

JM[you]

APPLICATION GROUP PROJECT

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SMAD 317

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CHAPTER 1: EXECUTIVE SUMMARY

The JMYou app is an application that allows James Madison University students to access all their online applications in one central hub, known as JMYou. Applications they can access from JMYou include their classes on canvas, zoom lectures, calendar, their email, the student center's most used features, and their mobileID account. This application can be helpful for both students taking online courses and need to easily access their online tools or for the student with in person courses who is on the go and may need to quickly access something for their class. This would be beneficial for all JMU students, as the current system that JMU offers has the tools that students need in a variety of applications online and it can be difficult for students to navigate through that system. This report illustrates the process that we went through in gathering ideas for the project, collecting the data we needed, and building and designing our app's prototype.

CHAPTER 2: PROBLEM STATEMENT

James Madison University students need a way to access all of their online applications, programs, and information all in one place because they will save time and confusion when trying to access these many resources that are stored across a variety of websites.

CHAPTER 3: RELATED WORK

1. MYMADISON

The problem that this system identifies is having a central hub where students can access all their information and complete tasks regarding JMU. This addresses a related problem by attempting to have all the resources that a JMU student needs all in one place to save time, just like our app. There are some good principles in the website like having different tabs for student needs, accounts, and services, clearly displaying links to enter canvas, scholarships, and other outside sites and clearly showing the student's schedule and student center where the student can carry out important actions including paying tuition and registering for classes. My work will be inspired by this because this carries

out a lot of the tasks that our app will offer. We will attempt to apply these principles by keeping important aspects like including students' schedules and links to canvas and other important resources on the home page as well.

Some frustrating issues with MyMadison include the website's overall design, which feels stale and out of date. While the design is effective enough to be usable, it is not very modern or engaging as it should be because young students from the ages of 18-24 are using this website more than anyone else. Another frustrating aspect is that there is a lack of relevance with many of the aspects in MyMadison. Many of the programs that students use everyday are not featured prominently on the front page of MyMadison and often you have to go searching throughout the website to find them. These aspects include students' school email, COVID-19 updates and screening surveys, and schedules. Canvas is prominently displayed on the front page, however, it takes you to an outside website rather than being involved within the site. Additionally, there is no corresponding mobile app for MyMadison, and the way the design is set up on the site makes it difficult for users to use it in a browser app on their phones. With students being on the move and busy everyday, this makes it difficult for them to check on their important applications while away from their computers, so a mobile app with the essentials that they use everyday is becoming increasingly in demand.

2. CANVAS

Canvas identifies the problem of having a central location for students to access all of the materials that they need to use for their classes. Each professor has the ability to create a course page where students can find their assignments, a calendar, the syllabus, and whatever other resources they need to succeed in the course. There are many aspects of canvas that are great; such as the dashboard that gives you a daily list of what is due that day, and the colors and layout of the system are aesthetically pleasing. However, it is sometimes very hard to figure out what assignments are due and where to turn them in because of the many tabs that are available. It is overwhelming for students to find what they are looking for because of the plethora of pages, and differences between each professor's pages. For example, some professors prefer to use the "Modules" page and split everything up week-by-week, but then other professors just upload everything to an "Assignments" page categorized by point values. With the semester being completely online, it is very hard for students to keep track of where all their assignments are because every professor's page is so different. In order to make things less confusing, we want to create a platform

that is easier to navigate through by decreasing the amount of page features for each course to create a more uniform and consistent site.

3. LIVESAFE APP

The Livesafe App overall is very beneficial to keeping track of COVID-19 cases and allows students to easily follow protocol when going to campus. It allows students to evaluate their health each day in order to avoid putting themselves, or other JMU community members at risk. The app reminds students to check-in each morning which we think is extremely important since students are not used to having to do this each time they go to campus, and could easily forget. The app is also very easy to navigate and uses bright colors to highlight each page. We definitely want to create an app that is easy to navigate so the features on Livesafe will heavily influence the layout and structure of our app. We also would like to keep the other features such as emergency contact options, the anonymous reporting form, COVID guidance, and mental health resources. These are all things that are extremely useful for students daily.

There are not too many frustrating elements on the Livesafe app, however they definitely could improve a few things. Each day students have to fully type out their email address which is tedious to have to do every morning, especially if students are in a rush. It would be nice if there was a feature that could remember your email so that you don't have to retype it every time. Besides that, I do not see many issues with the Livesafe app itself, however it is yet another app that students have to use in order to do their daily activities on. If there could be a feature such as Livesafe included in a central app along with the other things students need to access often I think that would greatly increase the user experience of students. It is a hassle to have to log in to so many different apps and this will make the experience less tedious for students.

4. MY STUDY LIFE

The My Study Life app gives college students an effective way to plan out their schedules and keep track of assignments. This app relates to our problem by giving students easy access to their schedules through their mobile phones while also sending reminders for appointments and assignments that they have so they can easily keep track. Similar to the way that MyMadison displays students' schedules on the home page, we want to include their schedules in our app and connect their assignments that they have in Canvas so that students never forget an assignment.

Overall, the design of the app is simple and easy to use which is definitely something that we want to carry on in our app. They have block scheduling

features which are beneficial for students and easy to use which is a design aspect we will consider adding as well. However, there is a feature in the app that allows one to see their whole schedule for the month which is overwhelming and harder to add in appointments or other things on the schedule. Instead, we want to allow students to schedule by the week to avoid them feeling overwhelmed and because students are often more concerned with their current week rather than the weeks ahead of them.

5. MOBILE ID APP

The Mobile ID app gives students at JMU access to their JACard all from a touch of a button. The JACard is one the most important things students need access to at JMU. Every student is required to have one, and the card itself give students access to most all amenities on campus from dining halls to dorm rooms. Students can use them at dining halls, and locations like starbucks, and dukes. Students can view their meal plans, flex and dining balance. Especially during this pandemic, having a contactless method of payment helps to stop the spread. JMU wants students to utilize this feature more and continue to practice proper social distancing practices.

The Mobile ID app claims that students can use the app to open doors, for example swiping into dorm halls, and the app also claims that students can use the app at vending machines. This app is super convenient for students because it can be a backup for students who lose their JACard. However, the app is not super reliable especially for first time users, there is a learning curve and the initial download of the application along with becoming familiar with the app is an area of improvement. I think this application will add a positive feature to the app where students can have access to their JACard at all times

CHAPTER 4: DESIGN PROCESS

4.1: USER RESEARCH

Defining our users:

Our users are college students that attend James Madison University of any age that are enrolled in classes. Many of our users are overwhelmed with the amount of

information for students that is spread across different platforms online such as MyMadison, Canvas, MobileID, Outlook, and more. They often have to search thoroughly across the many different platforms that JMU uses to find information that they may need. Many of these platforms only work well on a laptop or desktop computer as well which poses a problem for users when they are on the go or walking to their next class on campus when they can't stop to check their computer. There is also not a place where they can access their schedule easily from their phone or receive notifications about upcoming assignments that are due or exams. They might hear of this app and decide to download it since it combines all their everyday online applications into one place and also allows them to see updates and notifications about assignments and make their schedule.

We chose any users that we know that are current students at James Madison University and also currently enrolled in classes. We wanted to be sure that we got perspectives from different students who use a variety of online applications and have different viewpoints, so we did not restrict our users based on their major, age, or grade. We chose them because they were willing to conduct an interview with us and because they are students at JMU that are enrolled in classes. We conducted our interviews both in person and over FaceTime depending on the situation and interviewed them throughout the past week.

We interviewed a total of five users, four females and one male, ranging from ages 19-21. Here is some more information about our interviewees:

Abby Carlson: Abby is a 20 year old third year student at James Madison University. She is a Psychology major with a minor in Spanish and considers herself a busy and involved student and is often on the go. The online applications that she uses most on a daily basis for school include Outlook, Canvas, Zoom, and Flipgrid. Abby is in a unique position as she teaches a course at JMU so she has the perspective and uses online applications as both a full time student and a teacher. I conducted her interview over FaceTime and both recorded it on my phone and took notes in a document.

Jose Bellido: Jose is a 20 year old third year student at James Madison University. He is a Computer Information Systems major with a minor in business Spanish. Jose is currently incredibly focused on his online studies at home, as he is in an intensive business program this semester which requires a lot of his time and attention which makes him mostly off campus. The online applications he uses on a daily basis for school are Cengage, Canvas, Connect, Zoom, Webex, and Outlook. I conducted his interview in person and both recorded it on my phone and took notes in a document.

Carley Welch: Carley Welch is a 21 year old fourth year student at James Madison University. She is a Media Arts and Design student with a concentration in Journalism,

as well as a minor in Political Science. Carley is also the editor of the News section in the school newspaper, *The Breeze*. Carley uses Canvas, Zoom, WebEx, and MyMadison on a daily basis and lives in an off-campus apartment. Her interview was conducted in person, and her responses were recorded in a document.

Kylee Czerwinski: Kylee is a 21 year old fourth year student at James Madison University. She is a Media Arts and Design major with a concentration in Creative Advertising, and a minor in General Business. She also works at the JMU Bizlab which helps to recreate small business websites in the area, so is very experienced with website design. She uses Canvas, Zoom, and WebEx on a daily basis as a student who lives in off-campus housing. I conducted Kylee's interview in-person and recorded her responses in a document.

Hodan Mohamed: Hodan is a 19 year old second year, who is majoring in Health Sciences on the Pre-Med track, and concentration in epidemiology. She lives on campus and works as a Resident Assistant, and JMU Women's Basketball Manager. Hodan spends much of her time organizing her extracurriculars, and assignments in her planner to establish a productive work ethic. She sifts through many online applications just to get through her online classes. Starting with LiveSafe, Canvas, Zoom, Webex, Outlook, MobileID, and finally myLab. Hodan's interview was conducted via Facetime, and recorded in a document.

It was feasible to find users to interview, as we are surrounded by our target audience everyday, being JMU students enrolled in classes. We did not have any trouble accessing the users we wanted to reach, because our main target is students at JMU that are enrolled in classes and did not restrict them based on major, age, or grade.

Prepare and conduct user research:

We had a combination of interviews in person and through FaceTime, depending on the situation due to COVID and social distancing. All interviews included note taking in a Google Doc to record responses and some were recorded through audio. Here are the questions that we posed in our interviews:

Questions regarding MyMadison:

- What features do you use most on MyMadison? What features do you not use?
Why don't you use those features?
- What do you use MyMadison for?
- What do you like about MyMadison?

- What frustrates you about MyMadison?
- Where do you go to check your schedule?
- On a scale of 1-10 how easy is it to login to MyMadison?
- If you could change anything about MyMadison, what would you change?

Questions regarding Canvas:

- What features do you use most on Canvas? What features do you not use?
- What do you use Canvas for?
- What do you like about Canvas?
- What frustrates you the most about Canvas?
- If you could change anything about Canvas, what would you change?

Additional questions:

- How many different sites do you visit daily in order to attend class online and complete assignments? What are those sites?
- What frustrates you the most about JMU converting to online classes? What is hard to access?
- How do you organize your schedule? What apps do you use for your schedule or do you use a physical paper planner? What do you like about those planners and what don't you like?
- Do you use the MobileID app? What do you use it most for? What features do you not use?
- What do you like about the MobileID app? What don't you like? (ONLY ASK IF THEY ANSWERED YES TO THE LAST QUESTION)
- Do you feel that an app that includes your everyday online tools for school would help you? Why or why not?

Following the questions we had them physically look and navigate through MyMadison and Canvas to point out features that they may or may not have remembered that they use or don't use. We asked them to consider navigation, visual aesthetic, and usability.

Data analysis and results:

After conducting our interviews, we tried to think of ways to sort out our data. We needed to identify aspects of the current online websites that James Madison University uses that are positive for students, those that are negative, and those that are most used and not used. We also wanted to identify any changes that they would like to see made for aspects that they commonly used but would like to see improved on. We were

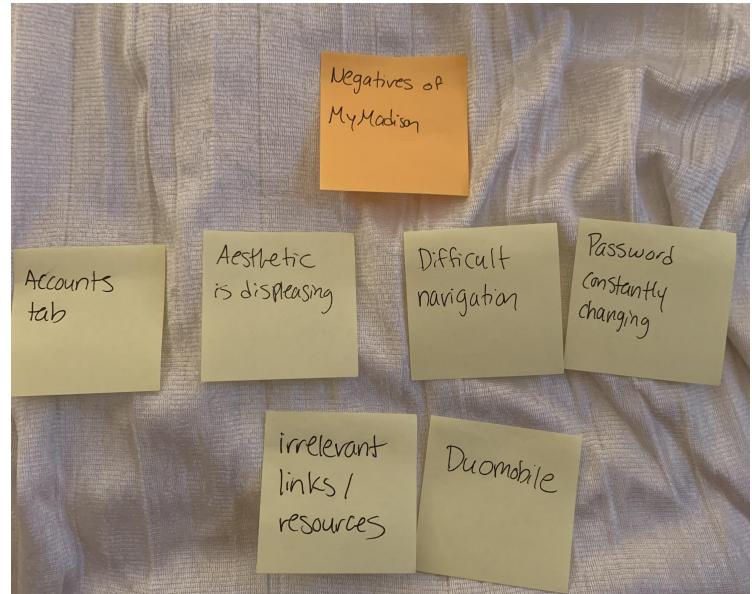
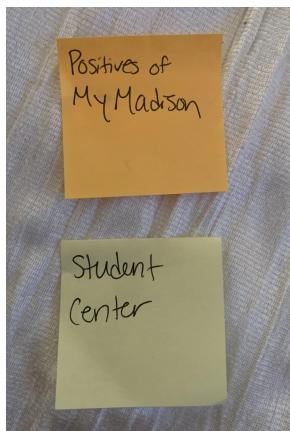
looking for these because our app is meant to combine all of the important online aspects Ultimately, we decided to use the closed sorting method.

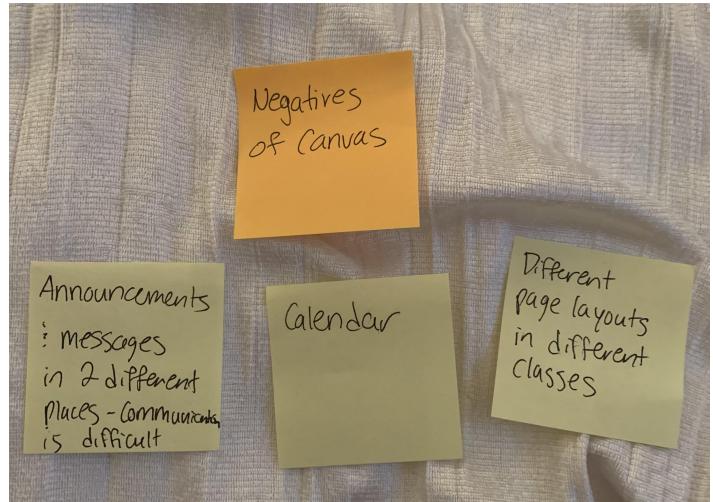
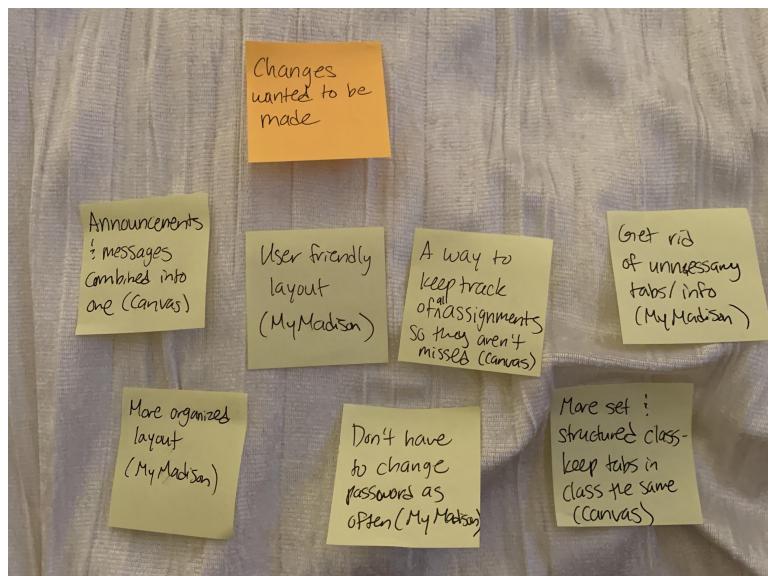
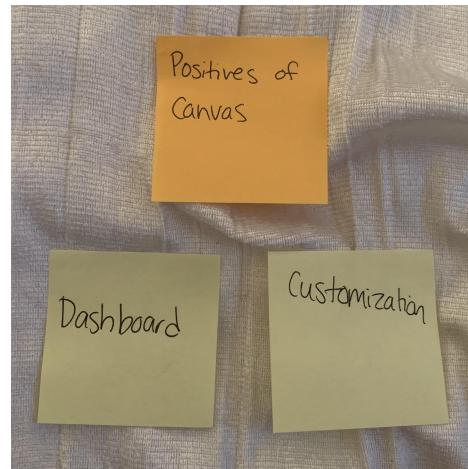
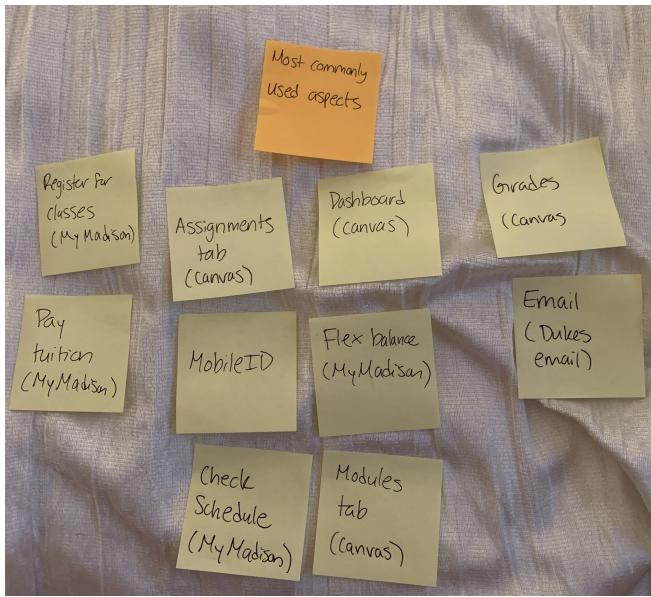
We looked for similarities and differences in our data and went line by line and question by question in each document that we took notes in during our interviews. We also listened to the interviews that we recorded to confirm the answers that we took notes on. We took handwritten notes and typed some notes as well on the similarities and differences that we saw throughout the interviews. We paid attention to those notes and took note of which categories we might sort them in, especially taking note of the question that the answer was to.

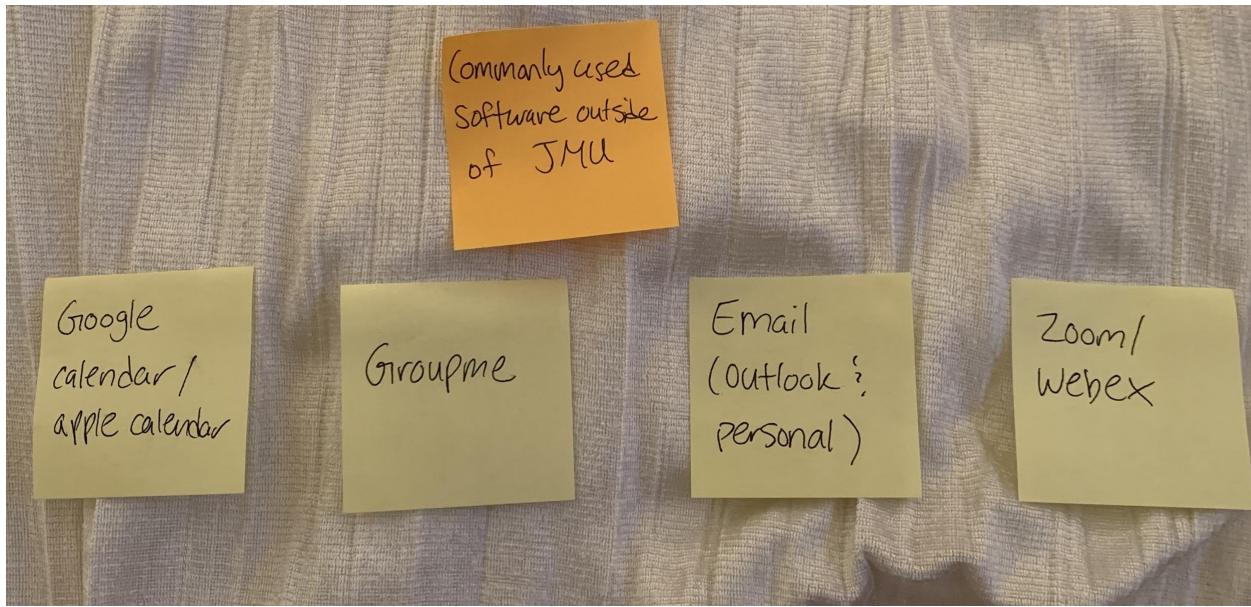
After thoroughly analyzing our data, I wrote out the categories we decided were important on sticky notes. We wrote commonalities on additional sticky notes and placed them under the correct categories. I color coded by placing category names on orange sticky notes and shared comments and comments we deemed important to consider from our interviewees. We sorted our data based on responses and behaviors to the following seven categories:

- Positive aspects of MyMadison
- Negative aspects of MyMadison
- Positive aspects of Canvas
- Negative aspects of Canvas
- Most commonly used aspects of sites
- Changes wanted to be made
- Commonly used software outside of JMU's main sites

We looked at questions that would fit under each category and placed both shared answers for those questions and answers we deemed important within those categories. Here are our closed sorting pictures:







Summarizing our findings:

The majority of our users shared very similar opinions about the positive and negative aspects of their everyday school sites and also mostly used the same common features and shared similar ideas about changes that could be made. Many also shared many softwares that they use outside of JMU's mainly used sites. Additionally, the majority of our interviewees said that an app that would combine all of their online software and websites for school would be helpful to them, as long as it does not contain too many options or too much information in it. We want to be sure to not include aspects of MyMadison, Canvas, and other JMU sites that are not used in order to execute this advice but we wanted to be sure to include positive and functioning aspects of those sites and also include the most commonly used aspects but also improve the commonly used aspects that may have faults. We also wanted to know what changes that students think should be made to the sites to fix those faults or just changes they generally would like to see. Additionally, we wanted to take note of applications and websites that students often use outside of JMU's resources and include some positive aspects of those as well.

- **MyMadison**

A majority of our interviewees have negative experiences with MyMadison and do not particularly like to use it. The only positive feature that was widely agreed on and overwhelmingly used on MyMadison was the Student Center. The Student Center is where students can pay their tuition in the MoneyManager, register for classes and check their schedule, which were all commonly used by

our interviewees. However, some found that there were irrelevant links within the student center that they may never need to use.

Another commonly used feature in MyMadison was checking flex balance, however some other users use MobileID to complete this same task. On the contrary, many of our users had negative things to say about MyMadison. Many have trouble logging into MyMadison in the first place due to it having them change their password so often and because they need to use DuoMobile every seven days. Some even had problems with the site automatically logging them out or randomly shutting down when using it.

Others found the visual layout and aesthetic displeasing and ugly. They also found that because of the layout it was difficult to navigate links or features that they needed and there was a ridiculous amount of irrelevant and unnecessary features and links. Users said some changes that they would like made includes a more user friendly and organized layout, to get rid of irrelevant tabs and information, and not having to change passwords so often and getting rid of DuoMobile.

- **Canvas**

There were mixed experiences for our users regarding Canvas with having about an equal amount of positive experiences as well as negative. Our users overwhelmingly have positive experiences with the dashboard and how the site navigates to that immediately when logging in. Others said they enjoy the customization that Canvas offers and they would like to see that option in the app. The most commonly used features of Canvas were the dashboard, the modules tab, the assignments tab, the grades tab, and the announcements tab. However, some negative experiences with Canvas include the announcements tab and the messages tab.

Many professors either use one of these or both which have led to miscommunications between professors and students because students have a hard time finding announcements about class due to their being two options for sending out these messages. Another negative aspect is the calendar tab which users found unhelpful and unnecessary. Finally, our users had problems with their being a variety of different tabs within different classes. They said that they understood the professors' choice of customization within their class but students found it difficult, just like the announcements issue, to track down files and information within the class. Our users suggested having a set number of tabs that each have different functions and are the same throughout each class to solve this problem. Other changes suggested include combining the announcements and messages tab and also having a better way to track

assignment due dates by either automatically uploading them into the calendar or finding a better notification system.

- **Other sites**

We asked questions to our users about some additional sites that JMU uses that they may or may not use and asked them about other sites and online tools that they use daily outside of JMU's sites that we may have missed or are unaware of. In regards to MobileID, we received mixed responses with some students saying they use it and others that don't. This may be because we didn't interview any freshman, who use their jacards and possibly MobileID more often.

The ones who do use it said that it's convenient to not have to worry about carrying their physical card everywhere to swipe for meals and it creates a contactless experience which is helpful due to COVID. They also enjoy checking their punch, dining dollars, and flex balance on there as well. The only issue with it was that they do not like having to type in the location that they are swiping at and would just prefer it to pull up a scannable code that would work at all locations. Sites outside of JMU that were commonly used for school by our users on a daily basis include Outlook and their personal email, google and apple calendar, groupme, zoom, and webex.

We felt that it was important to learn about the positive experiences, frustrations, common features, additional websites and apps, and wanted changes that our users experience with their everyday online tools they use for school. We want to consider all these options, as our goal is to create an app that is a better version of all of these sites. We want to include all the positive experiences students have as well as eliminate as many frustrations as possible. All of our responses helped us learn a lot about what students use and don't use as well as enjoy and dislike.

4.2: PERSONA

1. Primary Persona & Empathy Map - Samantha Greene

Samantha Greene



"School is my main priority, but I also like to be social in my free-time."

Outgoing **Optimistic** **Busy** **Focused**

Personal Information

Age: 21
Work: Student
Location: Harrisonburg, VA
Year: Junior
Race: White
Housing: Off-campus Apartment
Major: Business with Computer Science Minor

Personality



Introvert	Extrovert
Thinking	Feeling
Sensing	Intuition
Judging	Perceiving

Bio

Samantha Greene is a 20 year old Junior at James Madison University. She is a Business Major and is pursuing a Computer Science Minor. Samantha lives in an off-campus apartment and is currently doing all of her classes online due to the COVID-19 pandemic, like all other students. She owns her own lab-top with a web-cam and has a stable internet connection to access her classes with. Samantha is very sufficient with technology and owns the latest iPhone, an iPad, Apple Watch, and Air-pods. She always keeps up with the latest releases by Apple.

Samantha is also involved in a service fraternity and enjoys staying active, and has been attending UREC while following the new protocol being enforced. Each day Samantha uses Canvas, MyMadison, LiveSafe, WebEx, and Zoom in order to complete her assignments and attend virtual class. She has been working hard to adjust her routine in order to stay on top of her virtual classes as well as enjoying other activities in her free time, and trying be social while following social-distancing guidelines. Samantha wants to avoid being infected with COVID-19 and does not want to return to on-campus learning and risk infecting others.

Goals

- To earn good grades this semester and make dean's list, despite the transition to virtual learning
- To remain a somewhat stable daily-routine
- To follow social distancing guidelines and avoid infecting herself and others

Frustrations

- The amount of different applications and websites that need to be accessed in order to succeed in online-learning
- She feels as though JMU is not doing enough to stop the spread of COVID-19 and does not have a set plan
- MyMadison and Canvas are not user-friendly and it is hard to find the information she needs

Mobile Phone Use

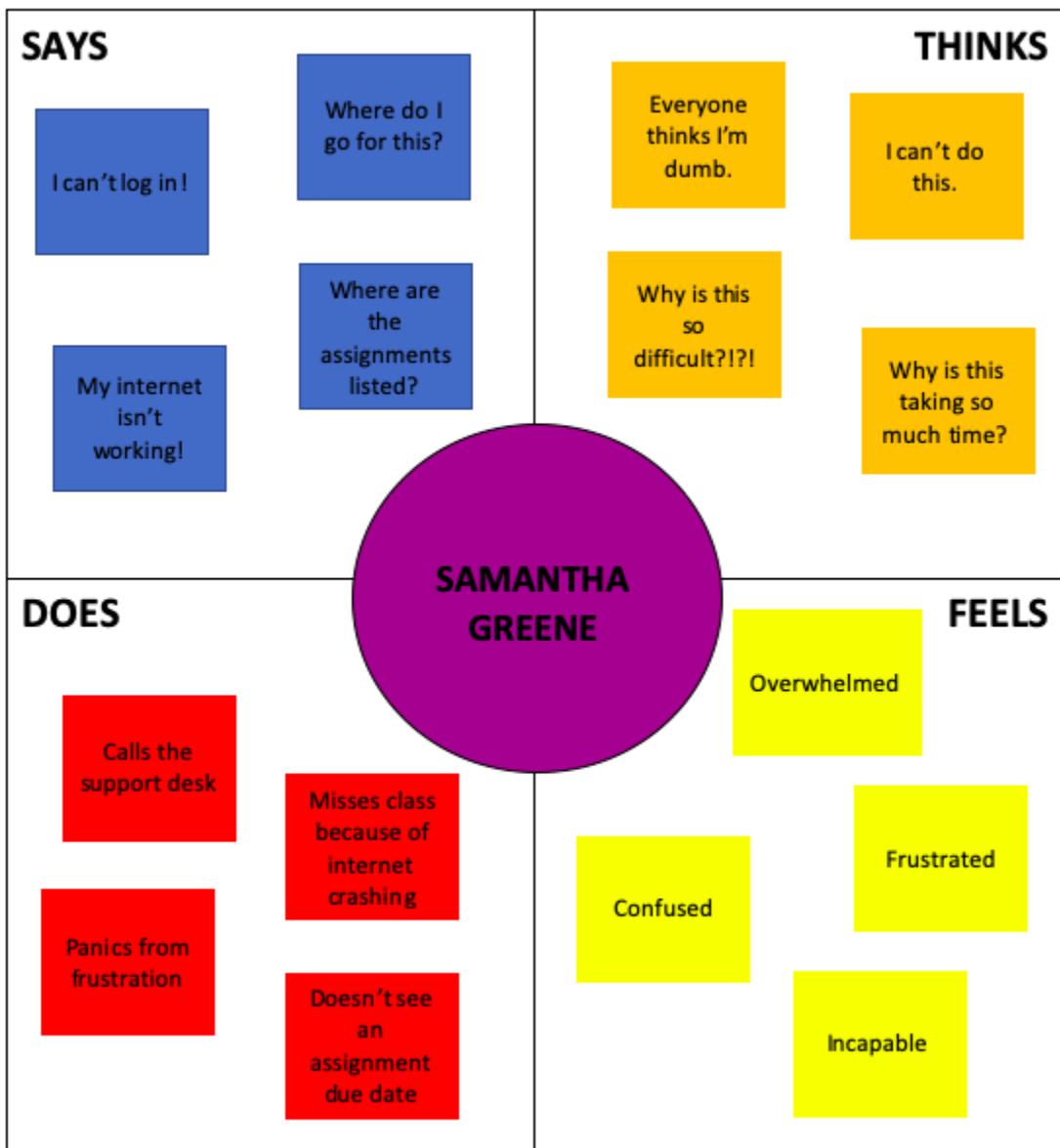
Activity	Usage Level
Calls	Medium
Social Media Apps	High
Texting	Medium
Video Chat	Medium
Research	Low

Application Use

Application	Usage Level
Canvas	High
MyMadison	Medium
WebEx	Medium
Zoom	Medium
LiveSafe	Low

Needs

- A central platform that has everything Samantha needs in order to succeed in her online classes
- A central platform that is extremely user-friendly and easy to use, while not having an overwhelming amount of information



2. Secondary Persona & Empathy Map- Frank Smith

Frank Smith

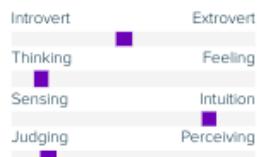


"I love the outdoors and exploring, I'm not a huge technology guy."

Personal Information

Age: 19
Work: Student
Location: Bethesda, Maryland
Year: Freshmen
Race: African American
Housing: On-campus Dorm
Major: Biology Major

Personality



Funny Dedicated Adventurous Goal-oriented

Bio

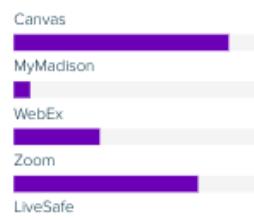
Frank Smith is a 19 year old freshmen who is attending James Madison University. He is a Biology major and was a resident on East-Campus dorms until he was sent home due to the COVID-19 pandemic. He is now staying in his family's home in Bethesda, Maryland until he is allowed to return back to his dorm. When on campus, Frank would start his day by going on hiking or taking a walk, and then would go to class and the East Campus Library to get all of his work done. Frank is okay with technology, but not great; he uses an android phone and has an old lab-top, but prefers to do his work on the desktop computers at the library if necessary. He tries to avoid using technology if possible.

The transition to online learning has been very difficult for Frank. He does not enjoy having to attend virtual classes because of his slow computer, and often has trouble accessing Zoom and WebEx. He also has been struggling to focus on his work while being at home with his family. It is just too busy of an environment. Canvas and MyMadison were also very confusing to Frank since he has not had experience using these websites before. Because of DuoMobile and having to change his password so often, he keeps getting locked out of his account and can't even access his schoolwork. Overall he has been having a lot of trouble since having to leave campus.

Mobile Phone Use



Application Use



Needs

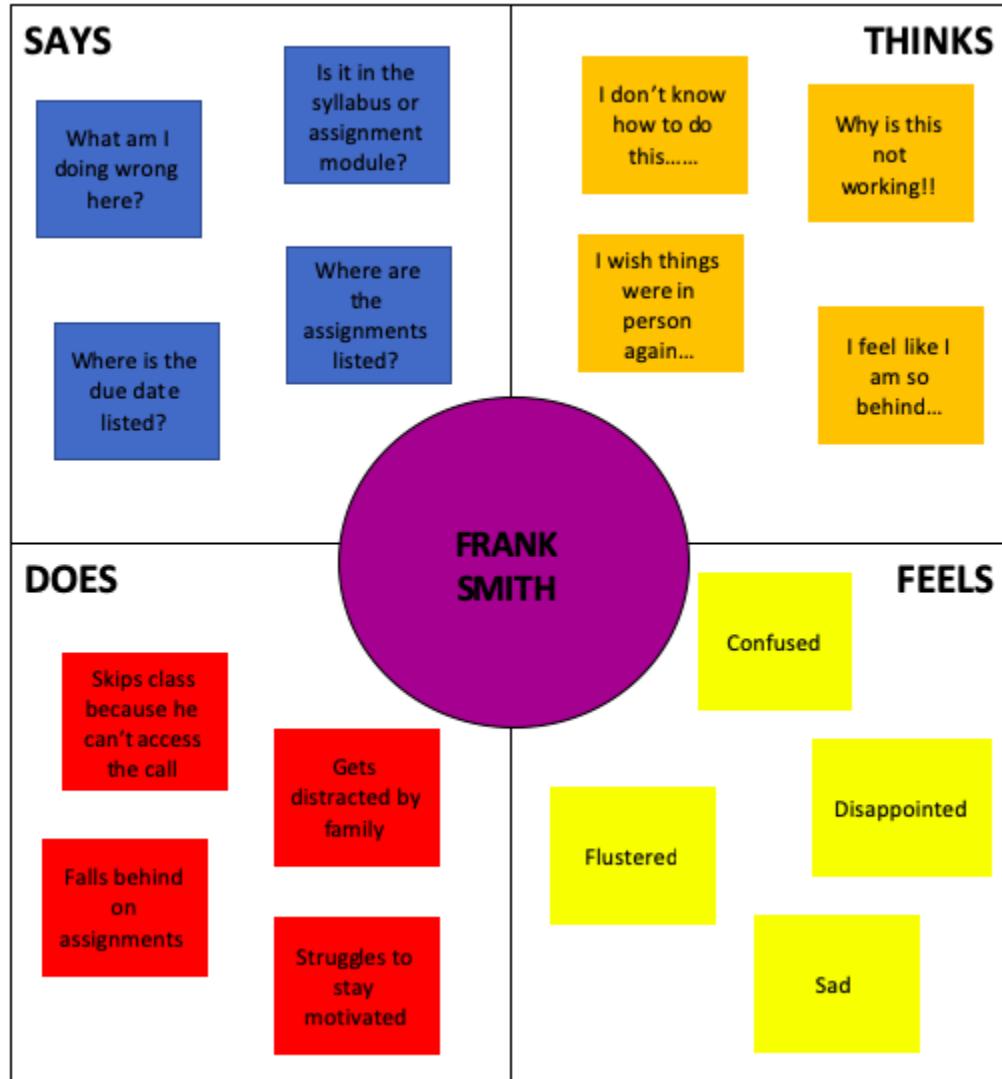
- A simpler way to join virtual classes without having to constantly switch from WebEx to Zoom
- An easier to access platform like Canvas and MyMadison that is user-friendly

Goals

- To earn good grades this semester
- To have an easier time navigating through assignments
- The ability to easily join his virtual classes

Frustrations

- Having a slow computer that does not easily support Zoom or WebEx
- Canvas and MyMadison being extremely hard to navigate
- Getting locked out of his MyMadison account once a week



3. Tertiary Persona and Empathy Map

Allison Jones

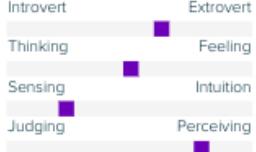


"I'm trying to make the best of the pandemic for both my students and myself."

Personal Information

Age: 21
Work: Student/ Honors Teacher
Location: Harrisonburg, VA
Year: Junior
Race: White
Housing: Off-Campus Apartment
Major: Psychology

Personality



The chart shows Allison's personality type based on the MBTI model. It features a grid with four quadrants: Introvert (top-left), Extrovert (top-right), Thinking (left), and Feeling (right). The quadrants are labeled: Thinking (top-left), Feeling (top-right), Sensing (bottom-left), and Judging (bottom-right). Allison's personality is represented by four colored squares: a blue square in the Thinking-Extrovert quadrant, a red square in the Feeling-Extrovert quadrant, a green square in the Sensing-Judging quadrant, and an orange square in the Feeling-Judging quadrant.

Caring **Passionate** **Determined** **Organized**

Bio

Allison Jones is a 21 year old Junior attending James Madison University. She is a Psychology Major and is pursuing a Minor in Spanish. Allison also is teaching an honors course this semester which is now online due to the pandemic. Allison is okay with technology, but only the devices she is familiar with like her iPhone and MacBook Air computer. She knows how to work Canvas and MyMadison since she has been using them for the past three years, but finds it very difficult to manage. Daily, she has been using Outlook, Canvas, Zoom, and FlipGrid in order to submit assignments for her own classes, and post assignments for her students to complete. Allison does not enjoy doing virtual learning and feels as though she is having trouble reaching her students. Her and her students are confused a majority of the time on where things are posted and frustrated with the amount of applications that need to be used for schoolwork. She wishes that JMU had a more uniform template for teachers to use in order to post their assignments so that it is consistent across all classes.

Mobile Phone Use

Activity	Usage Level
Calls	High
Social Media Apps	Medium-High
Texting	Low
Video Chat	Medium
Research	Medium

Application Use

Application	Usage Level
Canvas	Very High
MyMadison	Medium-High
WebEx	Low
Zoom	Very High
LiveSafe	Medium

Goals

- To successfully engage her students
- To balance being a teacher and a student herself
- To be able to easily access the resources she needs and provide resources to students

Frustrations

- Her students are having trouble accessing WebEx and Zoom
- She doesn't know what format is best for her students to access on Canvas
- She is having difficulty communicating with her students because of all the platforms being used

Needs

- A uniform program for all teachers to post assignments in a consistent manner
- A program that implements video calls, email, and assignments in order to decrease the amount of switching between apps



4.3: SCENARIOS

Samantha Greene Scenario:

Samantha is a Junior undergraduate student who has been frustrated with the University transition to online learning. As a computer science minor, Samantha is comfortable with working with technology, whether it's her phone or laptop. She wants to remain focused on her education, and feels as though the use of many of these third party applications could hinder her success and development in online-learning. Samantha is an involved and active student on campus, and still finds normalcy in going to UREC, and participating in virtual

service fraternity events. She wants to continue to remain social and outgoing as long as the COVID-19 guidelines are being followed.

She downloaded the application “JMyou” to help her organize her busy life and have a place where she can access all the necessities she needs to be a successful online student and achieve her goal of making Dean’s List. Since she is a new user, the app will need her to login using her eID and password created on MyMadison which will give her the access she needs to the application. The JMyou app will help Samantha feel less overwhelmed and scatterbrained in terms of all the other websites and applications that she needs to access to be a productive online student. On the JMyou’s home screen will enable Samantha to view all the necessary applications from Zoom & Webex to Canvas & Outlook.

On a day to day basis the app will allow her to view everything she needs for online learning in one place, and keep her organized. She can start her day viewing canvas to see what assignments she has due that day, and give her access to her MobileID to get lunch on campus or go to urec to let off some steam while working out. With the stress of everything moving online and the constant notifications from different apps Samantha began to feel overwhelmed and anxious, but the JMyou app has helped in supporting students during these times.

Frank Smith Scenario:

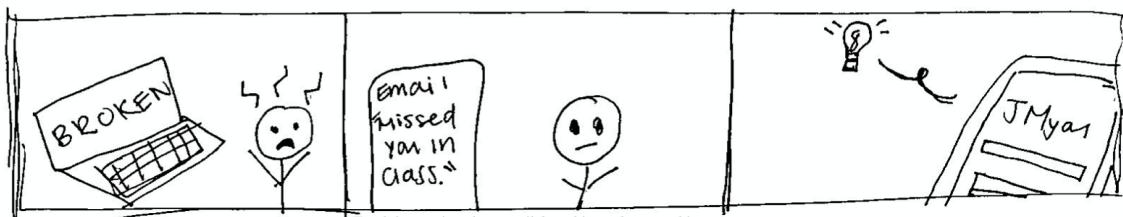
Frank is a 19 year old first-year from Bethesda, Maryland. Unlike Samantha, Frank is not the best with technology, and has a slower running computer because of all the software and applications he needed to download in order to successfully transition to online learning. As a freshman, he is not used to navigating between Canvas, DuoMobile, and MyMadison. It does not help that he is now at home, and is getting more distracted by his family but Frank still wants to achieve good grades. He believes that as long as he can navigate through assignments, and access online classes on Zoom and Webex easier he will achieve his goals. He just needs one application that will allow him to view all of his assignments and in need of a more user-friendly Canvas & MyMadison. As Frank is also making the transition from college to highschool, he doesn't need the added pressure of applications and software making college any more difficult.

Our JMyou application will give Frank the user-friendly experience he is looking for. Since Frank often gets logged out of multiple accounts, having a one-time eID log in will relieve that stressor, and allow him to work more productivity in the JMyou app. The interface will be a simple layout that clearly shows what assignments and notifications he needs to view all in one place. Since he is at home right now the app would have been beneficial in Franks adjustment to

college life in general, and it would have better supported his computer's storage by only needing one application.

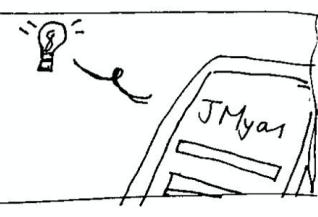
4.4: STORYBOARDS

Storyboard 1 (Frank)

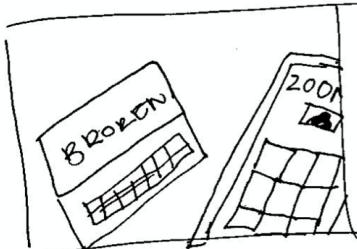


Frank has been taking classes at home and his laptop has been glitching. He has been struggling with the online transition, and laptop could not handle all the software.

Frank just received an email from his professor and is now growing more frustrated with all the applications that have failed him in productivity. He is falling behind in school because of it. He is finding it difficult to navigate between canvas and MyMadison because he hasn't gotten the hang of it.



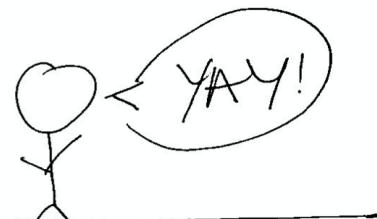
Since the online transition, and him missing class Frank was actively looking for any sources or resources to help him, and he came across JMyou app.



With the download of the app, Frank has been able to attend all of his lectures on zoom via his phone while his laptop gets fixed.



Evan after class Frank can view all of his class times through MyMadison, and never miss a class again. Frank can also attend classes from Zoom or Webex, all in one place.



With all the unknowns and technical challenges, Frank feels more relieved because of the app. He is more excited to tackle this year and hopeful for successful academic year.

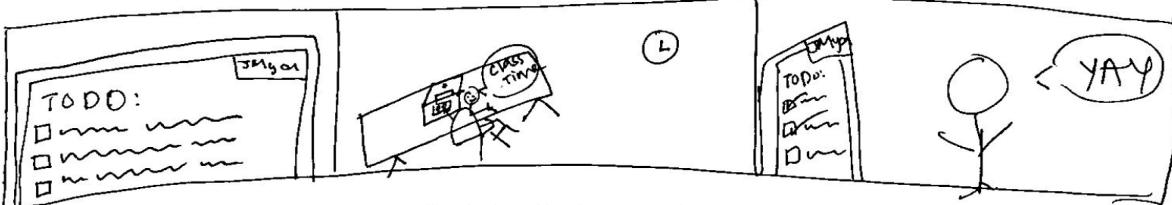
Storyboard 2 (Allison)



Allison is a full time student, and part time teacher. She has many deadlines and planning to do for her students since everything has been transferred to online so it has been becoming difficult and stressful time for her.

Allison has been finding herself getting caught up in just her teaching responsibilities instead of completed the tasks she needs to, to be a good student. This has caused her to miss assignments.

Because of the feeling that she is spreading herself too thin, Allison had to download the JMyou app to hopefully help her organize school and teaching.

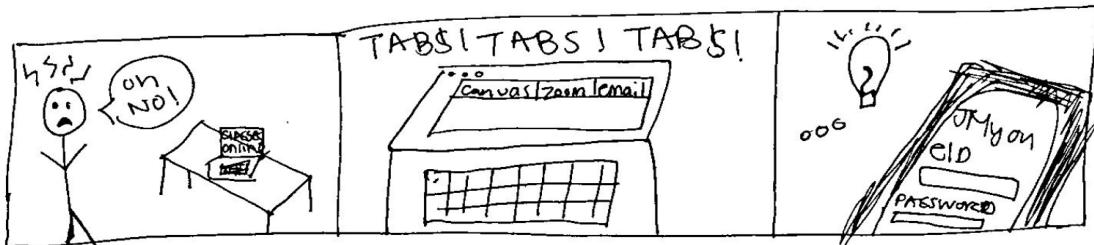


The JMyou app has a "To Do" section that sync up with your calendars on Canvas, MyMadison, and Zoom. Because of this Allison can also input "To Do's" for all her students so that it is in their app as well.

Allison has been able to better communicate with her class, and get assignments out to them in a more efficient manner.

Allison has felt more comfortable with the online transition, and as received positive feedback from her students with her posting assignments.

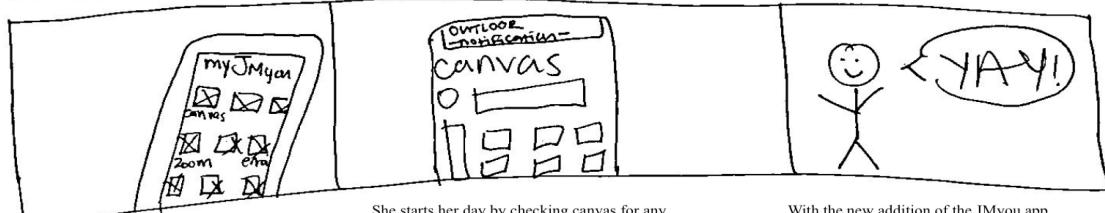
Storyboard 3 (Samantha)



Samantha is a good student, who normally works well with technology. She has established a good system for in person classes, and is now more anxious about the temporary transition to online. She is nervous and stressed because she wants to do well.

Samantha's stress became even worse because her normal way of getting assignments done is now hindered because of the plethora of applications she needs to download. She feels like she will fall behind, and is all in all disappointed with JMU and their COVID plans.

Since Samatha was feeling overwhelmed, and the stress has been beginning to pile up, she had to start looking for some help applications and came across "JMyou"



Samantha immediately liked how everything was in one place. There were less tabs and applications she had to deal with. Having a hub of all you need JMU has made online classes easier.

She starts her day by checking canvas for any announcements or assignments, and she found it helpful that she could also see her email in the same place. She feels more organized, and doesn't feel like she isn't being left behind.

With the new addition of the JMyou app Samantha has more free time in her schedule to do online events with her service fraternity. She also is just enjoying free time to hang with her roommates.

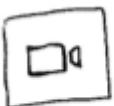
4.5: DESIGN REQUIREMENTS

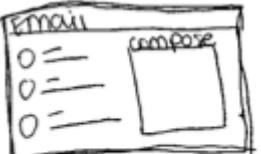
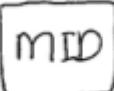
- Data Requirements
 - Data requirements for the application will require the user's login information from their email, My Madison, Zoom, WebEx and MobileID to access accounts. As well as access to their iCal or online planner.
- Functional Requirements
 - Functional requirements will allow users to use the application to email from Outlook, access to canvas assignments/announcements, attend virtual lectures on Zoom/WebEx, access to MobileID, and create a customized "ToDo" list.
- Contextual Requirements
 - Contextual requirements include the app being usable on a smartphone, tablet, laptop, and desktop. As well as creating a To Do list from all calendars across canvas, outlook, and My Madison.
- Technical Requirements
 - Technical requirements include the app being a responsive design, and functional on iOS and Android operating systems. While also being the proper size for the device the app is on.
- User Requirements
 - User requirements are to be JMU students or professors, and to have created their My Madison account before accessing JMyou for the first time. The user must be able to understand the applications purpose to be a hub for all the apps needed as a student/teacher.

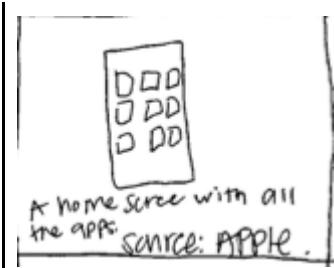
CHAPTER 5: DESIGN SOLUTIONS

5.1: BRAINSTORMING AND SKETCHES

The NUF Test

Idea	New	Useful	Feasible	Total
 <p>App to help keep track of assignments <u>Source: CANVAS</u></p>	1	8	9	18
 <p>App to help people attend virtual meeting <u>Source: ZOOM</u></p>	1	9	9	19
 <p>An agenda to help keep track of important dates. <u>Source: An Agenda</u></p>	1	5	10	16
 <p>More scheduled for your classes <u>Source: My Madison</u></p>	2	9	9	20

 A list of things that need to be done. <u>SOURCE: Apple Reminders</u>	1	3	10	14
 Messages from teacher / peers also send emojis. <u>SOURCE: Outlook</u>	3	4	10	17
 a calendar that can be shared & connected to other APPS. <u>SOURCE: iCal</u>	5	9	8	22
 an app used as a mobile ID <u>SOURCE: Mobile ID</u>	0	1	10	11
 Notification center w/ all notifications from app <u>SOURCE: Apple Notifications</u>	0	3	10	13

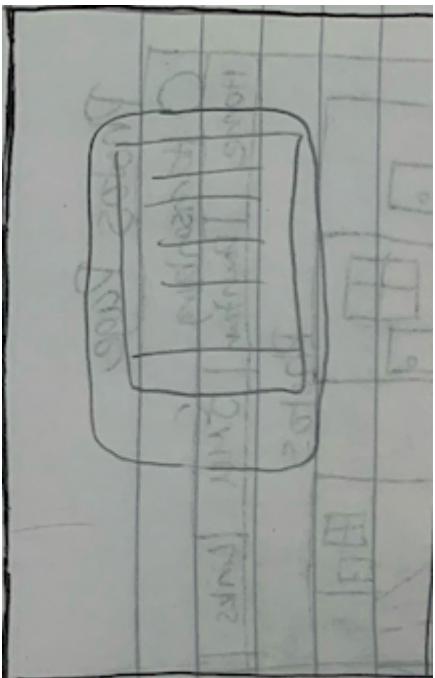


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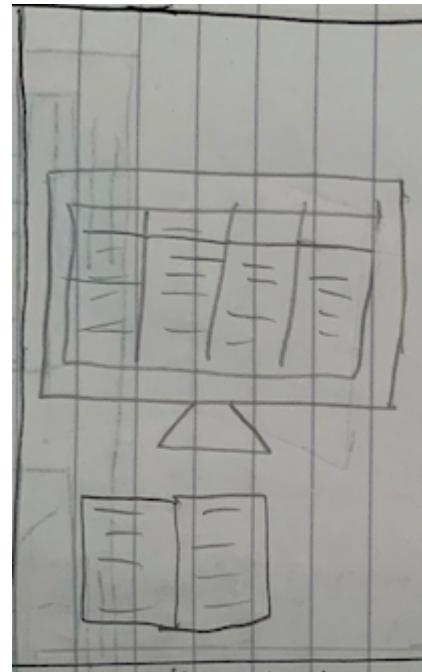


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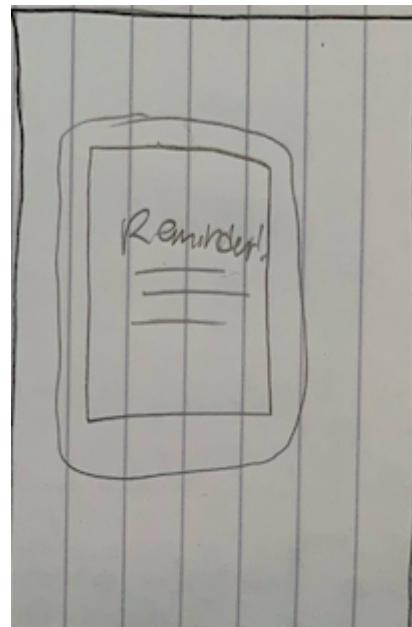
A website that organizes all assignments and appointments into a printable format / calendar.

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9

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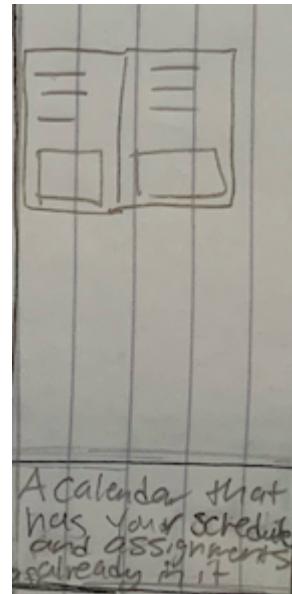
An app that reminds users of assignments due that imports from Canva

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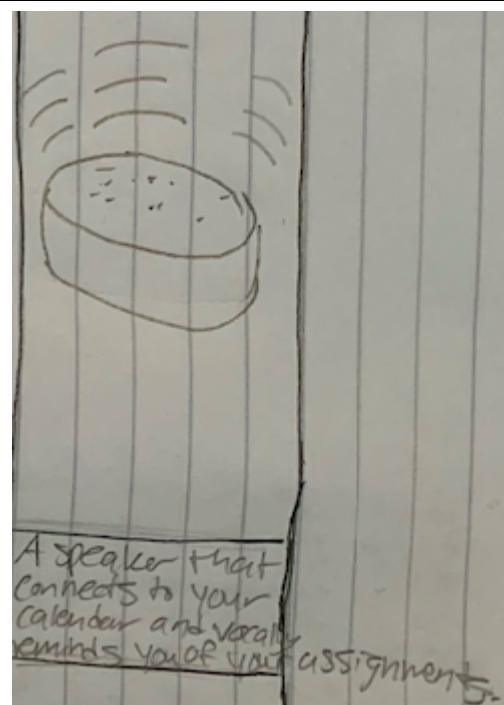


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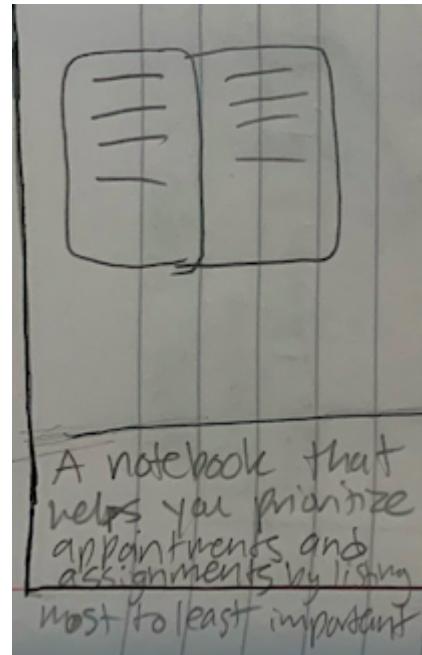


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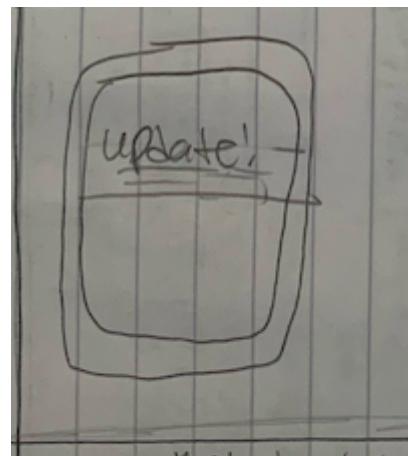
A notebook that helps you prioritize appointments and assignments by listing most to least important

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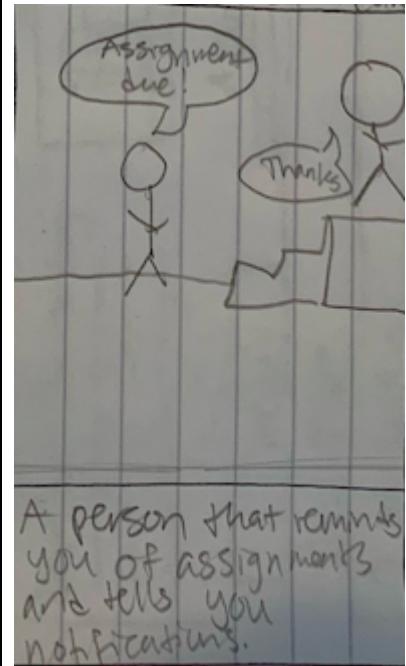
An app that downloads all assignments, emails, and notifications and gives notifs to all devices including laptop, phone, and applewatch.

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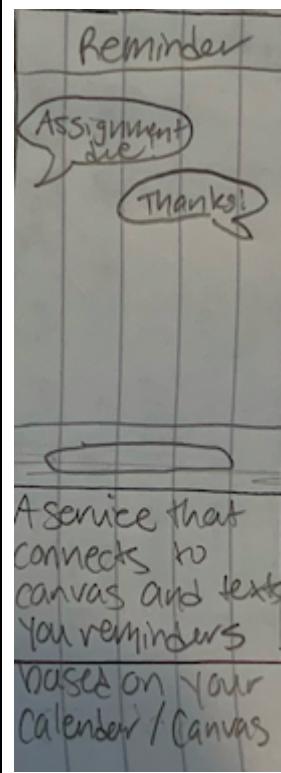


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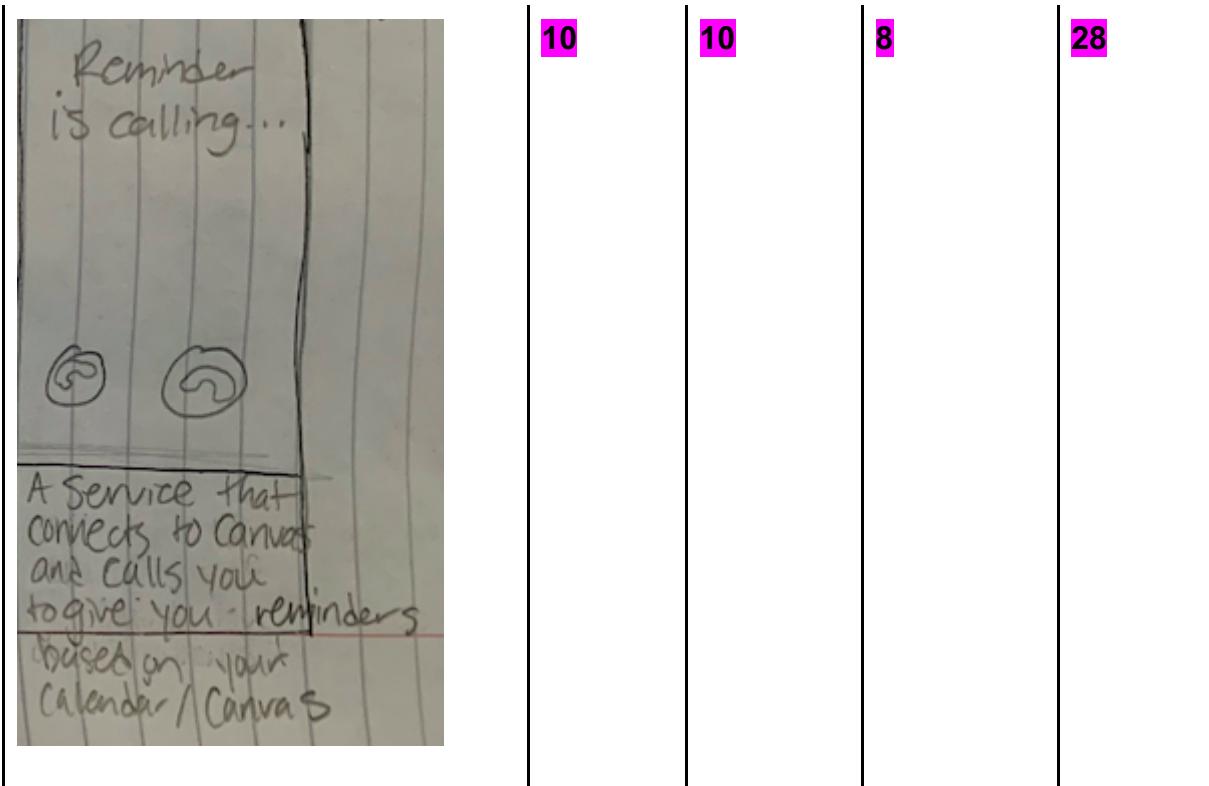


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5.2: THE THREE BEST CONCEPTS

We decided that the best three concepts out of the thumbnail sketches that we developed for the NUF test are an app that organizes all your school materials all in one place, a website that organizes all assignments and appointments into a printable format or calendar, and a service that connects to Canvas and calls you to give you reminders based on your calendar and Canvas assignments or notifications. These concepts and sketches are all highlights in the graph above.

5.3: PAPER PROTOTYPE AND TESTING

Tasks:

1. Attending a Zoom class session

2. Viewing To-Do list for the day
3. Using MobileID for a punch.

Questions:

1. How would you describe your experience while using the application?
2. What are the strongest and weakest elements of the application?
3. What are some elements you would change or add to the application?
4. What do you think of the applications layout/content?

Role Assignments:

We met via Zoom and tested the prototype 3 times with each of us participating in a new role. We assigned each other the roles of human computer, facilitator and observer to practice an efficient way to perform the usability pilot testing day.

Participants:

Due to the unfortunate circumstances of the pandemic, we have established that it is best to test our prototype amongst roommates. We tested a unique pool of students/ realistic users of the application. The participants of the usability test were Carley Welch: SMAD (Journalism), Kylee Czerwinski: SMAD (Creative Advertising), and Mia Depalma: Health Sciences (Pre-OT).

Application's Purpose:

The purpose of the JM[you] application is to create a hub for students to have access to everything they need to be a successful student. Whether that is their email, Canvas, or MobileID the app's goal is to give the student a more organized view of their virtual JMU platform.

Observations from Participants:

1. Carley Welch (JMU Student- female 22)
 - a. Desired a home button that if available on each screen
 - b. Thought that the buttons should be more distinct and not as close together
 - c. An indicator of what page she was on
 - d. Was able to do all tasks, each one took about 15 seconds
2. Kylee Czerwinski (JMU Student- female 21)
 - a. Could not find the back button at first
 - b. Suggested that there be a Zoom option under the “classes” tab as well as at the home page

- c. Was confused on what page she was on at times
 - d. Did not know how she would get back to the home page
 - e. Tasks took about 20 seconds to complete
 - f. Suggested a button that leads to a drop down menu without leaving the current page
3. Mia Depalma (JMU Student- female 21)
- a. Suggested that the tabs on the “to-do” list lead directly to the assignment if applicable
 - b. Thought that the mobile ID should be first on the home screen so that when punching, it's easier to get to
 - c. Was confused on what page she was on sometimes
 - d. Did not know where the back button was
 - e. Had trouble going back to the home page
 - f. Was able to find the Zoom classes and Mobile ID easily and only took about 10-13 seconds, but took about 30 seconds to get to the to-do list

Overall Observations:

From our testing it is clear that we should make some adjustments in order to make the experience better for users:

- A home button that is available on each page
- A prominent indicator that shows the user what page they are currently on
- A return button that is distinct and easy to see
- Rearranging the order of the tabs and adjusting some of the names such as “Home” to “Dashboard”

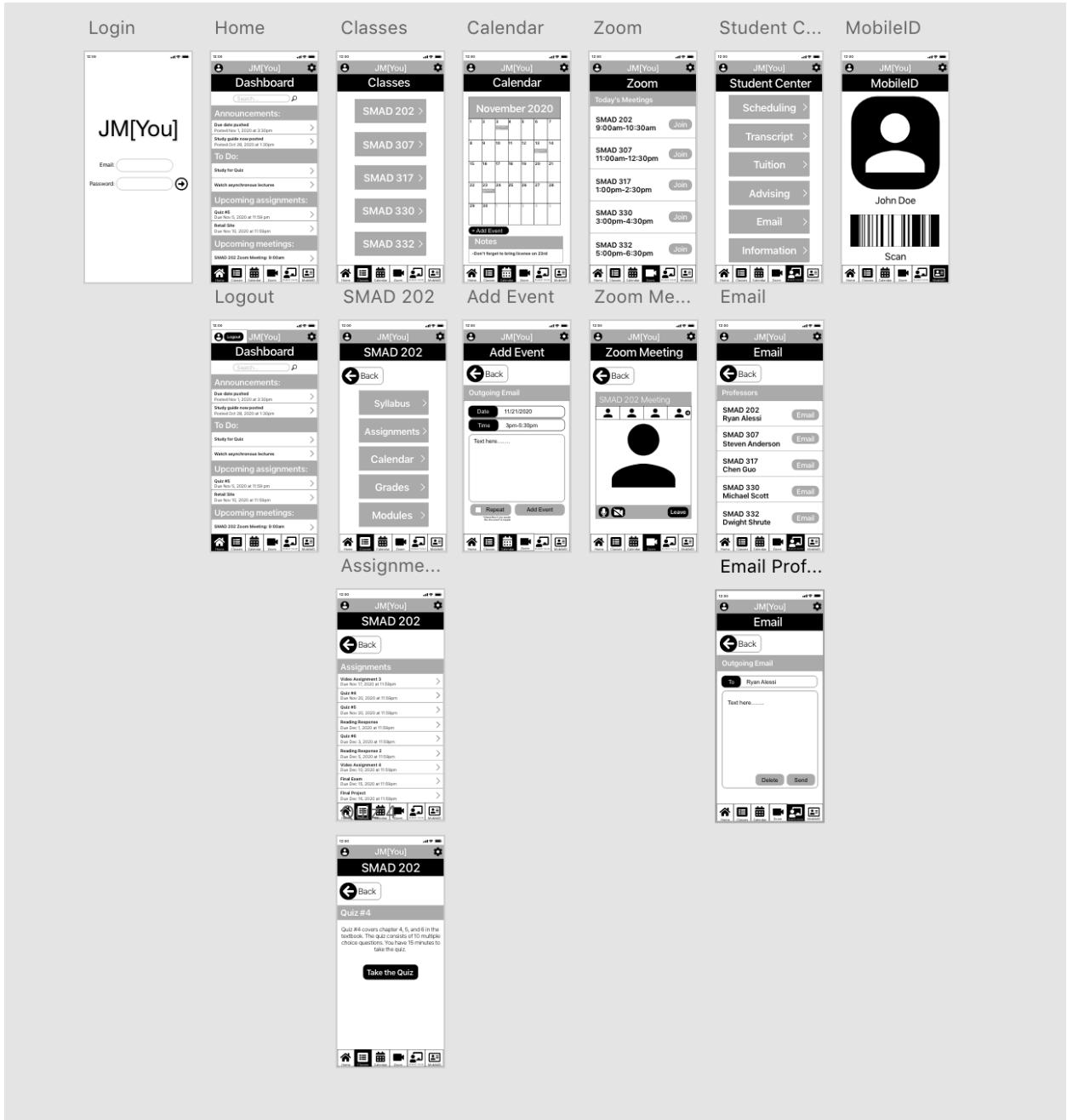
Modifications:

Some design solutions to the problems we discovered could include a navigation bar horizontally at the bottom of the screen that is prevalent on each page of the application. This would solve the problem that our users had with getting lost in the application and not knowing where they are as well as having an easy way to get back to the home page or another page they need to access. In addition to the navigation bar, another modification that could be added is changing the color on the icon of the bar when selecting a page. This will further solve the problem of users not knowing what page they are on. They can simply look at the navigation bar and see which icon is a different color which would tell them that they are on that page.

Another problem users were facing was finding a return button that is easy to locate and see. This problem could potentially be solved by adding a return

button at the top left of the screen that would navigate the user back to the page that they were previously on. The button would include an arrow pointing to the left to indicate going back as well as the name of the page the user was previously on. Finally, an easy fix would be changing the home page name to the dashboard, as it would more clearly state what the page is and is more understandable to users.

5.4: LOW-FIDELITY PROTOTYPE AND FEEDBACK



The program we chose to create our low-fidelity prototype was Adobe XD. The 5 tasks we chose to complete are attending virtual class via zoom, accessing an assignment, emailing a teacher, adding a calendar event, and logging out of the application. The necessary information needed for the app interactions is your email and password. Through this, the app will get access to the user's canvas account, zoom account, and email. These elements will help the user complete the 5 tasks we focused on in the prototype.

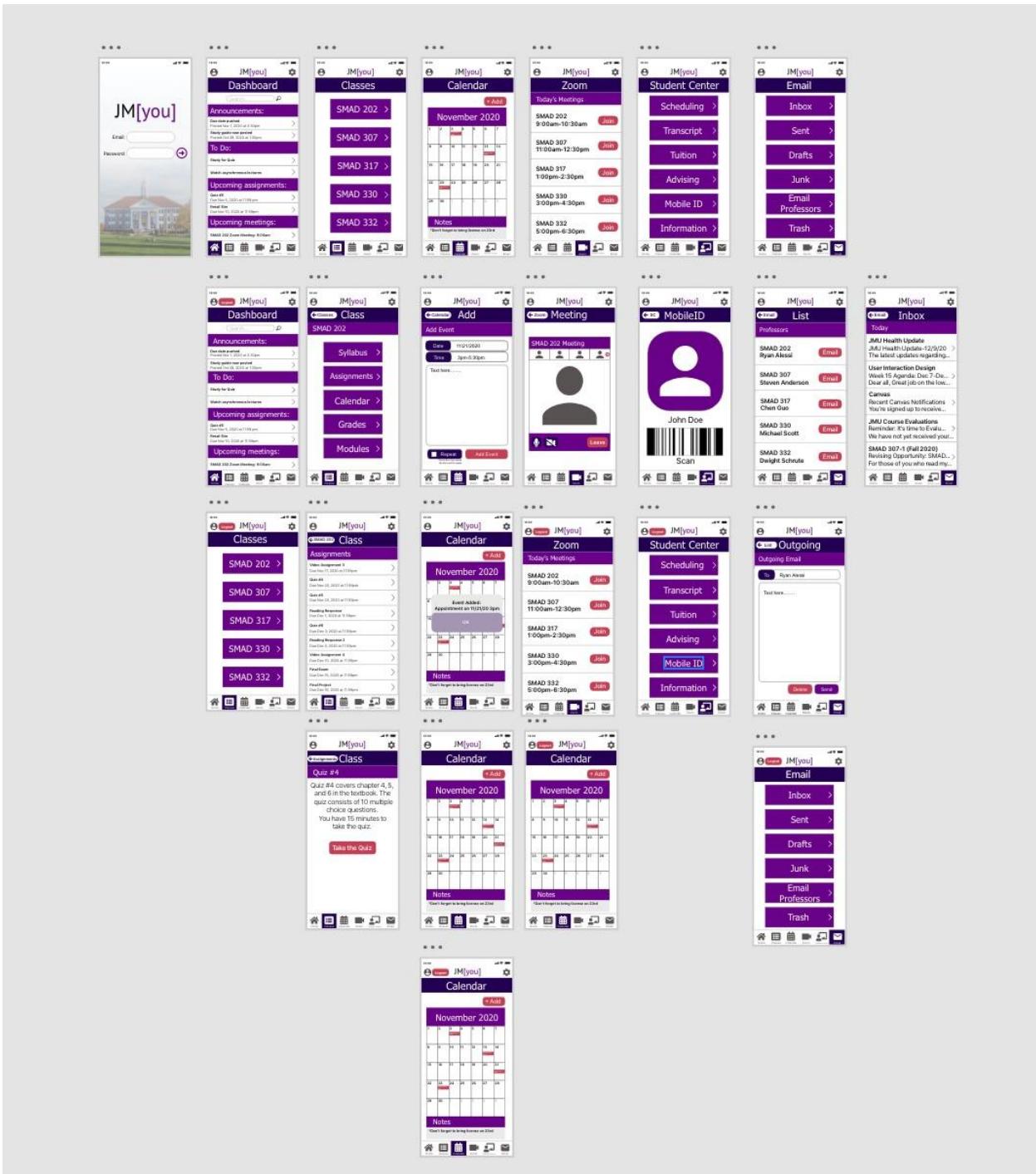
We wanted to keep the interactions simple and straightforward. Within the application we put the navigation bar in reach of the user, making it easier for them to switch amongst tasks. For the user to use the app they must be a JMU student and use their dukes' email to access the rest of the application. To attend class via zoom, the user must access the zoom feature in the navigation bar, and then select the class they wish to join. When the user wants to access an assignment the user must go to the classes tab, select the course, and proceed to access the assignment. A few questions we have regarding the application are about logging out, emailing a professor, and adding a calendar event.

In regards to emailing a professor, the user must go to the student center tab, followed by the email tab, and finally, they can select the professor of their choice. However, this interaction can be difficult if the student does not know where to look. So, should we add an email tab to the navigation bar? To log out of the app the student must return to the homepage and select the person icon on the top left of the screen. What are some other options to do this; because that interaction seems too long for something so simple

Feedback:

The feedback that we received regarding our low fidelity prototype had to do with a variety of features in our application. One thing that was mentioned by our users during user testing was the location of the navigation bar. At first, they could not locate it since it is at the bottom, but once they knew where it was they were able to navigate the app just fine. They suggested that we move the location of the navigation bar to either the top or the side. Another suggestion that we received was to figure out a way to make it easier to find the assignments in classes, because it was difficult to locate at first for one of our users and suggested that it be accessible from the home screen as well. We also were told that something that would be helpful is for our calendar tab to move the "add an event" button to the top of the screen and above the calendar so it is a lot easier to locate. Finally, one user said that there were too many steps in order to access the email and suggested that we actually make a new and separate tab for email since it is so crucial to a student's everyday online use and is checked often.

5.5: HIGH-FIDELITY PROTOTYPE AND EVALUATION



In our original low-fidelity prototype, we had a lot of our questions answered and some helpful feedback that we applied into our high-fidelity prototype. The first concern we wanted to focus on was the aesthetic. We

started with the logo and wanted to emphasize the “You” by utilizing color. Adding color to the prototype made a huge difference in the interface. The buttons and text are now more distinct with the color scheme we chose. We found the colors to be pleasing and complement each other well.

The second concern we tackled was the excessive “back” buttons. We made the buttons smaller and customized each to specify what parent link it was returning to. To simplify the button and make it less busy we made the font smaller. An element we added to the prototype was a confirmation/notification that the event was added. This will allow the user to confirm the date and time of the event/appointment.

Finally, the biggest change we made was to the navigation menu and the email task. The task in itself was more complex in the low fidelity prototype and in order to change that we removed the “MobileID” option and changed that tab to an “email” option. Now the user can read their inbox and email professors. This should make sending emails more efficient for the students. Questions: Does the color scheme complement and work well together? Does the Logo look more aesthetically pleasing? Does the change in the navigation help the email task?

5.5.2: USABILITY TESTING AND DESIGN RECOMMENDATIONS TO THE FINAL REPORT

5.5.2.1: Participants

Due to our limitations with the pandemic and all of our group members having gone home, we were not able to do user testing with only JMU students. However, we made sure to only test with college students, since we have siblings in college that are at home and we can easily and safely do user testing with them.

Owen Yoham: Owen is an 18 year old male and first year full time college student at Northern Virginia Community College. He is majoring in biology and he does not work currently, as he is making school his priority. He is very comfortable with using technology in general as well as the technology that his college requires that he uses. He mostly uses Canvas and Outlook for email for his studies online.

Tricia Bonner: Tricia is a 21 year old female college student at the University of Virginia and is majoring in finance. She is very comfortable using her mobile device and is comfortable using her online applications that she uses for school.

Hodan Mohamed: Hodan is a 19 year old female college student at James Madison University and is majoring in Health Sciences. She is very familiar with interacting with online applications that college students use as she uses them every day and is very comfortable with operating her mobile device.

5.5.2.2: Testing methods

Overview

Here is the overview of our test including the briefing we gave to our participants before questioning and includes the tasks we asked them to complete, the pre-questionnaire, and the post-questionnaire:

Briefing

We have created an application that tries to make navigating the organizational obstacles of college easier for students. Through the process of usability research and testing, we found it necessary for users to have the ability to view all assignments, email professors, attend online lectures, use mobileID, and organize calendar in one place. These tasks that you are about to complete have been developed around the concept of finding everything you need to be a successful student at JMU.

Pre-Questionnaire for Usability Testing

1. Can you tell me your name, age, gender, and college major?
2. How familiar are you with apps that pertain to being a college student?
3. How do you currently stay organized as a student?
4. On a scale of one to five, how comfortable are you with operating your mobile device?
5. Is there anything that we should know about you before we get started with our testing??

Post-Questionnaire

1. Which task was the most difficult to complete and why?
2. What were some strong points in the applications?
3. How would you rate your overall experience 1(bad)- 10(best)?
4. Did you feel lost or confused at any point during the process?
5. What are some suggestions you have to improve the user's experience?

Test Environment:

The testing took place indoors on a computer or laptop. Since our prototype was created in Adobe XD, there is a feature in the program that allows one to test out the prototype and actually use it, which is how we had our users test the application. The only equipment that was used was the computer and the Adobe XD program.

Evaluation Measures:

In regard to quantitative data, there is not much that we could count within the test that we prepared except the questions where we asked our users to rate their experience as well as how comfortable with their technological devices. We could also count the time it takes for one to complete one of the tasks that we asked them to complete and see if it takes a great deal of time to complete. In regard to qualitative data, we can observe how the user interacts with the application, if they seem to be having an easy time navigating it or if they are struggling and we can also judge the qualitative data based on the feedback they give us in the post-questionnaire and how they answer our questions then as well.

Test Procedure:

We first began each test by reading our briefing to our users, to give them some information regarding our application and so they are not completely confused when we have them navigate through the app. We then asked them our pre-questionnaire questions to get their demographics and get some more information about their experience with their experience with mobile phones and with online applications that their colleges use. We then had them complete our tasks we had prepared including accessing assignments, adding an event to their calendar,

accessing their email and emailing professors, accessing a zoom meeting, and using mobileID and eventually logging out after they complete their tasks. After having them complete the tasks, we asked them our post-questionnaire questions in order to receive feedback on our application and understand how they feel about it and their overall experience.

5.5.2.3: Findings and recommendations

Performance Metrics:

The following are the quantitative results that we gathered based on our testing. We observed how quickly it took each user to complete one task as well as the total amount of tasks we asked them to complete. This can help us know if we designed the prototype effectively because the quicker and easier it is for our users to find something, the more effective our application is. Overall, our users were able to complete the tasks we asked of them fairly quickly and even if they struggled to find something, it did not take a large amount of time to figure it out.

User	Average Time to Complete One Task	Total Time to Complete all Tasks
Owen Yoham	9.4 seconds	71 seconds
Tricia Bonner	5.5 seconds	90 seconds
Hodan Mohamed	15 seconds	70 seconds
Total Average	9.9 seconds	77 seconds

Qualitative Results:

Based on the feedback that we received from our users, they seemed pleased with the app and did not have too much trouble navigating it. They mentioned that they were pleased with the design and found that it was easy to navigate. They mentioned that they believe the application would be helpful for college students and thought that both the idea and execution was done well.

Usability Issues:

There were two suggestions that we got from our users regarding minor things that they struggled with. Owen struggled at first with

accessing an assignment task because he thought at first that he would be able to view it under the modules tab as well as the assignments tab. Based on Jakob Nielsen's severity ranking system, I would rank this issue at a 0 because the modules page is something that we did not develop due to the time restraint of this project but if it was developed, assignments would be accessible in the modules tab. The only other issue that our users had was finding the email my professors tab. Hodan mentioned that it was at first difficult for her to locate this tab but was able to find it after looking for a few seconds longer. I would rate the severity of this issue at a 1 on Jakob Nielsen's rating system because it is not a problem that we encountered before in testing or with our other users and because it was not incredibly difficult for Hodan to overcome and locate the tab after a few seconds.

Design Recommendations:

Based on the feedback we received from our users in the post-questionnaire and during the testing, there are some recommendations we received from them. Hodan suggested because she at first struggled with the email tab and finding the email professors page in that tab to change it to resemble Outlook's design a bit more. She said she finds the design and navigation of Outlook's design pleasing and easy to use and felt that if we replicated their design a bit more, especially because JMU uses Outlook for students' emails, that it would work better for her and other students too. Owen suggested that we make a modules page and make assignments available under that tab because that's the first tab that he checked when completing the accessing an assignment task. Again, because of the time constraint of the project, we did not make a modules page but this is obviously something that would be incorporated into that page and we felt because modules can be filled with a variety of things, it is nice to have all assignments that need to be turned in under its own tab as well so the user isn't too overwhelmed in modules page. We have taken these recommendations and feel they are important to understand how our users think and use mobile apps.

CHAPTER 6: CONCLUSION

With all of the challenges that we faced this semester, we are proud of the work we did. We were able to virtually come together and create an app that encompasses everything you need to be a successful student at James Madison University. This application was inspired by the current struggles students face in college. Based on our research students struggled to stay organized and were cluttered with the amount of third party applications needed to attend online classes. As a result of this, students were looking for something that put everything they needed in one place. JMU[you] offers a hub for students to connect with professors, view assignments, and attend classes.

We made our decisions with the user in mind and met the needs of everyday students. As a team we decided to create a simple layout that allowed for easy navigation, similar to for students such as Canvas. We chose a color scheme and aesthetic that represents JMU with the main color being purple, and supporting colors that complement it. Over all we were able to put together a high functioning prototype that prioritizes the needs of a student, and gained skills through the process.

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