar
8. Searching for a textbook and messaging the seller
9. Search for SMAD internships and upload resume and cover letter to a position

**Post-testing Questionnaire:**

- How would you rate your overall experience while performing these tasks?
- Were there any times during the process that you felt lost?
- Did you feel like the layout of the app was user friendly and organized?
- Did the system give you helpful feedback after each action?
- Were there any other features that you would expect to see?

**Testing Environment:**

The usability tests for each participant were conducted in a quiet and distraction-free room in one of the Festival Conference rooms. Where each participant used our laptop to navigate our platform through Figma. As we went through the interview we screen recorded these interactions through Zoom and recorded the audio through Zoom as well as the voice memos app on our phones as a backup.

**Evaluation Methods:**

**Quantitative:**

1. How long did it take for the user to complete each task?
2. How many users were satisfied with their overall experience?

**Qualitative:**

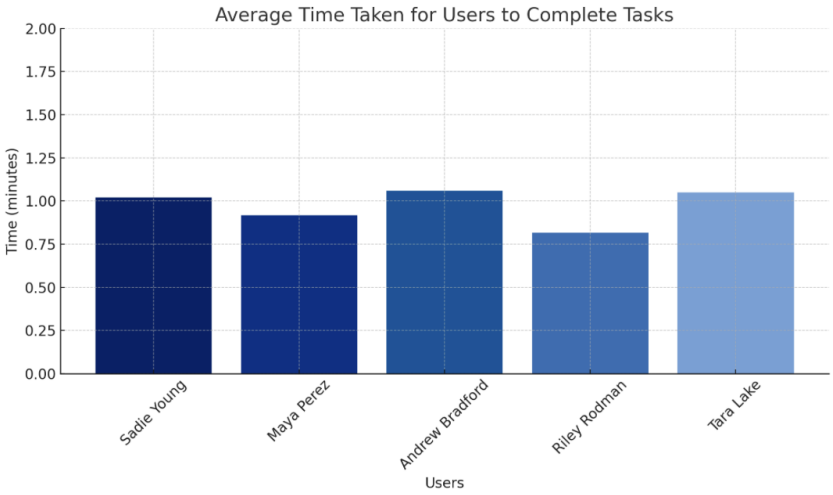
1. While observing the participants, we noticed that many of them would click around on the page at different links that didn't relate to the task or wasn't an option. Where we addressed later on in the post-testing questionnaire. An example of this would be instead of clicking on the cheaper textbook version they would try and click through the other more expensive options.

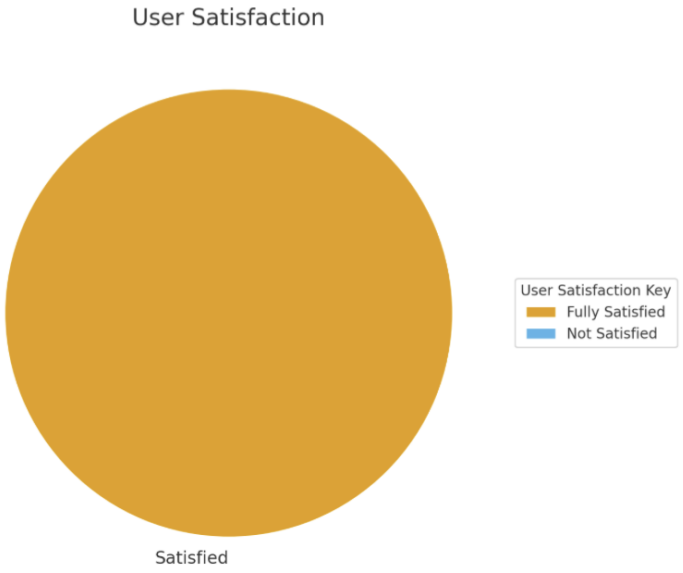
2. Another observation was the verbal and facial feedback while they were completing the task where some of them were saying “Oh that's awesome!” or you could tell they were satisfied by a smile or them leaning in and engaging. This helped us understand what worked and didn’t work well.
3. Lastly, while watching in person as well as the videos back we could pick up on hesitation of them by clicking through a task due to them hovering over buttons. This told us that they weren’t sure what to click at certain points making the process take longer.

**System Usability Scale (SUS)**

In our evaluation, we incorporated the system usability scale (SUS) to assess the overall usability of our final Duke Hub design. It provided a framework for rating the interface through statements covering usability and consistency. We scored each item after watching each user’s screen recordings back, and we were happy with our results. The SUS served as an additional quantitative measure and helped validate our findings. The SUS provided a clear measure of the design’s overall effectiveness, that we will definitely use in the future.

# 5.3.3 Findings and Recommendations




After completing our usability testing with our high-fidelity prototype, we recorded this quantitative data which represented the users who participated in the testing. We examined the screen and audio recordings of the tests and recorded the results on a piece of paper. This helped us visually see what the information looked like, to allow us to determine what the best graph was for our data.

We settled on a bar graph to visually show the average time our users took to complete the tasks. The highest time was one minute and five

seconds. We were very happy with those results. Lastly, our second graph shows the overall user satisfaction of the tasks. One hundred percent of the users answered that they completed the tasks successfully and without confusion. This data was very useful for our future research to improve our prototype.

# Chapter 6: Conclusion and Future Work

This project was not only a challenge for our team, but also a valuable opportunity to showcase our developing skills in user experience research, design thinking, and prototype development. Throughout the process, we were able to demonstrate our ability to turn user needs into a solution. This project serves as a strong addition to our professional portfolios, as it highlights our ability to conduct user-centered research, reevaluate our prototypes after feedback, and produce a functional design in the end. Moving forward, the insights we gained from this experience will continue to shape our growth as designers and prepare us for what we do in the future.

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# Poster

## Duke Hub

**Tool for managing essential university tasks and staying organized**



### Our Purpose:

The target for Duke Hub is to serve as a centralized platform for undergraduate students at JMU. As many students across campus have expressed concern about the lack of resources they have to find information needed for their academic journey, it's our primary goal to provide students with an efficient way to find their academic needs in one place. Duke Hub aims to be intuitive and easy to navigate. We created this platform to help simply the experience as a student and guide them to find more reliable information.

### Our Prototype:

We created a design that completes various tasks. We focused on a simple layout that provided users an navigation experience. Some of the tasks this platform carries out include professor ratings, course q&a's, a resource marketplace, study groups, course descriptions, and career and internships. These all can be found as buttons on the home page, which you can view on the right of the page. Navigation is very simple to follow, providing many buttons and confirmations as you complete actions throughout. Students are able to frequently update their personal and academic details as needed on the profile icon on the bottom naviagtion section. Lastly, there is a calendar task that allows the user to keep up with their events and be able to add them to the calendar as they come up.




### Our Findings:

This student center design can meanfully enhance how a student's experience at JMU. Our prototype provides a strong foundation for what our app might look like. Our redesign reduces confusion, increases productivity, and ultimately supports students more effectively throughout their academic journey. The user experience process has provided us with a lot of helpful feedback to make an intiutive interface.

# Video

https://www.canva.com/design/DAG7NiREcuM/uNHTxvMXbSebdg2gyrXbQA/edit?utm_content=DAG7NiREcuM&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton