

University of Missouri

New Student's Technology Wizard



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Executive Summary

The New Student's Technology Wizard is a web-based software tool designed to simplify and clarify the technology setup process for incoming students to the University of Missouri. Electronic performance support systems serve as a model for the tool, which hosts the myZou and MU Student Email web applications alongside step-by-step instructions that update as the student proceeds. In keeping with the EPSS model, the Wizard includes help icons at key points in the setup process where students may require additional support, thereby providing just enough information exactly when it is needed. The wizard requires students to proceed through setup without skipping any steps; however, the student can go back a step as needed to correct mistakes.

Stakeholders include the UM System Chief Registrar, Brenda Selman, and her staff, as well as the IT staff traditionally responsible for walking students through the process of setting up their technology accounts during Summer Welcome. The Wizard will replace part of that Summer Welcome process by enabling students to fully set up their own accounts and begin using them as soon as they receive their acceptance letter from the university.

Evaluation outcomes indicate that students find the wizard very easy to use and visually appealing, if a bit text-heavy. Our team project portfolio includes the Problem Analysis, Design Plan and Low Fidelity Prototype, High Fidelity Prototype, and Evaluation Report.

Analysis and Requirements

Introduction to the Problem

Mizzou is a very technology-oriented campus. Incoming students (freshmen, transfers and distance learners) need to be informed about the primary technology tools they will rely upon during their career at MU: myZou and MU Student Email. Students need to be informed of what the tools do, why they need them, and how to get started using them.

Direct observation of students setting up their accounts during Summer Welcome reveals an information need. Currently, students receive a letter giving them their PawPrint and a temporary password, accompanied by a brief mention of myZou and no mention of student email. There are no instructions and no explanation on what to do with the information or why it is important. There's also no automated way to walk the student through the process, making it very difficult for students to get started using technology at Mizzou. Students arrive at Summer Welcome in various stages of the setup processes, often unaware that there was more they needed to do. An interview with Abbey Knaus, tech support team lead for Summer Welcome, reveals the extent of the problem (See Appendix A).

To address this situation, we propose a new software tool, called the *Mizzou Student's Technology Wizard*. The incoming student, upon acceptance to MU, would be provided with a link to an online application that leads them through the initial processes students should complete in myZou, and then through the steps to set up their MU Student Email. Tasks to be completed by the student include:

myZou (a student portal to manage finances, course registration, student data, etc.)

- Set a Permanent Password
- Accept E-Consent
- Enroll in Emergency Mass Notification
- Grant Additional Authorized Access
- Determine FERPA Settings
- Define Emergency Contact Information

MU Student Email (the student's official account for all University communications)

- Activate Account
- Set a Permanent Password

The student should complete the tasks listed above as soon as possible after acceptance.

Environmental Analysis

Since many MU students never visit the campus, the *Mizzou Student's Technology Wizard* could be used from any computer in the world with an Internet connection and web browser. Physical characteristics of the location are impossible to determine; thus, the application will need to be optimized for viewing under poor lighting conditions and on both small and large screens.

The application can remain available to new users as long as the University of Missouri continues to use myZou and requires students to use an MU email account. It would need to be updated when the represented functionality is changed in the main programs so that the steps shown continue to be accurate.

This is a single-use setup wizard. The product can be used at any time, but heaviest use will be during late spring and summer, after admission and before attending college.

The device and browser used to display the application will vary, so the site needs to function well across all modern browsers and on mobile devices

User Analysis Data Collection

Methods

Student Survey: <https://www.surveymonkey.com/s/GettingStartedAtMU>

Target: MU students who have recently completed the process of setting up their myZou and student email accounts

Participant Count: 8

Staff Survey: <https://www.surveymonkey.com/s/SW---Staff>

Target: DoIT student staff that regularly provide 1:1 tech support to new students (in---room service, help desk, orientation sessions) or work with incoming freshman during Summer Welcome

Participant Count: 8

Survey Data Summary

The first survey includes 19 questions focused on students' initial experience using myZou and setting up their MU email accounts. It includes multiple-choice questions regarding how and when participants first accessed their accounts and where they learned how to do so. Additionally, it asks students to rate their initial experience and discuss any parts they liked or disliked. Follow-up questions address student understanding of two specific options: setting FERPA permissions and granting Additional Authorized Access. The second survey includes 11 questions focused on the Tech Support staff's experiences working with students and the degree to which incoming freshmen understand and have been using myZou and student email when they arrive at Summer Welcome. It includes multiple-choice questions about the staff's experience with "most incoming freshmen" and a short-answer section requesting examples of problems students encounter. A total of 16 survey responses were received, split evenly between students and student staff.

The staff survey confirmed that most freshmen have not completed email setup prior to Summer Welcome, nor do they know their email password. While most students do know their myZou password, or at least have it written down, they do not understand what myZou is for or how to access it. Two students surveyed were 17-18, three were 19-20, and two were 21 or older, and all were currently taking classes on campus or a combination of online and on-campus classes. Students rated MU student email as "Fairly easy" to use, but most reported not knowing how to access it prior to Summer Welcome. Half reported knowing how to access myZou prior to Summer Welcome, and initial experience ratings were split evenly across a spectrum of "Fairly easy" to "Very confusing or difficult".

When asked how they learned how to access myZou, two students mentioned mailings prior to summer welcome, two cited their advisors, once cited a parent, and one mentioned summer welcome staff. One claimed not to have learned at all. When asked how they learned how to set up their MU student email accounts, one respondent said, "I called a few of my friends already at MU and they helped me out," while another reported having "looked it up on Google". These responses correspond with data collected from the staff survey: one staff member explained that in half the cases where students had their email accounts set up prior to Summer Welcome, the actual setup was done by a parent, as evident from the fact that parents were the ones who knew the passwords. The results show a need for a comprehensive tool that can walk students through the process of setting up their accounts, whether they are doing so on campus—such as during Summer Welcome—or from home.

Personas

Brianna

Goal: Get technology set up correctly so she's not behind

Frequency of myZou or email use: High

Age: 17

A freshman from St. Louis, Brianna is excited and nervous about starting college. As soon as she got her acceptance letter, she used the temporary password to log into her myZou account. Although she's not sure what all she'll need to use myZou for, she knows it's important. At first she tried to put together her class wish list, but every time she hit the back button it took her to a different page, which made her frustrated and worried that she was missing something. She didn't know how to find or log in to MU Student Email, but she had several friends from high school already at Mizzou, so she called one of them to help her set it up. Now she gets online almost daily from home, to check her student email in case there's any new information about preparing to attend Mizzou.

Zach

Goal: Complete whatever is required with minimal effort

Frequency of myZou or email use: Low

Age: 19

When Zach skimmed his acceptance letter, he saw the part about a temporary myZou password but figured it wasn't something he needed to worry about at the time. After all, he has the whole summer before he needs to even think about college. The acceptance letter ended up somewhere on the floor among his clothes and other papers. Summer rolls around and his mother nags him to get ready for college. She knows he needs to fill out some forms and set up his myZou. Finally, he starts looking for the letter with his temporary password; he manages to find the paper in the mess in his bedroom. With his mother's help, he gets logged into myZou, but doesn't know what exactly to do once he is in it. Neither of them knew that he should change the temporary password to a permanent password, so he writes down the random temporary password; since it makes no sense to him, he knows he'll never be

able to remember it. When he goes to Summer Welcome, he's still not really sure what myZou is for or why he would use it. He doesn't remember hearing anything about email setup.

Sophia

Goal: Enroll in classes as soon as possible to gain a spot in selective honors courses

Frequency of myZou or email use: High

Age: 18

Sophia has been taking college credit courses since she was a sophomore in high school. She knows from previous experience how to set up her email account, since she has already done so for the courses she takes at UMKC. MyZou, although new to her, is not a challenge either. She logs in and clicks through initial setup options quickly, figuring she can always change FERPA and AAA settings later. Then she checks to see who her advisor is and shoots her a quick email. She starts looking through the course catalog, searching for and examining class descriptions. She spends the next several hours selecting possible classes, and using the course planner and schedule functions to map out her schedule for the fall and winter semesters. She already has most of her prerequisites out of the way and is looking forward to the variety of courses offered at MU. She even spends time looking up where the buildings are located, and so everything fits perfectly into her schedule. Mostly she's just frustrated not to be able to enroll until Summer Welcome.

Candace

Goal: Register and pay for online classes

Frequency of myZou or email use: Medium

Age: 38

Candace is a distance-learning student; returning to school later in life. Since she doesn't have orientation, the only instructions she receives are through mail, email and online. She reads everything that is sent to her, but the information comes from various sources and sometimes it is contradictory and unclear. Candace is a bit confused and quite worried about starting a whole degree online; especially since her first experience trying to use myZou proves she's unable to intuitively use the technology. She feels her age when using some online tools - especially when she sees her kids whiz through online programs and games as comfortably as they breath. Even though she's an expert at email, she wishes she had someone to walk her through using myZou since she might easily miss a crucial step. That unease ebbs into her decision to get her degree online; she's not even completely sure this is the right program for her.

Andy

Goal: Learn how to use his account without his mother and protect it from her

Frequency of myZou or email use: n/a

Age: 18

Andy can do things for himself, and values his independence - that is, when his mother lets him have any. She is excited that he got into Mizzou; possibly more excited than Andy. Andy is looking forward to living on his own and getting out from under his mother's thumb. As soon as his acceptance letter arrived, Andy's mom opened it, read it, then put it in a folder on her desk so that he wouldn't lose it. She told him he'd been accepted later that evening. She doesn't mention that the letter included his password. Assuming that he'd forget, she decided to set up his accounts for him. She used the temporary password to set up his myZou account herself. She chose settings to give herself full access and she wrote down the new password she'd made up for him, so that she'd remember it. Then she set up his student email account. Meanwhile, Andy has spent some time exploring the Mizzou website, so he knows he needs to set up myZou. He has been watching the mail for the letter containing his username and password, but it doesn't arrive. Finally, anxious, he asks his mother what to do. He is frustrated when he learns that she has gone and set up his accounts for him, but not terribly surprised.

Mustapha

Goal: Get past language and cultural barrier when using new accounts

Frequency of myZou or email use: Medium

Age: 20

An international student from Nigeria, Mustapha speaks English, but he isn't completely fluent when speaking. He has a lot more practice reading and writing English, which he learned in school. Upon arriving in America, Mustapha had limited experience with the Internet because his rural town only had dial-up available, and satellite access was prohibitively expensive. He loves the speed of the network on campus; it makes browsing the Internet a fun experience, rather than a pain. He has never experienced online course registration. He doesn't have a very good idea how myZou works or what it needs to be used for, but he gets it set up. Then he spends a lot of time browsing, trying to figure it out and learn what functions are available. Although he used email at home, he

didn't use it a lot. He knows he is supposed to use student email for school. But he doesn't know how to find his student email online or where to log in, so he Googles it. The instructions he finds aren't very clear, so he gets lost several times in the process.

Task Analysis and Scope

Hierarchical Task Analysis

Goal:

Set up basic elements in myZou and MU Student Email account.

Assumptions:

Student has been admitted to MU; student has received the letter containing username and temporary password; student has access to (fairly) high-speed Internet and a computer with a web browser.

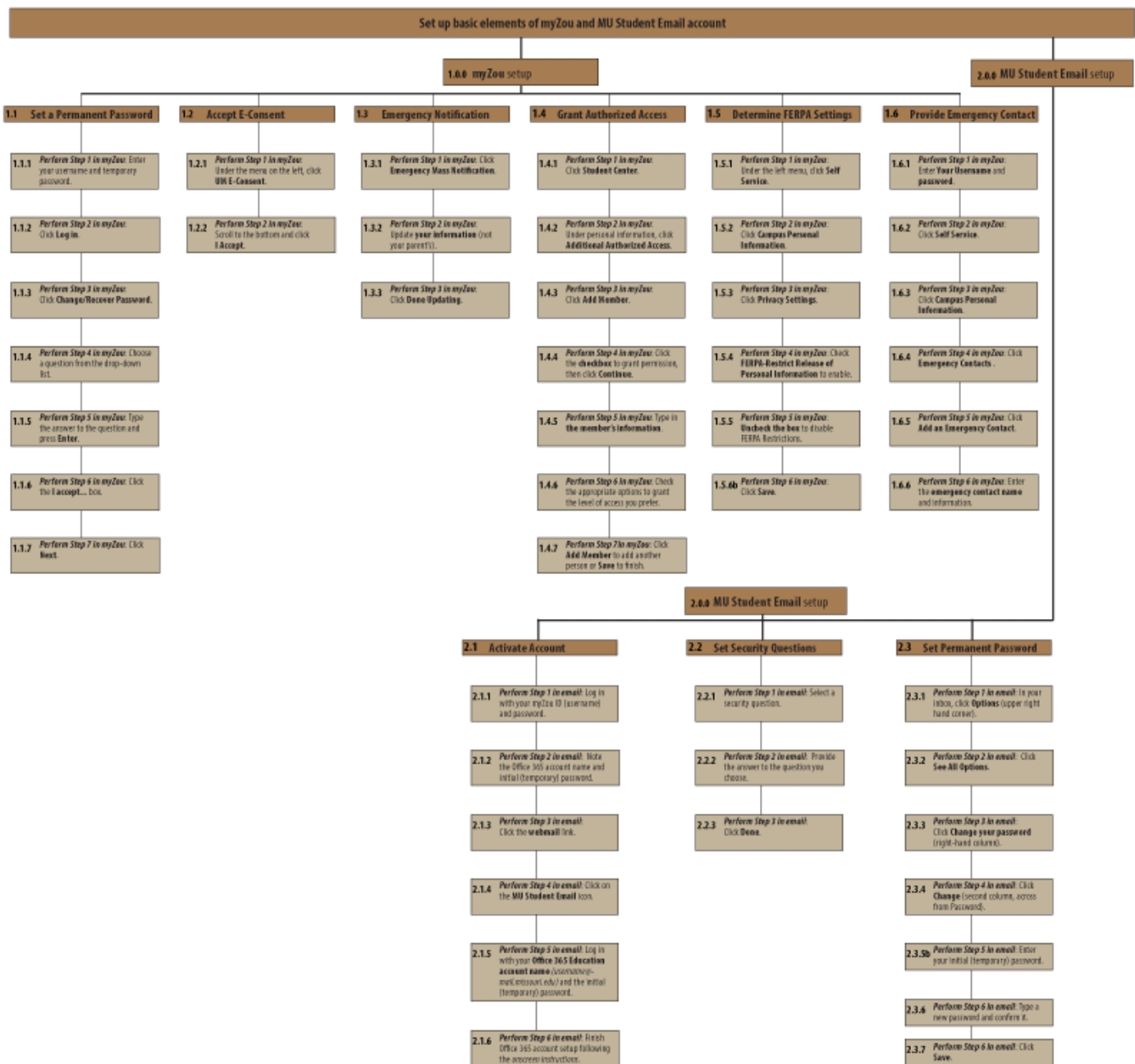
Tasks:

- 1 myZou Setup
 - 1.1 Set a Permanent Password
 - 1.1.1 Perform Step 1 in myZou: Enter your username and temporary password.
 - 1.1.2 Perform Step 2 in myZou: Click Log in.
 - 1.1.3 Perform Step 3 in myZou: Click Change/Recover Password.
 - 1.1.4 Perform Step 4 in myZou: Choose a question from the drop---down list.
 - 1.1.5 Perform Step 5 in myZou: Type the answer to the question and press Enter.
 - 1.1.6 Perform Step 6 in myZou: Click the I accept... box.
 - 1.1.7 Perform Step 7 in myZou: Click Next
 - 1.2 Accept E-Consent
 - 1.2.1 Perform Step 1 in myZou: Under the menu on the left, click UM E---Consent.
 - 1.2.2 Perform Step 2 in myZou: Scroll to the bottom and click I Accept.
 - 1.3 Emergency Notification
 - 1.3.1 Perform Step 1 in myZou: Click Emergency Mass Notification.
 - 1.3.2 Perform Step 2 in myZou: Update your information (not your parent's).
 - 1.3.3 Perform Step 3 in myZou: Click Done Updating.
 - 1.4 Grant Additional Authorized Access
 - 1.4.1 Perform Step 1 in myZou: Click Student Center.
 - 1.4.2 Perform Step 2 in myZou: Under personal information, click Additional Authorized Access.
 - 1.4.3 Perform Step 3 in myZou: Click Add Member.
 - 1.4.4 Perform Step 4 in myZou: Click the checkbox to grant permission, then click Continue.
 - 1.4.5 Perform Step 5 in myZou: Type in the member's information.
 - 1.4.6 Perform Step 6 in myZou: Check the appropriate options to grant the level of access you prefer.
 - 1.4.7 Perform Step 7 in myZou: Click Add Member to add another person or Save to finish.
 - 1.5 Determine FERPA Settings
 - 1.5.1 Perform Step 1 in myZou: Under the left menu, click Self Service.
 - 1.5.2 Perform Step 2 in myZou: Click Campus Personal Information.
 - 1.5.3 Perform Step 3 in myZou: Click Privacy Settings.
 - 1.5.4 Perform Step 4 in myZou: Check FERPA---Restrict Release of Personal Information to enable.
 - 1.5.5 Perform Step 5 in myZou: Uncheck the box to disable FERPA Restrictions.
 - 1.5.6 Perform Step 6 in myZou: Click Save.
 - 1.6 Provide Emergency Contact Information
 - 1.6.1 Perform Step 1 in myZou: Enter Your Username and password.
 - 1.6.2 Perform Step 2 in myZou: Click Self Service.
 - 1.6.3 Perform Step 3 in myZou: Click Campus Personal Information.
 - 1.6.4 Perform Step 4 in myZou: Click Emergency Contacts .
 - 1.6.5 Perform Step 5 in myZou: Click Add an Emergency Contact.
 - 1.6.6 Perform Step 6 in myZou: Enter the emergency contact name and information.
- 2 MU Student Email Set Up
 - 2.1 Activate Account
 - 2.1.1 Perform Step 1 in email: Log in with your myZou ID (username) and password.
 - 2.1.2 Perform Step 2 in email: Note the Office 365 account name and initial (temporary) password.
 - 2.1.3 Perform Step 3 in email: Click the webmail link
 - 2.1.4 Perform Step 4 in email: Click on the MU Student Email icon.
 - 2.1.5 Perform Step 5 in email: Log in with your Office 365 Education account name

(username@mail.missouri.edu) and initial (temporary) password.

- 2.1.6 Perform Step 6 in email: Finish Office 365 account setup following the onscreen instructions.
- 2.2 Set Security Question
 - 2.2.1 Perform Step 1 in email: Select a security question.
 - 2.2.2 Perform Step 2 in email: Provide the answer to the question you choose.
 - 2.2.3 Perform Step 3 in email: Click Done.
- 2.3 Set Permanent Password
 - 2.3.1 Perform Step 1 in email: In your inbox, click Options (upper right hand corner).
 - 2.3.2 Perform Step 2 in email: Click See All Options.
 - 2.3.3 Perform Step 3 in email: Click Change your password (right---hand column).
 - 2.3.4 Perform Step 4 in email: Click Change (second column, across from Password).
 - 2.3.5 Perform Step 5 in email: Enter your initial (temporary) password.
 - 2.3.6 Perform Step 6 in email: Type a new password and confirm it.
 - 2.3.6 Perform Step 6 in email: Click Save.

Task Analysis Chart



Task Description of User Interactions

While use cases allow for complex system development by effectively describing interaction between a human or other “actor” and a system, they do not incorporate how users feel about an interaction. Context scenarios build from personas to “provide a concrete way to think about human behavior and needs and their implications for system behavior” (Goodwin 2009). At this stage, working from personas for a user-centered design, context scenarios will provide clear guidance by deliberately excluding what the system does behind the scenes.

Essential use cases carry the level of abstraction one degree further, embodying the “purpose or intentions underlying the interaction” (Constantine and Lockwood 1999) to convey the most important aspects of the interaction without making any reference to the interface or its design. While essential use cases provide guidance for the design of complex interactions, the interaction between user and system in this case will consist of reading a step of the instructions and then clicking or typing as instructed, with the next step appearing when the previous one is complete. Because the interaction, from the user’s perspective, is simple and already well understood, we can stick to just context scenarios.

<i>Scenario 1</i>	<i>Requirements</i>
<p>When Andy says he has never accessed myZou or student email, one of the Summer Welcome staff gives him the link to Mizzou Students’ Technology Wizard. However, when he tries to log in, he finds out that the accounts have already been set up and any further changes should be made in myZou. Andy asks his mom about it and she admits she used the wizard several months ago to set up his accounts for him. Andy gets the password from her and logs into myZou with no problem. With the help of IT staff, he then changes his permanent password to something he will remember and his mom doesn’t know.</p>	<ul style="list-style-type: none"> - One-time-use enforced by system
<i>Scenario 2</i>	<i>Requirements</i>
<p>The day he receives his Mizzou acceptance letter, Mustapha sits down at a public library computer and follows the link to Mizzou Students’ Technology Wizard . Since he doesn’t understand what myZou is, he thinks he’ll just set up his student email account and worry about that closer to enrollment. However the wizard does not allow him to skip setup steps, so it turns out he has to start from the beginning. Mustapha finds that the steps are easy to understand and that he can see the results of each step as he goes. In just a couple minutes, he has his myZou and email accounts fully set up. He also has a pretty good idea of what myZou is for—the wizard provided key information along the way that explained not just what he needed to do, but why.</p>	<ul style="list-style-type: none"> - Ability to view and complete steps simultaneously - Ability to view steps one at a time - Ability to identify when initial setup is complete - Explanation of the purpose of major setup components - Steps written in simple, plain English - Single, required path through setup components that allows no skipping around
<i>Scenario 3</i>	<i>Requirements</i>
<p>Candace accesses Mizzou Students’ Technology Wizard from her home laptop to set up her myZou and email accounts. She logs in and follows the steps one by one. Meanwhile, her two elementary-aged boys vie for her attention. Thankfully, she doesn’t need to look back and forth between the browser and a document for instructions—instead, she’s surprised to find everything she needs is right there. The boys distract her, but it’s easy to tell where she is in the process. Not only does she successfully set up her account, but she comes away with a better understanding of what FERPA is. She’s also pretty sure she can handle this online learning thing—setting up myZou and email wasn’t as difficult as she thought.</p>	<ul style="list-style-type: none"> - Ability to view and complete steps simultaneously - Ability to view steps one at a time - Ability to navigate easily and intuitively - Ability to view progress through the process - Explanation of the purpose of major setup components

Project Scope

Research shows that the majority of students do not know what myZou is used for, nor do they know steps they are to complete to get it set up. Essentially the same is true of their MU Student Email account. The Technology Wizard will walk the student through the entire process, so they do not miss any steps.

The scope of the project is determined by the following:

1. Limited target audience: incoming students at Mizzou
2. Six specific myZou set up tasks
 - Set Permanent Password
 - E-Consent
 - Emergency Mass Notification
 - Additional Authorized Access
 - FERPA
 - Emergency Contact Information
3. Two specific email set up tasks
 - Account Activation
 - Permanent Password
4. One-time-use system

The primary feature of the wizard is that it hosts the live application side-by-side with step-by-step instructions that stay synced with the user's actions in the application. The application will be self-explanatory and very easy to use. The instructions update, providing just enough information exactly when it's relevant. All basic tasks the student should complete are covered.

Students will use this wizard only once, at the beginning of their academic career. Continuing support for myZou and email is provided within the web applications and standard tech support channels.

Instruments

Two surveys were administered to collect data about the project.

1. Student Survey: <https://www.surveymonkey.com/s/GettingStartedAtMU>
2. Staff Survey: <https://www.surveymonkey.com/s/SW---Staff>

Results

Survey results for the student and staff surveys, including charts specific to each question, are available in Appendix B: User Analysis Surveys.

Design Specifications

Conceptual Model

The New Student's Technology Wizard walks incoming Mizzou students step by step through the setup tasks required for two technologies that are critical to a student's success at Mizzou. The setup of myZou and MU Student Email are completed as part of the enrollment process, after the student has been accepted at MU. The setup tasks include:

myZou

- Set a Permanent Password
- Accept E-Consent
- Enroll in Emergency Mass Notification
- Grant Additional Authorized Access
- Determine FERPA Settings
- Define Emergency Contact Information

Email

- Activate Account
- Set a Permanent Password

The student will be led straight through both processes, with step-by-step directions being issued at each stage; the user will not be allowed to proceed until the current step is complete. When users have to input data, they may be asked to confirm its accuracy before proceeding. The user, in most instances, will be able to step back in the process to make corrections.

Users will be provided with help at various points in the interface where they may experience confusion or question exactly what is expected. There will be a "?" symbol, which will reveal a popup bubble with an explanation or example. For instance, a student may question what his PawPrint is. If he clicks on the "?" symbol, located near the end of the first step that mentions PawPrint, he will see an example of a student PawPrint with a definition.

Electronic Performance Support Systems are the model that most closely relates to our framework for interaction; specifically we are designing a site that acts as a wizard tool, providing just enough support exactly when it's needed. Instead of moving haphazardly through technology setup on their own or even ignoring it prior to Summer Welcome, students will have a single resource that gives them the information they need in the context in which they need to use it.

References

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Interface Metaphors

The myZou activities follow the metaphor of paper-based form completion, which is the process that myZou grew out of originally. The particular email activities in the wizard follow the general metaphor of account setup. Meanwhile, the New Student's Technology Wizard itself follows the interface metaphor of a tech support guide that might be available to walk students through important steps of setting up their account.

A guide, in the form of a real tech support person, could conduct a how-to session, helping a small or large group of users set up their accounts correctly by explaining the steps one at a time, waiting for users to complete one step before moving on to the next. Furthermore, a real tech support person could answer users' questions and move beyond the tasks taught in the session to help with other problems the user might have. By contrast, a tech support guide could take the form of a piece of paper handed out by

the tech person, containing a list of steps users need to complete. This form of guide would be static, unable to react to the user's actions or answer questions.

For the New Student's Technology Wizard, we are looking for a user experience somewhere between these two extremes. We want to avoid making the interface to appear too personable or lifelike, since that would convey a false impression that the Wizard could answer users' questions and move beyond its role as a single-use setup tool for specific account settings. However, we also want to move beyond the static form of a list to a more interactive version in which the guide walks users through one step at a time.

The "Guide" metaphor is very easy to represent: many users will have had past experience with help interfaces on their computers that require them to read through and complete one step before moving on to the next in order to fix a tech problem, such as network setup. Those who have not will certainly have had experience with paper or web-based static lists of steps and will appreciate being able to view steps at the same time as carrying out actions.

The metaphor is relatively extensible. The Wizard can be expanded to the point that the user can continue to follow the steps presented, whatever they may be. However, the email and myZou systems likely will be much less extensible than the Wizard itself.

The metaphor provides enough structure to envision the app: for a guide to assist users properly it must state steps clearly and allow the users to see both where they are (on the site and within a process) and the result of their actions. A guide that simply asked users to state their preferred settings and changed myZou settings accordingly without ever displaying the page in myZou would not be fulfilling its role because it would give the user no indication of how these settings were changed or how to access them in the future. Thus, the actual pages the users access through the application need to be displayed alongside the guide itself. A guide would present information in manageable chunks; ideally, synched with the user's actions and only displaying each step after the user has completed the previous step. However, if the user needed to move backward to a previous step, the guide would allow users to do so in order to correct errors and regain their bearings instead of having to start over.

Visual Aesthetics

The interface should be inviting to incoming Mizzou students, acting as an introduction to the school. MU's colors, black and gold, will compose the primary color scheme. The age range of the primary target audience is 18-20, so the interface should also have a hip, somewhat trendy feel, but not so trendy that it will quickly be out of style and need to be updated. The interface will be fairly simple, keeping with the style of most wizards. The structure will be consistent throughout, with the primary focus areas being the breadcrumb trail, the pane with the instructions, and the pane with the active application (myZou or email).

The outcome should be a simple, school-spirited, welcoming feel consistent with other Mizzou pages such as the University of Missouri home page.

There are very few variables in the application. Each student will complete the same steps, in the same order, to reach the same conclusion. The only variables are 1) if the student chooses to quit before completion and 2) if the student clicks on a help bubble.

Changes in the look and feel of myZou itself or Mizzou's email client (currently Office 365) could prove to be moderating variables, as these sites are opened within the New Student's Technology Wizard and form a component of its visual aesthetics. On some screens, the layout or amount of information shown on these sites may make the otherwise simple wizard appear more complex. However, interacting with myZou and email through the wizard is crucial to students understanding how to access technology and change settings in the future once initial setup is complete.

Interaction Types

Interaction	Type
User completes the information in myZou, much like a paper-based form would be completed	Manipulating
User sets up email, much like other email accounts are set up	Manipulating
As the user proceeds through the steps in the adjacent window, the wizard updates to reveal tips and next steps.	Conversing

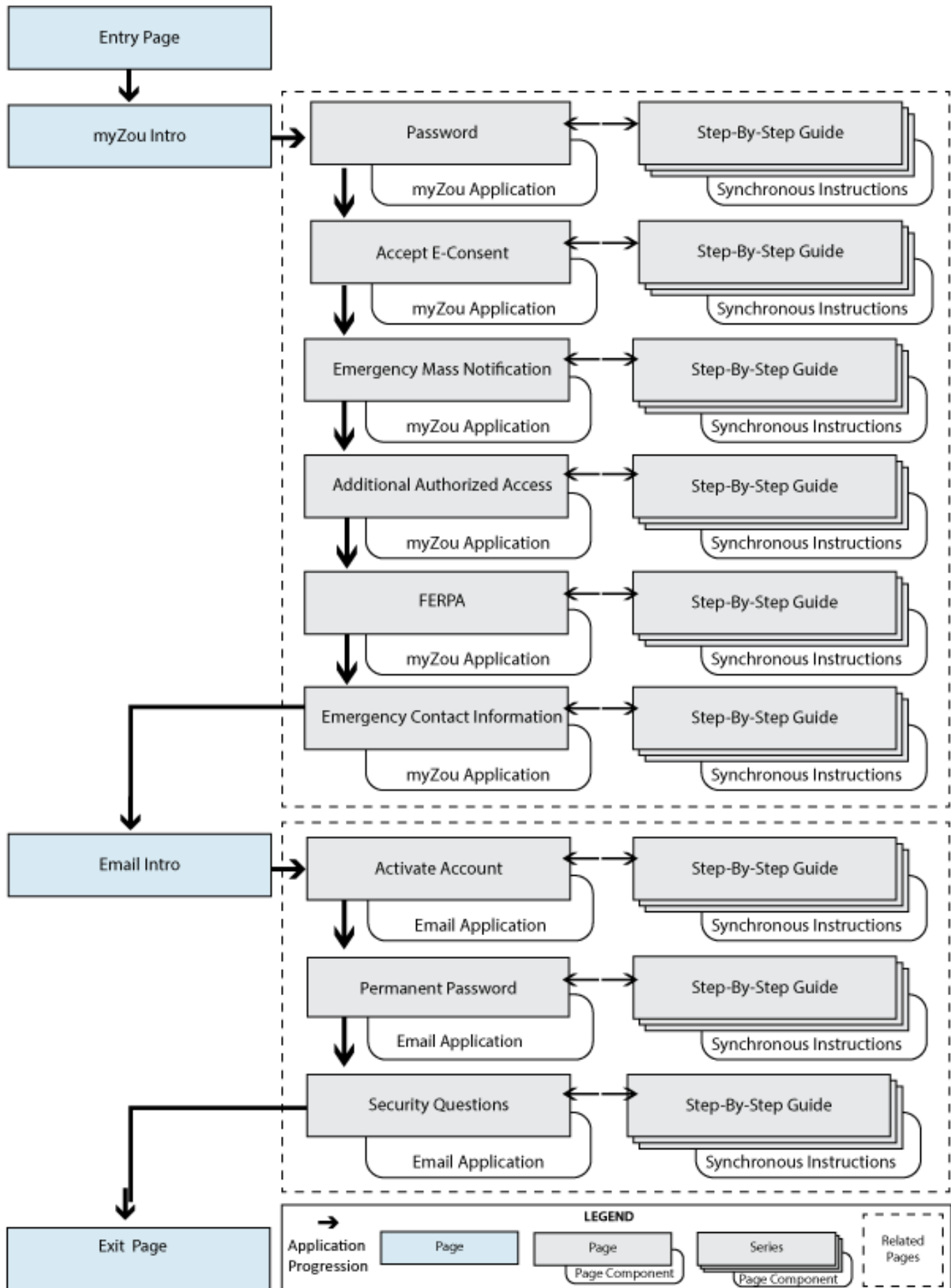
The interface provides updated information at each step, allowing the user to step back if necessary to make corrections.	Manipulating
User interaction is limited to clicking and entering limited text in specified fields	Manipulating

Information Needs

The New Student's Technology Wizard requires active program integration with myZou and MU Student Email; each application needs to be integrated separately and each needs to be incorporated with full functionality. URLs for myZou and webmail.missouri.edu will be incorporated into the programming of the wizard so that the correct site displays (most likely in an iFrame). In order to display and interact with myZou and student email, the Wizard will require Shibboleth security/identity authentication.

Users will need a URL or link to find the application that provides access the New Student's Technology Wizard and begins setup. In order to perform all tasks in the Wizard and complete setup, PawPrint (user name), temporary password and email address. Users will input this information into the myZou and email sites through the Wizard, and the Wizard will advance to the next step upon feedback from these sites. The Wizard transforms data from the myZou and email sites into visual cues for the user by repopulating the "Instructions" pane to reveal the next steps.

Architecture Blueprint



Plus and Minus Scenarios

Scenario 1: Mizzou Technology Whiz Experience

This scenario addresses the positive aspects of how a web app solution for initial student account setup will work.

The setting is the living room of a house in St. Louis in December 2014. Brianna and her sister have access to a Windows laptop connected to their parents' wireless Internet.

Action: Brianna's little sister Tabitha has just received her acceptance letter from Mizzou, which contains the New Student's Technology Wizard URL. Tabby has heard from her older sister that setting up student email and using myZou for the first time was a pain—but then again, that's Brianna: always underestimating her. Tabby turns down her offer of help, wanting to figure it out for herself.

Tabby types in the URL and is happy to see that it works. The wizard tells her exactly what steps to do, and as she performs each step, the interface updates to show her what to do next. How could her sister have ever had trouble with this? In practically no time at all, Tabby creates a permanent myZou password, selects her FERPA settings, sets up Additional Authorized Access for their parents, and adds Brianna as an emergency contact.

She turns to brag to her sister about how easy that was, but Brianna warns her that setting up myZou is the easy part. Tabby turns back to the wizard and follows the steps to set up her email account. It turns out to be just as straightforward as setting up myZou. Brianna, watching over her shoulder, is impressed by the new system and the fact that even her kid sister can understand and work through it so quickly. A real improvement from when she applied to school!

Scenario 2: Mizzou Unknown Technology Experience

This scenario addresses the negative aspects of how a web application solution for the initial student-account setup will work.

The setting is the living room of a house in St. Louis in December 2014. Brianna and her sister have access to a Windows laptop connected to their parents' wireless Internet.

Action: Brianna's little sister, Tabitha, has just received her acceptance letter from Mizzou that contains the New Student's Technology Wizard URL. Although Brianna has done this before and has offered to help, Tabby is eager to prove she can do it on her own. She types in the URL to pull up the page and get started before Brianna gets back downstairs.

The Wizard opens myZou alongside a pane of instructions asking her to log in. She types her PawPrint and temporary password, feeling slightly uneasy. Is this really the right website? Is it safe to type her information here? Brianna hadn't mentioned a wizard. She double-checks the URL against the acceptance letter and then clicks to log in. The pane of instructions suddenly updates showing her what to do next, which is kind of creepy. It feels like someone is watching her every move. Still, she figures, better to get it over with.

Tabby flies through the rest of the wizard, wondering why some of the options matter and why there has to be a wizard at all. Are the sites really that hard to use? To her, it seems like a bad sign if the university has to have a wizard to walk you through using their technology. Still, at least it's over with. Brianna comes back, saying to let her know if she needs any help. "Na, I'm done," Tabby mumbles, leaving Brianna to wonder what's bothering her sister - and how she got done so fast.

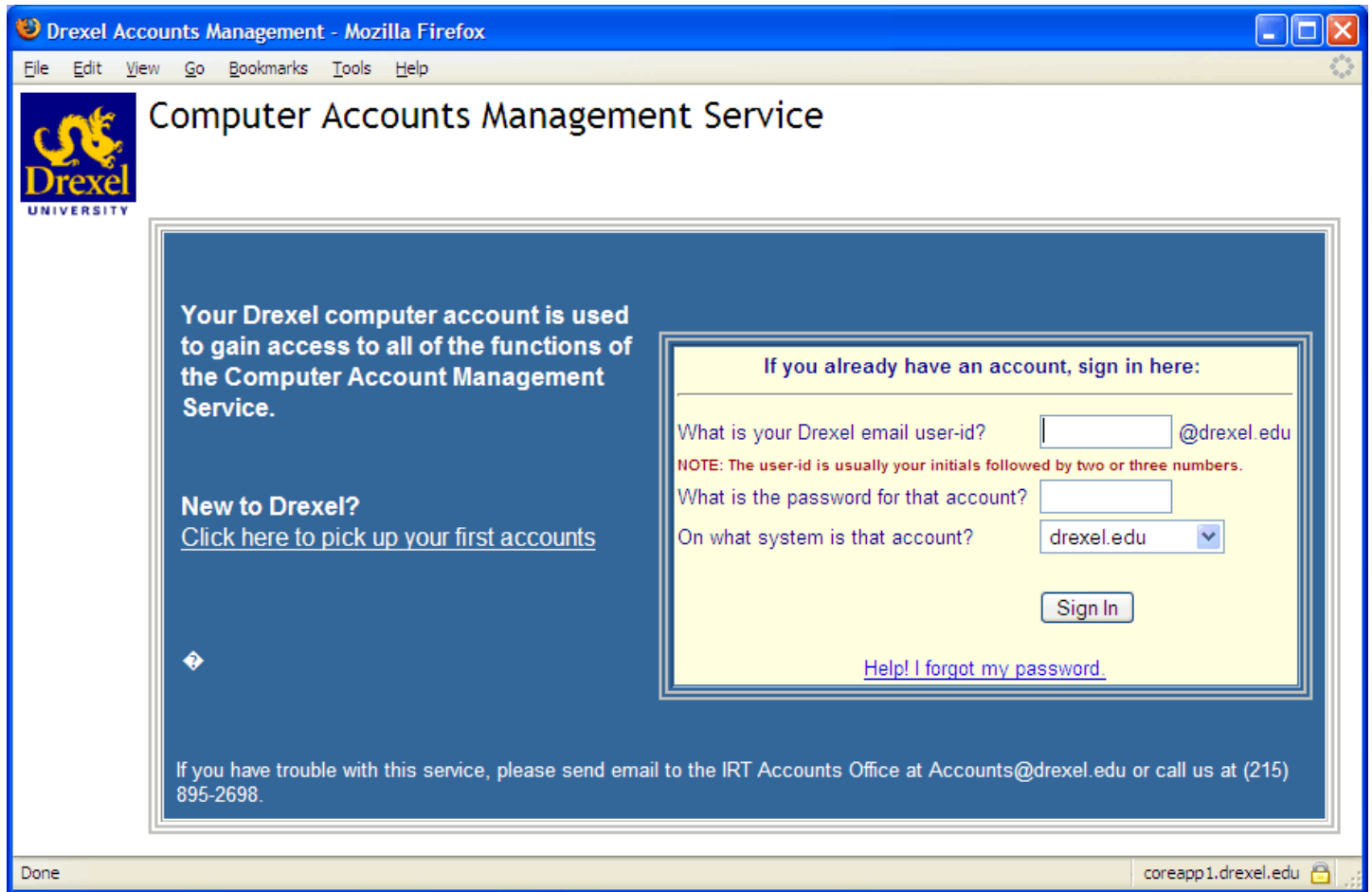
Similar Products

While the majority of universities provide technology setup instructions through a web page, few schools offer an application that walks students through the process.

One similar product is the technology setup wizard at Drexel University, called *Computer Accounts Management Service (CAMS)*. Drexel's product includes student email account setup as well as a myZou equivalent.

Although we cannot use this app without logging in as a student, we can view several screens through Google Images. In the three screenshots included below, we get a sense of how the system feels and works:

Screenshot 1: CAMS login



The CAMS login screen includes a mini login window alongside instructions. It is not clear whether this login is for an external site (such as myZou) or part of CAMS.

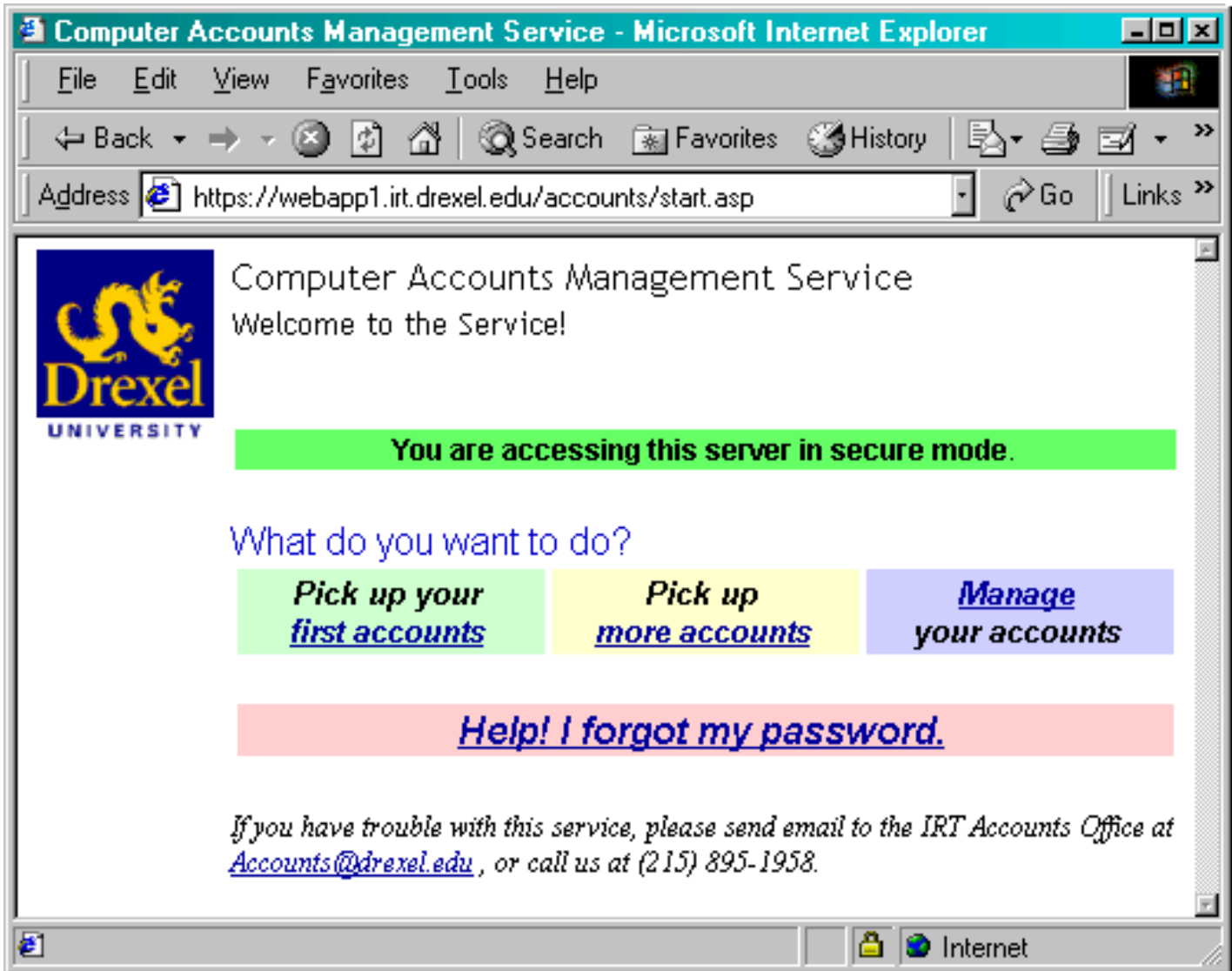
Positives:

- Action available in pane or window alongside instructions
- Help options available

Negatives:

- Lack of URL or other indicator of where we are
- Windows nested inside windows do not match color scheme of logo or connect to banner; the design feels haphazard

Screenshot 2: CAMS Welcome



The CAMS welcome screen differs from ours in that it is designed for continuing support rather than one-time use by students and thus contains more options, such as managing accounts.

Positives:

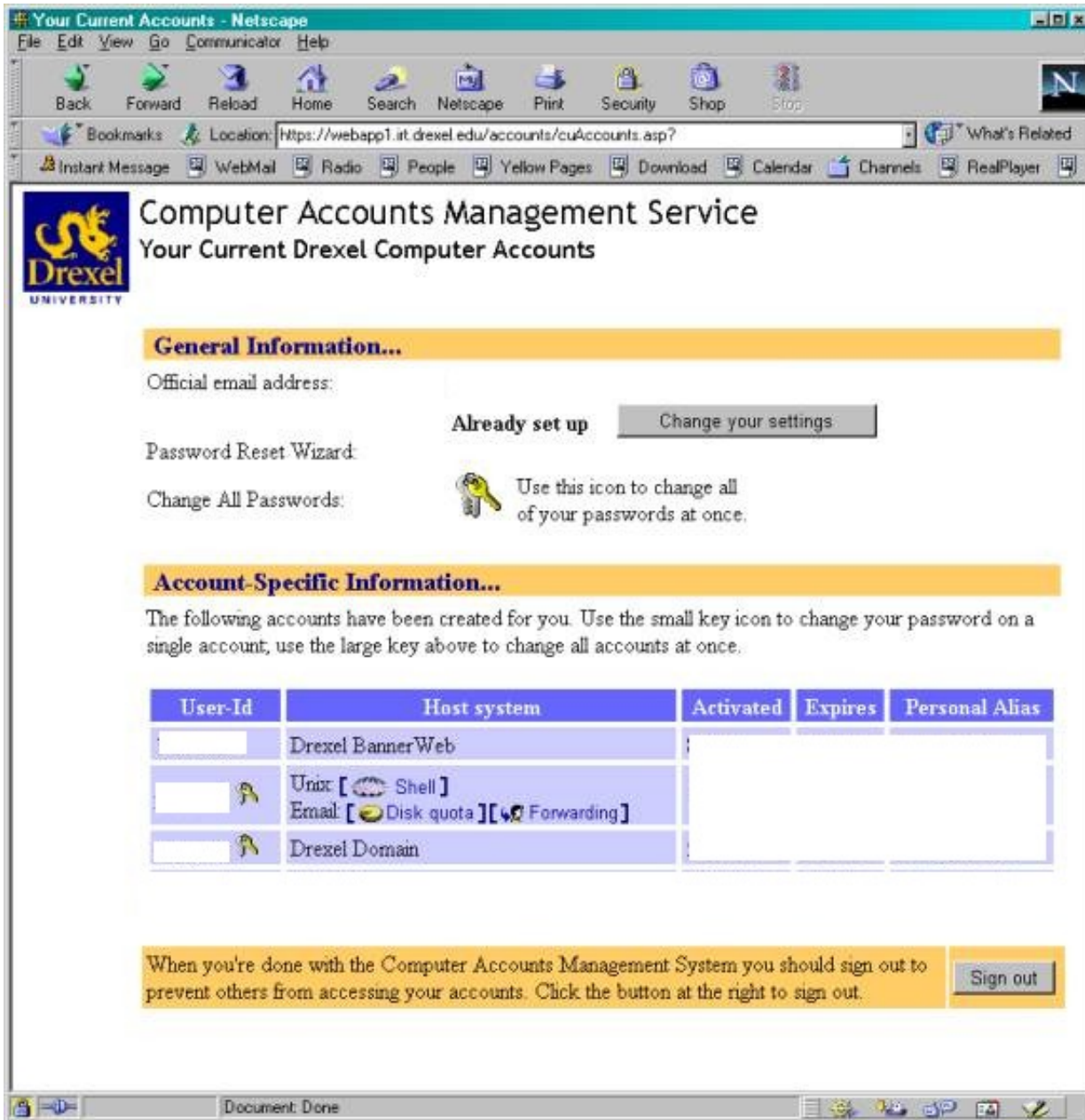
- Clarity of system status (Secure Mode)

Negatives:

- Color scheme and fonts seem random and are unappealing

Screen space could be expanded and used to display options more clearly and allow users to take actions directly from this screen (with current options as a menu).

Screenshot 3: CAMS Progress



This screen is one unlike anything we had considered, but potentially useful if there were a practical way to determine what students had already set up prior to accessing the wizard. Since some students may have already reset their myZou password or set up their email account prior to using the wizard, it would be helpful to display what steps they have completed and allow them to only complete the remaining steps rather than repeating some.

Ideally, however, our wizard would be the first introduction students get to myZou and student email and a link to it would be provided in the first mail and email correspondence they receive from the university. If this is the case, it might still be a good idea to include some kind of progress indicator for completing actions within the wizard itself.

Positives:

- Clear indication of setup progress
- Clear link to sign out
- Language is easy to understand
- Layout is easy to follow

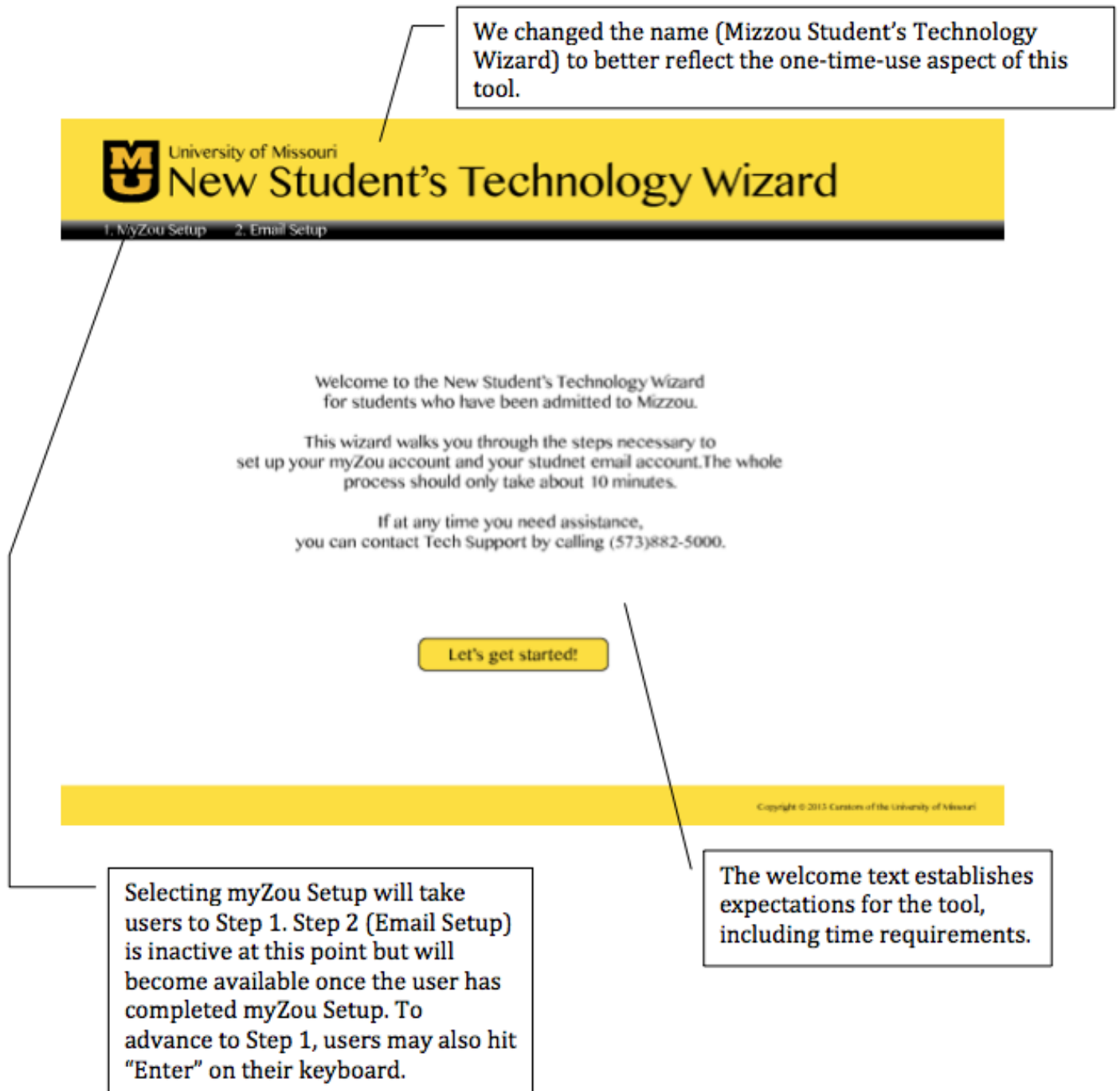
Negatives:

- Steps in the first section do not align correctly. Are "Password Reset Wizard:" and "Change All Passwords:" the same thing?

Low Fidelity Prototype

Screen 0:

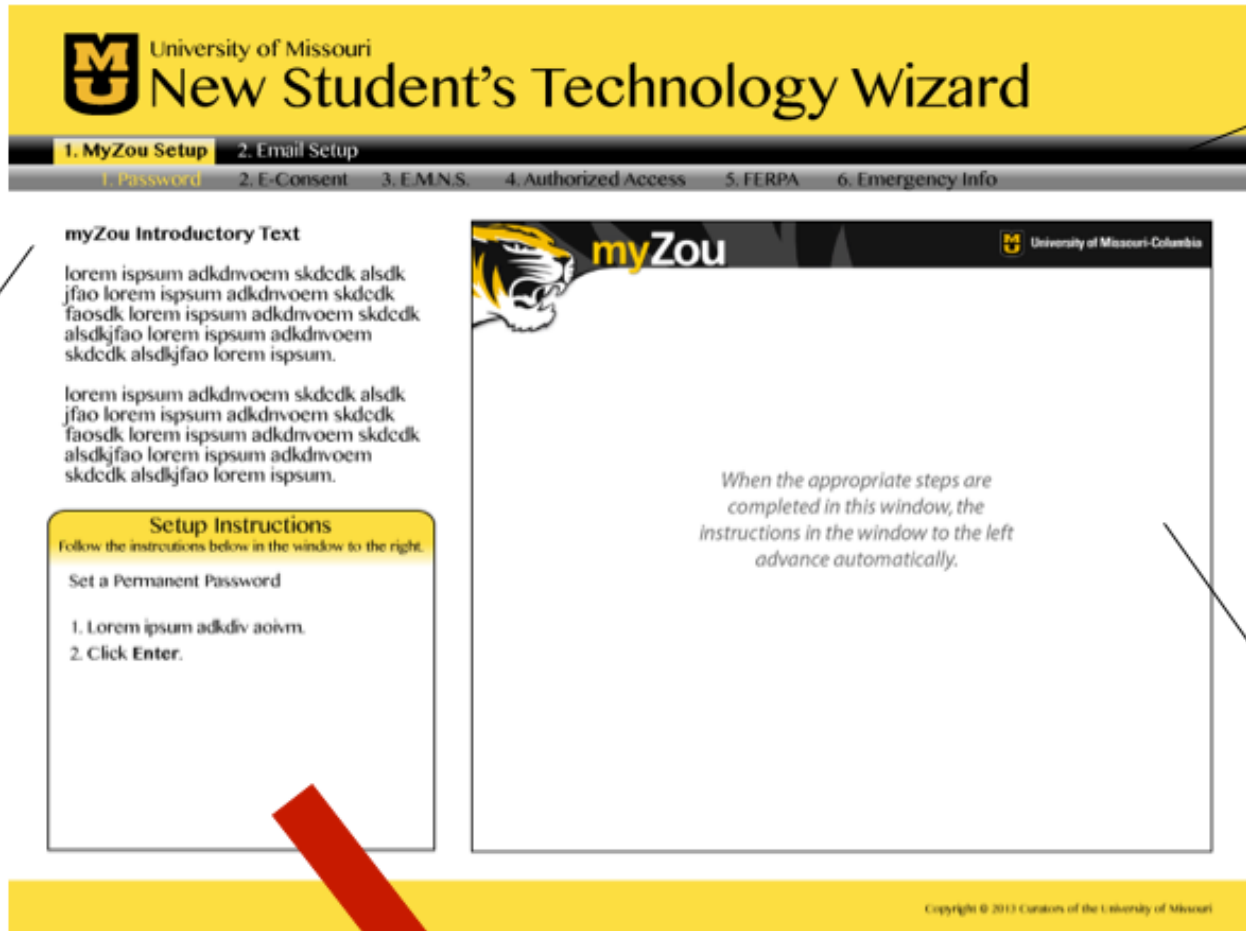
The Welcome page introduces incoming Mizzou students to the New Student's Technology Wizard. The color scheme and simple design emphasize school spirit and sense of belonging without distracting from the task at hand.



Screen 1.1a:

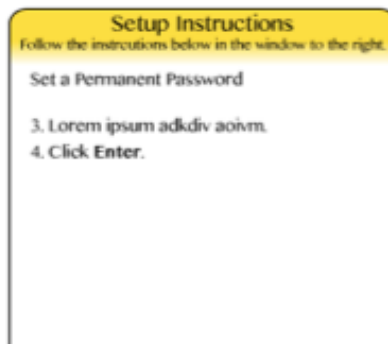
The myZou Password Setup page will be incoming Mizzou students' first introduction to myZou and will walk them through the first step of accessing their account.

The current step is highlighted to clearly indicate where users are in the process. A second navigation bar now indicates progress through steps within myZou Setup. Again, links to steps in this bar become active when the previous step is complete, enabling backward motion to correct errors, but no skipping of steps.



The introductory text explains what myZou is used for and why this initial setup is important. It includes the url for myZou, explaining what users are seeing in the window to the right. In subsequent pages the content of the introduction may change to better explain that particular section.

Screen



The actual myZou page is accessed in this window. Actions completed in the window will cause the Setup Instructions pane to show next steps. Completing all the steps for setting up the password will automatically advance

Screen 1.2:

The myZou E-Consent page will explain and walk students through the process of E-Consent, while retaining the basic myZou introduction on-screen for a frame of reference and sense of continuity. Rather than a completely separate step, E-Consent is a substep of myZou setup.

Step 1.2 is now highlighted, indicating that the user is on the E-Consent step. Users can use their browser's back button or select "1. Password" to go back to 1.1 if necessary; however, most users would proceed sequentially through the steps as directed.

The screenshot shows the 'New Student's Technology Wizard' interface. At the top, the University of Missouri logo and name are displayed. Below this is a navigation bar with six steps: 1. MyZou Setup, 2. Email Setup, 3. E.M.N.S., 4. Authorized Access, 5. FERPA, and 6. Emergency Info. Step 1.2, 'E-Consent', is highlighted in yellow. The main content area is divided into two sections. On the left, there is 'myZou Introductory Text' consisting of two paragraphs of placeholder text. Below this is a 'Setup Instructions' box with a yellow header and the text: 'Follow the instructions below in the window to the right. Accept E-Consent. 1. Lorem ipsum adkdiv aovm. 2. Click Enter.' On the right, there is a large white area with the myZou logo and a tiger head icon at the top left, and the University of Missouri-Columbia logo at the top right. In the center of this area, there is a message: 'When the appropriate steps are completed in this window, the instructions in the window to the left advance automatically.' At the bottom right of the page, there is a copyright notice: 'Copyright © 2013 Curators of the University of Missouri'.

Because we are still in myZou setup, the screen otherwise looks very much the same. E-Consent is a simple, two-step process, so there is no need for the setup instructions to repopulate. When users hit the "Enter" button on their keyboard or click "Enter" in myZou, the Wizard will advance to the next screen, Step 1.3: EMNS.

Screen 1.3a:

The myZou Emergency Mass Notification Service page follows E-Consent and presents initial and continued setup instructions as the user progresses.

University of Missouri
New Student's Technology Wizard

1. MyZou Setup 2. Email Setup
1. Password 2. E-Consent 3. EMNS 4. Authorized Access 5. FERPA 6. Emergency Info

myZou Introductory Text

lorem ipsum adkdrvoem skdedk alsdk
jfao lorem ipsum adkdrvoem skdedk
faosdk lorem ipsum adkdrvoem skdedk
alsdkjfao lorem ipsum adkdrvoem
skdedk alsdkjfao lorem ipsum.

lorem ipsum adkdrvoem skdedk alsdk
jfao lorem ipsum adkdrvoem skdedk
faosdk lorem ipsum adkdrvoem skdedk
alsdkjfao lorem ipsum adkdrvoem
skdedk alsdkjfao lorem ipsum.

Setup Instructions
Follow the instructions below in the window to the right.

Enroll in Emergency Mass
Notification Service

1. Lorem ipsum adkdiv aoivm.
2. Click Enter.

myZou University of Missouri-Columbia

*When the appropriate steps are
completed in this window, the
instructions in the window to the left
advance automatically.*

Copyright © 2013 Curators of the University of Missouri

Screen

Setup Instructions
Follow the instructions below in the window to the right.

Enroll in Emergency Mass
Notification Service

3. Lorem ipsum adkdiv aoivm.
4. Click Enter.

Screen 1.4a:

The myZou Authorized Access page follows EMNS and and presents initial and continued setup instructions as the user progresses.

University of Missouri
New Student's Technology Wizard

1. **MyZou Setup** 2. Email Setup
1. Password 2. E-Consent 3. E.M.N.S. 4. **Authorized Access** 5. FERPA 6. Emergency Info

myZou Introductory Text

lorem ipsum adkdrvoem skdedk alsdk
jfao lorem ispsum adkdrvoem skdedk
faosdk lorem ispsum adkdrvoem skdedk
alsdkjfao lorem ispsum adkdrvoem
skdedk alsdkjfao lorem ispsum.

lorem ipsum adkdrvoem skdedk alsdk
jfao lorem ispsum adkdrvoem skdedk
faosdk lorem ispsum adkdrvoem skdedk
alsdkjfao lorem ispsum adkdrvoem
skdedk alsdkjfao lorem ispsum.

Setup Instructions
Follow the instructions below in the window to the right.

Grant Additional Authorized Access

1. Lorem ipsum adkdiv aovm.
2. Click **Enter**.

myZou University of Missouri-Columbia

When the appropriate steps are completed in this window, the instructions in the window to the left advance automatically.

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Screen

Setup Instructions
Follow the instructions below in the window to the right.

Grant Additional Authorized Access

3. Lorem ipsum adkdiv aovm.
4. Click **Enter**.

Screen 1.5:

The myZou FERPA page follows Authorized Access and requires no additional steps.

University of Missouri
New Student's Technology Wizard

1. **MyZou Setup** 2. Email Setup
1. Password 2. E-Consent 3. EMNS 4. Authorized Access 5. **FERPA** 6. Emergency Info

myZou Introductory Text

lorem ipsum adkdrvoem skdedk alsdk
jfao lorem ispsum adkdrvoem skdedk
faosdk lorem ispsum adkdrvoem skdedk
alsdkjfao lorem ispsum adkdrvoem
skdedk alsdkjfao lorem ispsum.

lorem ipsum adkdrvoem skdedk alsdk
jfao lorem ispsum adkdrvoem skdedk
faosdk lorem ispsum adkdrvoem skdedk
alsdkjfao lorem ispsum adkdrvoem
skdedk alsdkjfao lorem ispsum.

Setup Instructions
Follow the instructions below in the window to the right.

Accept or Decline FERPA

1. Lorem ipsum adkdrvoem.
2. Click **Enter**.

When the appropriate steps are completed in this window, the instructions in the window to the left advance automatically.

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FERPA requires only a simple selection and Enter. The user advances.

Screen 1.6:

The myZou Emergency Info page follows FERPA and is the last step for myZou setup.

University of Missouri
New Student's Technology Wizard

1. **MyZou Setup** 2. Email Setup
1. Password 2. E-Consent 3. E.M.N.S. 4. Authorized Access 5. FERPA 6. Emergency Info

myZou Introductory Text

lorem ipsum adkdrvoem skdedk alsdk
jfao lorem ipsum adkdrvoem skdedk
faosdk lorem ipsum adkdrvoem skdedk
alsdkjfao lorem ipsum adkdrvoem
skdedk alsdkjfao lorem ipsum.

lorem ipsum adkdrvoem skdedk alsdk
jfao lorem ipsum adkdrvoem skdedk
faosdk lorem ipsum adkdrvoem skdedk
alsdkjfao lorem ipsum adkdrvoem
skdedk alsdkjfao lorem ipsum.

Setup Instructions
Follow the instructions below in the window to the right.

Provide Emergency Contact Information

1. Lorem ipsum adkdiv aovm.
2. Click **Enter**.

myZou University of Missouri-Columbia

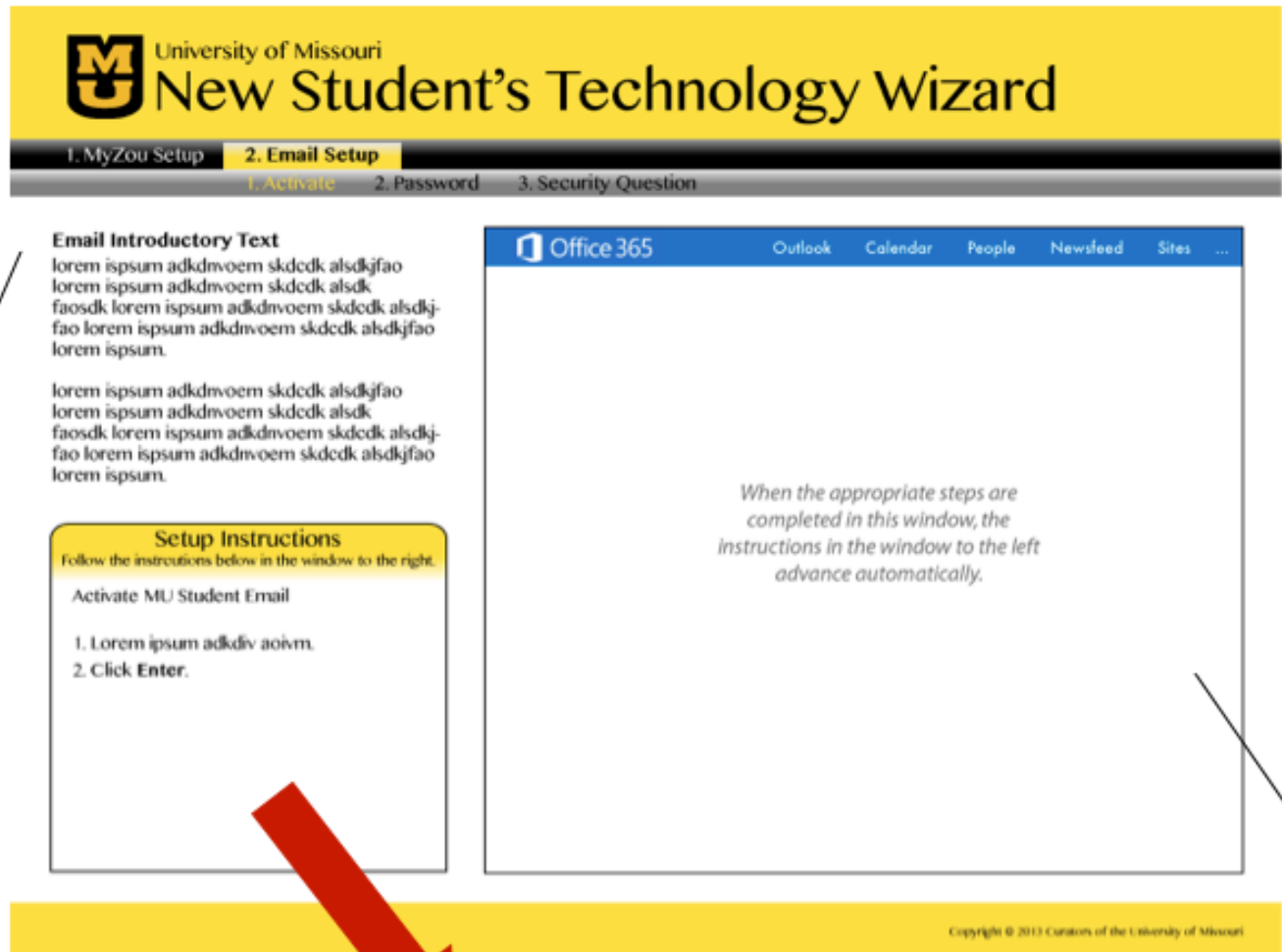
When the appropriate steps are completed in this window, the instructions in the window to the left advance automatically.

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Upon clicking Enter, the user will advance to Email Setup (Step 2.1)

Screen 2.1a:

The Email Activation page is the first introduction incoming Mizzou students will receive to MU Student Email. It explains the importance of this account and walks students through initial setup in Office 365.



The introductory text changes, and now explains the importance of setting up a Mizzou email and how to access it.

Screen

Setup Instructions
Follow the instructions below in the window to the right.

Activate MU Student Email

3. Lorem ipsum adkdiv aovm.
4. Click Enter.

The page shown in this window automatically changes to load the email client.

As before, steps repopulate to reflect actions of the user.

Screen 2.2a:

The Email Password page follows Activation and walks students through the password setup process, which takes the longest out of the steps presented in this wizard.

University of Missouri
New Student's Technology Wizard

1. MyZou Setup **2. Email Setup** 3. Security Question

Email Introductory Text
lorem ipsum adkdnvoem skdcdk alsdkjfao
lorem ipsum adkdnvoem skdcdk alsdk
faosdk lorem ipsum adkdnvoem skdcdk alsdkj-
fao lorem ipsum adkdnvoem skdcdk alsdkjfao
lorem ipsum.

lorem ipsum adkdnvoem skdcdk alsdkjfao
lorem ipsum adkdnvoem skdcdk alsdk
faosdk lorem ipsum adkdnvoem skdcdk alsdkj-
fao lorem ipsum adkdnvoem skdcdk alsdkjfao
lorem ipsum.

Setup Instructions
Follow the instructions below in the window to the right.

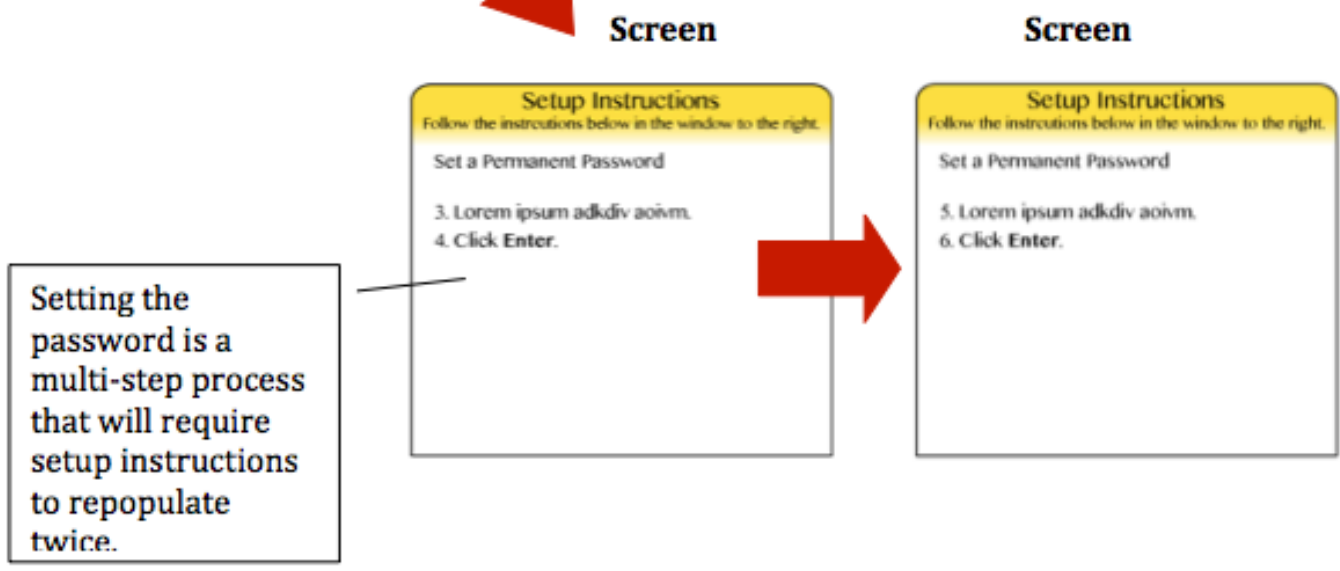
Set a Permanent Password

1. Lorem ipsum adkdiv aoivm.
2. Click Enter.

Office 365 Outlook Calendar People Newsfeed Sites ...

When the appropriate steps are completed in this window, the instructions in the window to the left advance automatically.

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Screen 2.3a:

The Email Security Question page follows password setup, and is the last page of Email Setup.

University of Missouri
New Student's Technology Wizard

1. MyZou Setup **2. Email Setup** 3. Security Question

1. Activate 2. Password 3. Security Question

Email Introductory Text
lorem ipsum adkdrvoem skdedk alsdkjfao
lorem ipsum adkdrvoem skdedk alsdk
faosdk lorem ipsum adkdrvoem skdedk alsdkj-
fao lorem ipsum adkdrvoem skdedk alsdkjfao
lorem ipsum.

lorem ipsum adkdrvoem skdedk alsdkjfao
lorem ipsum adkdrvoem skdedk alsdk
faosdk lorem ipsum adkdrvoem skdedk alsdkj-
fao lorem ipsum adkdrvoem skdedk alsdkjfao
lorem ipsum.

Setup Instructions
Follow the instructions below in the window to the right.

Set a Security Question

1. Lorem ipsum adkdrv aovm.
2. Click **Enter**.

Office 365 Outlook Calendar People Newsfeed Sites ...

When the appropriate steps are completed in this window, the instructions in the window to the left advance automatically.

Copyright © 2013 Curators of the University of Missouri



Screen

Setup Instructions
Follow the instructions below in the window to the right.

Set a Security Question

3. Lorem ipsum adkdrv aovm.
4. Click **Enter**.

Screen 3.4:

The Thank You screen appears when setup for both myZou and MU Student Email accounts is complete, indicating to students that they can now exit out of the wizard.



Congratulations! You've completed the process!

Your myZou account student email accounts are now ready to use.
Be sure to check them regularly for new information and updates
as you prepare for classes.

For more information about your technology resources,
visit doit.missouri.edu.

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The Wizard clearly indicates that guided setup is complete and lets users know where users can look for more information.

Project Management

Project management is key to the success of any project, keeping it on track, on schedule, within scope and on (or under) budget. Project management is also key to achieving the project's goals; including aspects such as the allocation of resources, organizing tasks, defining and refining goals and objectives. For this project, our milestones have been defined by the assignment:

1. Project Idea Proposal - Oct. 2
2. Problem Analysis and Requirements - Oct. 23
3. Project Design Plan and Low Fidelity Prototype - Nov. 6
4. High Fidelity Prototype - Nov. 21
5. Evaluation Report - Dec. 9

The scope of the project includes development of the New Student's Technology Wizard up to the High Level Prototype. The prototype will show interaction between the user and the application through the setup tasks in myZou and MU Student Email:

myZou

- o Set a Permanent Password
- o Accept E-Consent
- o Enroll in Emergency Mass Notification
- o Grant Additional Authorized Access
- o Determine FERPA Settings
- o Define Emergency Contact Information

Email

- o Activate Account
- o Set a Permanent Password

The prototype will simulate the experience of the student as they are led straight through both processes, with step-by-step directions being issued at each step.

To be sure we are on task and to give us a chance to discuss various aspects of the assignment, we have weekly meetings scheduled. Also, we meet online regularly to work collaboratively on documents for writing and editing using Google Docs and Hangouts.

For the final evaluation, Jacquie will conduct the user observations and interviews because she has access to stakeholders and members of our actual target audience through the IT department. After sharing and discussing the results, Kaitlyn will analyze the results and compile the evaluation report, with assistance from Jacquie as needed.

The following table lists the tasks necessary to complete the project. Required tasks are associated with milestones, due dates and team member assignments.

Project Schedule

Italics indicate team decisions to be made.

<i>Date Due</i>	<i>Milestone</i>	<i>Task Owner</i>	<i>Tasks Required</i>
Wed. Oct 2	Project Idea Proposal		
Sept 25		1. Team 2. Team 3. Team 4. JC 5. Team 6. Team	1. <i>Brainstorm ideas</i> 2. Meet to discuss 3. <i>Determine topic and direction</i> 4. <i>Determine tools</i> 5. Create a prospectus 6. <i>Determine objectives, standards, challenges, resources, experts, etc.</i> 7. Complete 9 point-description from assignment
Sept 30		7. JC 8. Team 9. KD 10. KD	8. Write proposal 9. Edit proposal 10. Submit proposal
Oct. 2			
Wed. Oct 23	Problem Analysis & Requirements		
Oct. 3		1. JC 2. KD	1. Introduction of Problem (symptoms/fixes) 2. Environmental analysis (location & its characteristics, lifespan, used when, usage patterns, tools & equipment)
Oct. 9		3. TEAM 4. JC 5. TEAM	3. <i>Choose data collection methods for user data (direct observations (J has) survey, focus group,</i> 4. <i>Find five users to test</i> 5. Develop data collection instruments (Summer Welcome reports for direct observations)
Oct. 11		6. JC 7. KD 8. TEAM 9. JC 10. JC 11. KD	6. Collect and analyze user analysis data 7. Write up user analysis 8. Create 3 detailed personas (see guidelines) 9. Perform Hierarchical Task Analysis 10. Write up HTA text notation of graphic representation
Oct. 16		12. KD	11. Analyze user interactions 12. <i>Choose a task description method (scenarios, use case, essential use case)</i>
Oct 19		13. TEAM 14. JC	13. Describe project scope. 14. Include instruments for data collection
Wed. Nov 6	Project Design Plan		
Oct. 20	I) Design Specifications	1a. JC 1b. KD 1c. KD 2. Team a. KD 3. TEAM 4. TEAM 5. KD	1. Conceptual Model Description a. <u>high</u> -level description b. <u>features</u> , operational details) c. Relate project to specific theory, framework, model, guideline <i>Find a good metaphor and analogy for the project problem</i> . Answer Erikson's 5 metaphor questions (#2) Describes visual aesthetics, outcomes and moderating variables Create a table to describe interaction types Describe information needs of the system

Oct. 25			<ul style="list-style-type: none"> . <u>data</u> required and how it is to be transformed <i>Determine high-level architecture</i> 6. Create high-level architecture blueprint 7. Write Scenarios a. <u>plus</u> scenario b. <u>minus</u> scenario 8. <i>Find similar systems for new college students</i> <ul style="list-style-type: none"> . Describe similar products a. Describe pros and cons of similar products b. Describe how our solution is different
Oct 27		7. JC 8. JC 7. KD 8. KD	
Nov. 2	II) Low Fidelity Prototype	TEAM JC Team KD JC JC KD KD KD	<p>Based on design specifications, no content necessary</p> <p><i>Determine which tasks to illustrate in the mockups</i> <i>Determine screen changes to be illustrated</i> <i>Determine navigation structure</i> <i>Take necessary screenshots</i> <i>Create art</i></p> <ol style="list-style-type: none"> 1. Create at least 6 detailed mockups (PNGs) <ol style="list-style-type: none"> a. How to complete tasks and screen changes b. Represent information flow & task completion c. Placement of functions with annotations d. Minimal visual design with color e. Clear user navigation f. Include notes to explain features g. Include descriptive text before each image Compile descriptions and mockups
Nov. 4	III) Project Management	1. JC 2. Team 3. Team 4. JC 5. Team 6. Team 7. JC 8. KD	<ol style="list-style-type: none"> 1. Develop project task list 2. <i>Determine project milestones</i> 3. <i>Determine project scope</i> 4. Develop project schedule 5. <i>Assign project tasks</i> 6. <i>Develop project scope statement</i> 7. Write project plan- text intro 8. Compile project management pieces
Nov. 7	Format & Submit Design Plan	JC	Putting It All Together <ol style="list-style-type: none"> 1. Assemble the paper/assignment for submission 2. Edit the assignment 3. Submit the assignment to Sakai
Nov. 7	IV) Peer Evaluation	KD	<ol style="list-style-type: none"> 1. Write project description and user goals/tasks 2. Post low fidelity prototype to discussion board 3. Post project description 4. Post links to prototypes for class
Fri. Nov 8	Response to peer evaluation	1. Each	1. Evaluate the prototype of another team
Thu. Nov 21	High Fidelity Prototype		
	Descriptions	1. TEAM 2. TEAM 3. JC 4. KD	<ol style="list-style-type: none"> 1. Functionality and features 2. Tools, apps, tech used for prototype creation 3. Images of key elements of the final design 4. What was left unimplemented and why

	II) Prototype III) Evaluation By Peers	1. KD 2. JC 3. KD 4. KD	1. Interaction with at least 2 tasks 2. Cohesive and attractive visual design - include colors, backgrounds, buttons, and text 3. All elements must work (sound, animation, etc.) 4. Access given to class for interactive prototype 5. Viewable on computer or mobile device 6. Post prototype links for evaluation by peers
Sat. Nov 23	III b) Evaluation of Peers Post-Evaluation Assessment	1. Each 2. Team 3. Team 4. Team	1. Evaluate at least one other prototype 2. <i>Discuss suggestions from others about our prototype</i> 3. <i>Assess possible application changes</i> 4. <i>Apply changes prior to user testing</i>
Mon. Dec. 9	Evaluation Report		
Nov. 13	I) Evaluation Framework	1. TEAM 2. TEAM 3. TEAM	1. Describe the goals of the evaluation 2. Identify the evaluation questions 3. Identify the evaluation methods and data analysis. Provide rationales for decisions. At least 2 methods must be implemented, and one must be user observation. 4. Include the instruments for the evaluation methods in an Appendix 5. Show the relationship between questions, methods, instruments, and data analysis. See Appendix A.
Nov. 17		4. JC	
Nov 17		5. KD	
Nov 13	II) Observation Process	1. JC 2. JC 3. TEAM 4. TEAM 5. JC	<i>Find three target testers outside of class</i> <i>Set up testing times</i> <i>Develop tasks for users to test</i> <i>Take copious testing notes</i> <ol style="list-style-type: none"> Develop usability form for testers to use (Appendix C; aesthetics, usability, technical performance, effectiveness) Develop a list of key points to observers to watch for Observe 3 testers Summarize user information (appendix B)
Nov 17		6. TEAM	
Nov. 18		7. TEAM	
Nov 20		8. KD	
Nov 23	III) Evaluation Results	1. KD 2. JC 3. KD	<i>Analyze results of each method</i> <ol style="list-style-type: none"> Write summary of data analysis, including peer comments Tabulate data from forms and provide scores (average, overall, mean) Synthesize user comments Explain negative scores/feedback

		4. TEAM	
Nov 27	IV) Design Evolution	Team KD Team	<ol style="list-style-type: none"> 1. Describe changes throughout 2. Identify major changes 3. Explain value of different evaluation methods 4. Provide a change/revision log
Dec 2 Dec 4 Dec 8	V) Reflections and Recommendations	<ol style="list-style-type: none"> 1. KD 2. TEAM 3. KD 4. KD 5. TEAM/ KD 	<ol style="list-style-type: none"> 1. Describe the interaction and visual design elements of the project and how they meet or do not meet basic standards. Use journal articles, books, etc., to support your discussion. (Note: 2 to 3 articles/books should be sufficient). 2. Include references to articles/books 3. Minimum 200 words 4. Describe the lessons learned from the usability evaluation implementation. 5. Describe how the project could be improved, if necessary. Indicate what could be implemented differently if there were more time to apply everything learned from the evaluation activity.

High Fidelity Prototype

Descriptions

Functionality and Features

Each MU student needs to set up his/her myZou and MU Student Email accounts in order to take care of the “business” of attending college. Currently, there is no clear path for the student to follow, although there are many steps that must be completed to accomplish these tasks. We have designed the New Student’s Technology Wizard to guide each student accepted to Mizzou through the process for setting up these two key accounts. Our interactive prototype models full functionality of the required setup steps.

This prototype simulates the myZou and MU Student Email account set up process so that the user can click through the steps to establish initial settings for each account. Currently, these processes exist, but they cannot be followed through in any straightforward manner. The myZou and email accounts are completely separate and each consists of several dis-coordinated steps. Neither provides any clues for how the student should proceed or what steps are required. The prototype we have designed provides a major improvement in the increased ease-of-use for the student that is not currently possible through the two separate website processes. An additional asset would be a reduction in the staff time required to assist individual students who need help getting through the process.

Tools and Technology

To create the prototype, we used Adobe Illustrator to design the step-by-step processes for the setup of each account. Each screen shown in the wizard incorporates screenshots from the actual (existing) web applications into the proposed wizard interface as designed in Illustrator. The illustration of each phase throughout the setup is combined with step-by-step instructions to complete the processes required for myZou and MU Student Email setup. The result is the following prototype for the New Student’s Technology Wizard.

The main Illustrator file provides the base for the Wizard’s structure and screen elements. The file includes more than 150 layers that, in various combinations, recreate each step of the eight individual setup processes (and their options) as well as the intro and exit screens.

Each individual screen for the proposed wizard was exported from Illustrator as a single PNG file. Every PNG was added as a *Page* in Adobe Fireworks to create an interactive site. Interactive elements were added to each screen in Fireworks to simulate the progress through each step of the processes. The *Foreground Slice* method was used to link buttons on each page to their applicable page in the prototype. HTML elements, such as checkboxes and text fields, were added in Fireworks using the *HTML Slice* method.

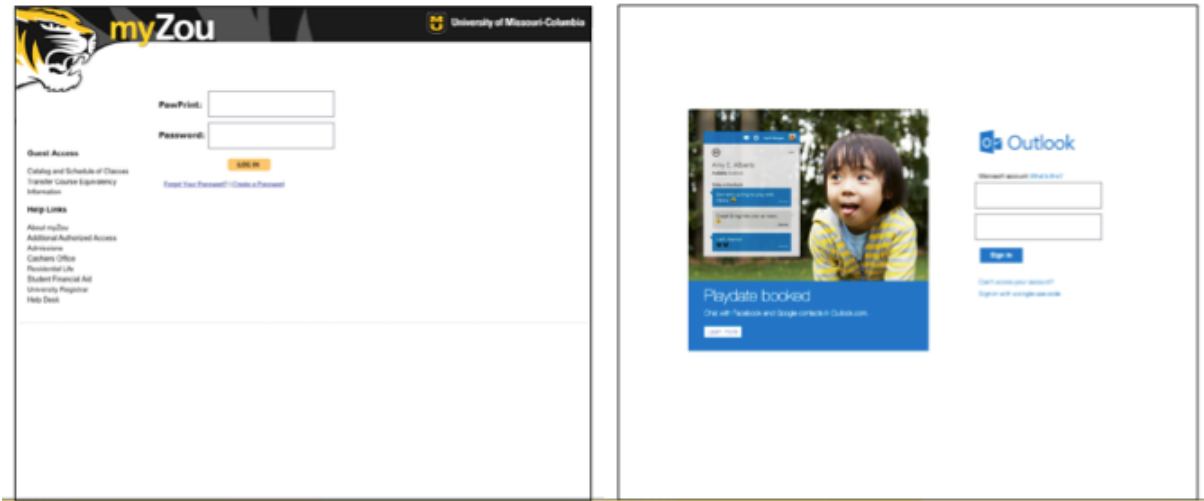
After previewing and testing the site in Google Chrome and Firefox, we exported the Fireworks screens to HTML, and uploaded them to an MU Bengal site for peer review.

Key Elements

1. The student is informed about what actions have to be taken - there is no other way they know what needs to be done. There are several steps, such as Emergency Contact Information, that they need to complete in myZou that are not explained anywhere. This wizard would minimize the students who miss these steps, whether knowingly or unknowingly.

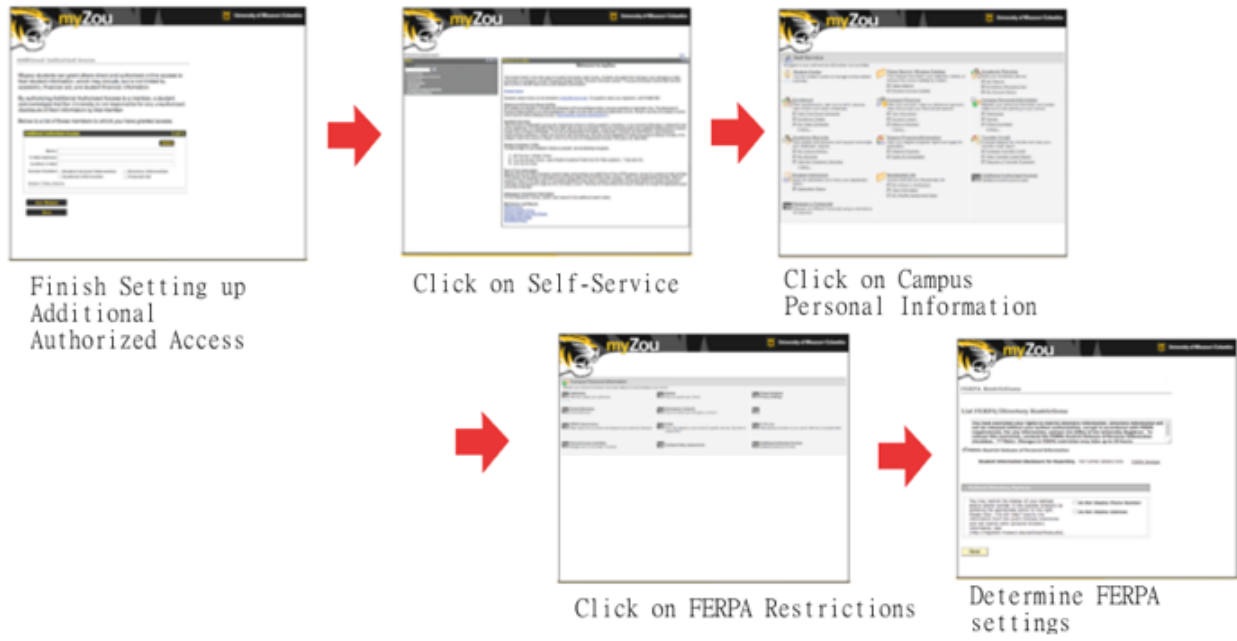


2. The wizard links the two disparate websites. Otherwise the student would not know how to get from one to the other.

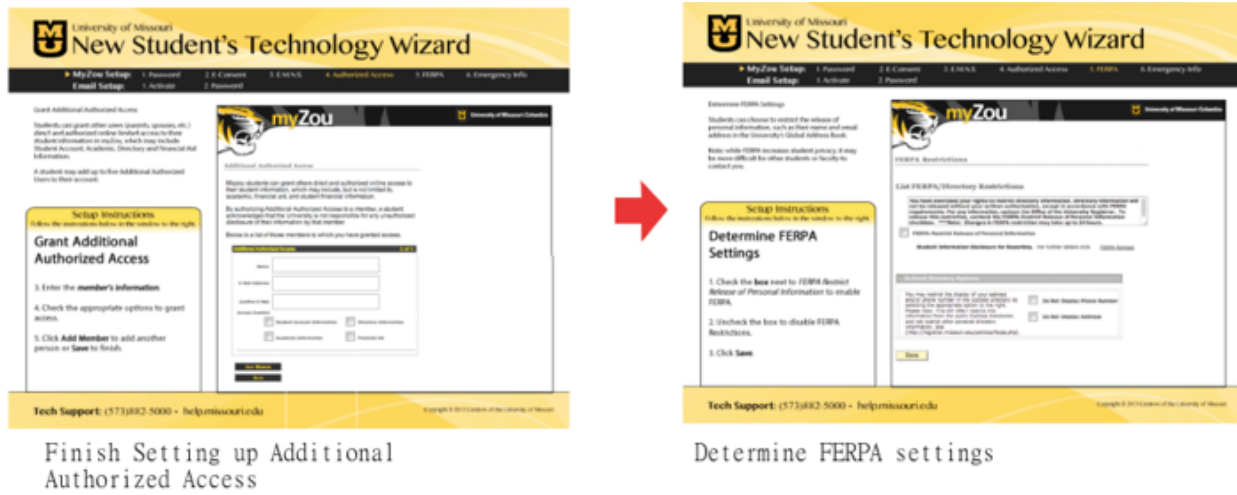


3. The student is directed straight to the step required without having to struggle through the standard navigation to the required elements.

With current myZou navigation



Eliminating navigation steps



4. Since the student is directed on a clear path, the concern about missing key components is removed. The student doesn't have to worry about if they've missed any steps. When the student is told they have completed the process, thus they are reassured.



University of Missouri

New Student's Technology Wizard

Congratulations!

You've completed the setup process!
Your myZou and student email accounts are now
ready to use.

For more information about other
technology resources available to you at Mizzou,
visit doit.missouri.edu.

Tech Support: (573)882-5000 • help.missouri.edu

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Features Left Unimplemented

The main aspect that was left unimplemented was in the final step in the email setup process where the student sets up his/her security question. The security question was intended to help re-establish access to the account in the case of a forgotten password. Microsoft has eliminated this feature from their security set, so we eliminated the step from the wizard. This led to a change in the main navigation/breadcrumb trail of the entire wizard.

We opted to make the prototype functional in only two popular web browsers. We chose Firefox and Chrome because they are both cross-platform browsers; we opted to omit Safari, Internet Explorer and Opera. Because of some functional limitations in Fireworks, a separate file, with varying element-placement and coding, is required for each browser.

Results of Low-Fidelity Prototype Peer Review

Included below are the issues raised during peer review of the low-fidelity prototype. (For the full change/revision log reflecting additional stages of peer review and usability testing, see Evaluation: Design Evolution.)

Issue Priority (Low, Medium, High)	Issue Description	Recommendation	Changed (Yes/No)
High	Phone number for help only appears on intro screen	Add persistent help information to footer	<i>Yes:</i> added the Tech Support contact info to the footer for each screen.
High	Readability--yellow on gray	Change color scheme of second navigation bar	<i>Yes:</i> Changed both the color scheme and the navigation structure for the entire site.
Null	Functionality--Is creating a site like this technically possible?	Make changes in myZou itself rather than nesting the site in an iFrame	<p><i>No:</i> A valid question, but beyond the scope of the project. Additionally, it only applies to one-half of the solution; email setup is equally important.</p> <p><i>But yes if myZou itself could implement the proposed changes; that would preferable. Still, it would not handle the email account setup.</i></p>
High	Functionality--user taking unexpected actions	Make changes in myZou itself rather than nesting the site in an iFrame	<p><i>No:</i> The purpose of the wizard is to make only the usable links active; to lead the student through the steps required and no others.</p> <p>This may or may not be technically possible; but theoretically, limiting what they see/can access should minimize the risk of them wandering off on their own.</p> <p>Plus, making these changes to the myZou system itself requires agreement among all four campuses, which is very difficult and not likely!</p>
Medium	Too much text	Use text icons to replace text when possible	<p><i>No:</i> 1) The step-by step instructions have already been minimized to the extent that is feasible for students to follow.</p> <p>2) The text included in the intro portion of each segment is necessary for the student to understand what they are doing.</p> <p>3) There is already minimal text included in the intro and thank-you screens.</p> <p>4) None of the text can reasonably be replaced by an icon, as suggested.</p> <p>We concluded no changes would be beneficial.</p>
Low	Readability--text alignment	Left-align all text	<i>No:</i> Almost all text was (originally) <u>left-aligned</u> , but not the welcome and thank you screens. In these instances, because each page has a single text block and nothing else, good design practices <u>mandate centered</u> text.

Links to Interactive High-Fidelity Prototype

HTML elements incorporated through Fireworks appear differently in different browsers. Since the actual application would be hand-coded and not a product of Fireworks, browser-related differences in the prototype are not representative of the final product; therefore we created two versions of the prototype for testing so that it displayed properly in Chrome and Firefox.

Chrome:

<http://web.missouri.edu/~krdrkb/interaction/finalChrome/opening.htm>

Firefox:

<http://web.missouri.edu/~krdrkb/interaction/finalfirefox/opening.htm>

Evaluation Report

Evaluation Framework

Goals

The primary goal of the evaluation is to assess the degree to which the New Student's Technology Wizard addresses the information needs of incoming students. Accordingly, the evaluation will occur in two parts: Usability testing will assess the application's approachability, ease of use, efficiency and appeal for incoming students, while an interview with Summer Welcome IT staff will identify stakeholder attitudes and concerns regarding the content, design and utility of the application.

Specific goals of the evaluation include:

1. Determine how well this tool helps students to complete the requisite five steps in myZou
2. Determine how well this tool helps students to complete the requisite two steps in email to complete the account activation and setup process.
3. Determine whether the application will be helpful to incoming students as they navigate the account setup process during the admission process.

Evaluation Questions

- Is the application easy for students to use and navigate?
- Does the application sufficiently simplify the setup processes?
- Do students understand the purpose of the application?
- Is the visual design appealing?
- Do students like using the application?
- Does the application perform as students expect?
- Can students easily identify what step they are on and how close they are to completing setup?
- Does interaction fit students' mental models and work as they would expect?
- Is the content relevant and written clearly?
- How do IT Summer Welcome staff (stakeholders and subject matter experts) feel about the application?
- Does the application successfully address the major problems IT staff help incoming students with during summer welcome?
- What factors are not currently addressed by the application but should be?
- Assuming the link to this application were included in the letter of acceptance to incoming students, would this tool be a sufficient introduction to myZou and student email?
- In what situations would students likely still require help from IT during myZou and email account setup?
- Do IT Summer Welcome staff foresee any problems for students using this tool?

Evaluation Method 1: User Observation

Rationale: Usability testing with members of the target audience is the best way to assess the application's approachability, ease of use, efficiency and appeal for incoming students. Observing the users and asking them to think aloud as they interact with the application will help identify any discrepancies between the proposed design and actual users' mental models.

Data Analysis: The Observation Form will include time spent to complete each task, difficulty to complete (rated 1-3), and errors made, as well as a notes section for recording statements from testers as they think aloud. The Usability Form completed by testers will consist of a short survey in which testers are asked to rate how strongly they agree or disagree with a list of statements regarding the application. Results of these two methods of data collection will be analyzed via four graphs: Time to Complete Tasks, Difficulty Rating for Tasks, Errors in Task Completion, and User Experience.

Evaluation Method 2: IT Staff Interview

Rationale: Returning to stakeholders and subject matter experts—our IT staff—as part of the evaluation is crucial in order to determine whether the New Student’s Technology Wizard fully meets the current information need or needs additional changes before it can fulfill its role as an account setup tool for students. Listening to stakeholder attitudes and concerns regarding the content, design and utility of the application will both increase buy-in on the idea and allow us to improve it.

Data Analysis: The interview will directly address evaluation questions. Because we are only conducting a single interview at this time, data analysis needs are limited. The results will be compared to usability test results and applied directly to improving the prototype. Further interviews with Summer Welcome and other IT staff will be conducted at later stages in application development when the wizard’s interaction with the actual myZou and student email sites can be tested.

Evaluation Question	Evaluation Method	Data Collection Instrument	Data Analysis Method
Is the application easy for students to use and navigate?	User Observation Interview	Appendix C – User Observation Form Appendix D – Usability Test Form Appendix E – Evaluation Interview	Tabulated usability test ratings for this category (shown as “Ease of Use” in the User Experience graph)
Does the application sufficiently simplify the setup processes?	User Observation Interview	Appendix C – User Observation Form Appendix D – Usability Test Form Appendix E – Evaluation Interview	Represented difficulty ratings and number of errors for each task through in graphical form. Tabulated usability test ratings for this category (shown as “Simplicity” in the User Experience graph)
Do students understand the purpose of the application?	User Observation Interview	Appendix D – Usability Test Form Appendix E – Evaluation Interview	Tabulated usability test ratings for this category (shown as “Content” in the User Experience graph)
Is the visual design appealing?	User Observation Interview	Appendix D – Usability Test Form Appendix E – Evaluation Interview	Tabulated usability test ratings for this category (shown as “Visual Design” in the User Experience graph)
Do students like using the application?	User Observation Interview	Appendix C – User Observation Form Appendix D – Usability Test Form Appendix E – Evaluation Interview	Tabulated usability test ratings for this category (shown as “Overall” in the User Experience graph)
Does the application perform as students expect?	User Observation Interview	Appendix C – User Observation Form Appendix D – Usability Test Form Appendix E – Evaluation Interview	Tabulated usability test ratings for this category (shown as “Performance” in the User Experience graph)
Can students easily identify what step they are on and how close they are to completing setup?	User Observation Interview	Appendix C – User Observation Form Appendix D – Usability Test Form Appendix E – Evaluation Interview	Tabulated usability test ratings for this category (shown as “Orientation” in the User Experience graph)
Does interaction fit students’ mental models and work as they would expect?	User Observation Interview	Appendix E – Evaluation Interview	Tabulated usability test ratings for this category (shown as “Interaction” in the User Experience graph)
Is the content relevant and written clearly?	User Observation Interview	Appendix E – Evaluation Interview	Tabulated usability test ratings for this category (shown as “Content” in the User Experience graph)
How do Summer Welcome IT staff (stakeholders and subject matter experts) feel about the application?	Interview	Appendix E – Evaluation Interview	Direct application to evaluation questions
Does the application successfully address the major problems IT staff help incoming students with during Summer Welcome?	Interview	Appendix E – Evaluation Interview	Direct application to evaluation questions

What factors are not currently addressed by the application but should be?	Interview	Appendix E – Evaluation Interview	Direct application to evaluation questions
Assuming the link to this application were included in the letter of acceptance to incoming students, would this tool be a sufficient introduction to myZou and student email?	Interview	Appendix E – Evaluation Interview	Direct application to evaluation questions
In what situations would students likely still require help from IT during myZou and email account setup?	Interview	Appendix E – Evaluation Interview	Direct application to evaluation questions
Does Summer Welcome IT staff foresee any problems for students using this tool?	Interview	Appendix E – Evaluation Interview	Direct application to evaluation questions

Observation Process

We observed three users interact with the New Student’s Technology Wizard: the first, a high school senior, was a current incoming freshman and member of our target audience of incoming freshmen and transfer students. She was unsettled to realize that she will have to go through a very different process to actually accomplish these tasks before enrollment, but she said she is glad to know what to do based on testing our prototype. The other two participants in user testing were current students at the University of Missouri and had more web experience; both had recently themselves been members of our target audience. We filled out a Usability Observation form (Appendix C) for each observation and took notes as the participants thought aloud while carrying out the tasks. After the participants completed all interactions with the prototype, each filled out a Usability Test form (Appendix D).

User Profiles	User 1	User 2	User 3
Age	18	22	21
Gender	Female	Male	Female
Internet Experience	Medium	Extensive	Extensive
Year in School	HS senior	Senior	Senior
Date of Test	11/27/13	11/27/13	11/29/13
Platform/Browser	iPad/Chrome	iPad/Chrome	iPad/Chrome

The observation required the user to complete three tasks: for each task, we recorded the time to complete, difficulty rating (Easy through Difficult), and number of errors made. The Usability Test form included eight statements regarding the prototype’s aesthetics, usability, technical performance, and effectiveness, to which users could respond 1 (Strongly Disagree) through 5 (Strongly Agree).

(See Appendix C: User Observation Form and Appendix D: Usability Test Form.)

Evaluation Results

Summary of Data Analysis

A portion of the evaluation interview covered usability questions also covered in the Usability Test Form and User Observation Form; this portion of the interview was resoundingly positive. Had interview data for this portion disagreed significantly with data from user testing, it would have required analysis to determine why the perspective of our subject matter expert did not match up with actual results from our target audience. As it is, while the data is not contradictory, there are still key elements of perspective to note:

1) When asked whether students would understand the purpose of the application, the interviewee replied, "I don't think so, but it doesn't matter. All they need to do is complete the process. It doesn't require understanding, just doing."

From our perspective as designers, it certainly matters whether students understand what they're doing, so that is a marked difference. The wizard includes introductory information for each section to help students understand the purpose—if this did not matter to us, we would eliminate the introductory sections to cut down on text and streamline the application.

A closely related statement on the Usability Test Form, "The content was easy to understand and aligned with the purpose of the tool," received consistently high ratings of agreement (two 5s and a 4). These results indicate that, whether students strictly "need" to or not, they do in fact understand the purpose of the tool.

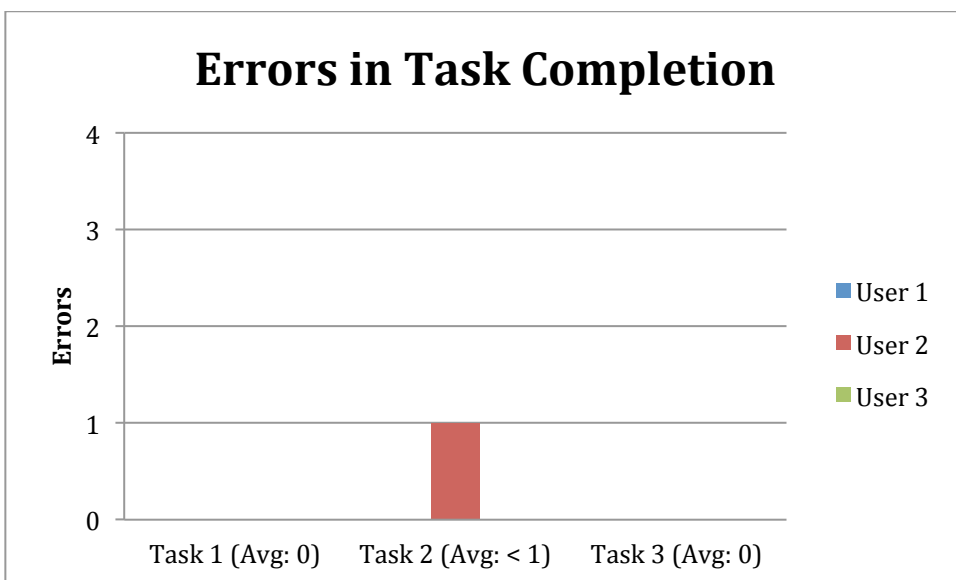
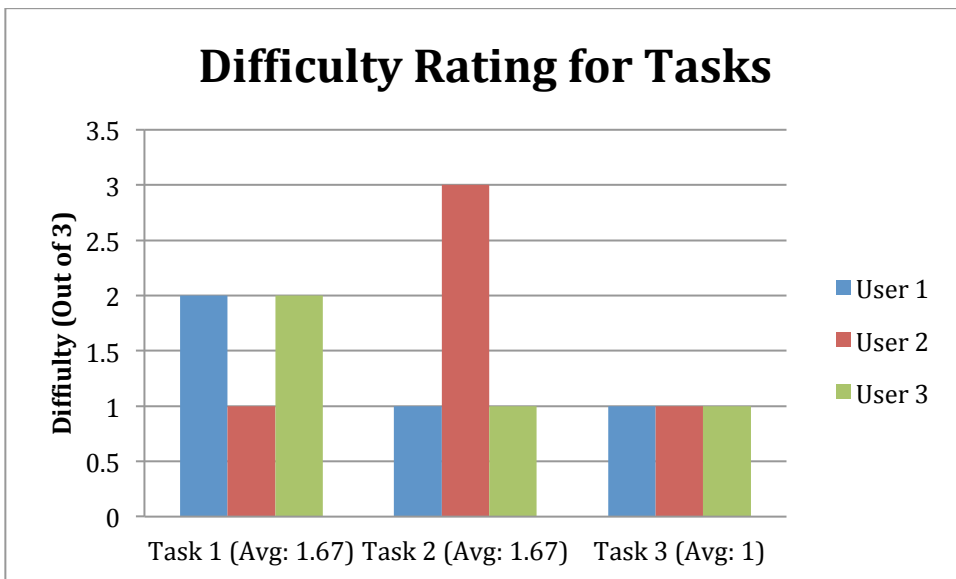
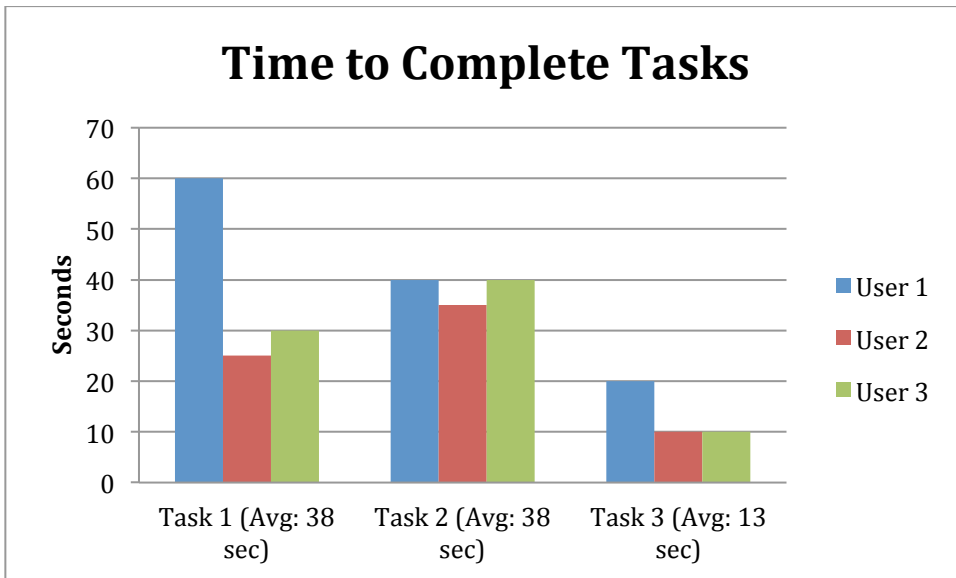
2) When asked whether students would like using the application, the interviewee replied, "Like? No, but that doesn't matter because that's not the purpose. It isn't meant to be a game."

From our perspective as designers, it's never just about getting the job done; whether the task is a naturally enjoyable one or not, we want the application to provide a smooth, visually and emotionally pleasing experience that does not create unnecessary cognitive load.

The statements most closely related on the Usability Test Form were: "I was not overwhelmed by the complexity of the tool", "I thought the visual design was pleasing", and "My overall experience with the tool was very good". Together, these three statements received a very high average agreement rating of 4.444, indicating that students did like using the tool.

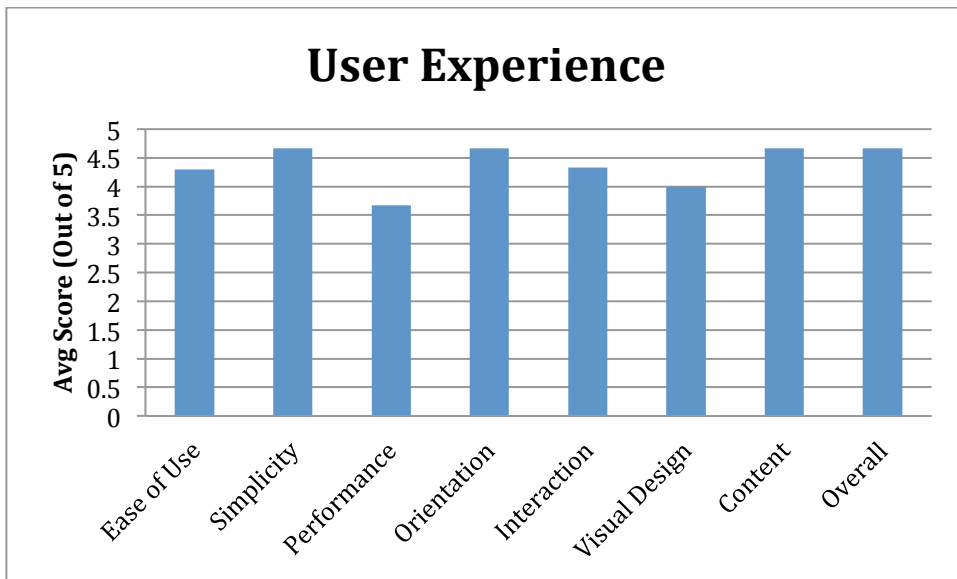
A second portion of the interview covered questions not directly covered in the usability testing, including what problems IT staff could foresee and what the application does not currently address but should. These comments and the changes made in response are represented in the change/revision log (See Design Evolution). Results from the user observation and usability testing form are shown below.

User Observation Results



Usability Form Results

	Strongly Agree		Neutral		Strongly Disagree	Average Score
I think the tool was easy to use and navigate.		4				4.333
	5					
		4				
I was not overwhelmed by the complexity of the tool.		4				4.667
	5					
	5					
The tool performed the way I expected.			3			3.667
		4				
		4				
I found it easy to determine my location in the tool.		4				4.667
	5					
	5					
All interaction elements worked as expected.			3			4.333
	5					
	5					
I thought the visual design was pleasing.	5					4
		4				
			3			
The content was easy to understand and aligned with the purpose of the tool.		4				4.667
	5					
	5					
My overall experience with the tool was very good.		4				4.667
	5					
	5					



Explanation

Based on usability test results, our statement that received the lowest ratings of agreement (3.667 average out of 5), was that the application performed as expected. The ratings received for this category were 3, 4, and 4, with the two participants who had greater internet experience rating it a 4, while the truest member of our target audience gave it a 3, or neutral rating. Her comments throughout the testing show that she had no prior knowledge of Mizzou technology accounts setup or its components FERPA, AAA, and was surprised and questioning as she moved through the application. The neutral rating for this category matches well with her lack of any expectations for how the application would perform, and confirms what Abbey Knaus said in the Evaluation Interview (Appendix E) when asked whether the application fit students' mental models for how it should work: "Do they have mental models?" she asked, and assured us it was straightforward.

All participants completed each usability task very quickly—in fact, in a minute or less—showing that the application is effective in speeding up what is otherwise a lengthy and confusing navigational process. The higher difficulty of completion and single error for Task 2 come from not wishing to set up Additional Authorized Access. When a participant tried to skip this step and not allow a parent or other third party access to myZou records, the prototype did not allow that choice. The interviewee agreed with usability task participants that there should be an option to skip this step, as it is optional. Thus, we are incorporating a Skip button (active for the AAA step only) in the final version of the prototype.

Design Evolution

Evolution: Major Changes and Rationale

Our interface and interaction design changed over the course of peer review and evaluation to include more detailed and extensive support such as tooltips and comes closer to the model of an Electronic Performance Support System.

- Based on peer review of the low fidelity prototype, we added the Tech Support contact info to the footer for each screen and changed the color scheme and navigation structure.
Rationale: Improves performance support, visual design, and navigation
- Based on peer review of the high fidelity prototype, we incorporated rollover tooltips and added a back button at the bottom of all step-by-step instructions
Rationale: Improves performance support, content, and navigation
- Based on user testing, we added an explanation to the intro screen saying that myZou and email are separate but the wizard will set up both. We also added buttons to the final screen to take students directly to the myZou and email sites.
Rationale: Improves content and performance support
- Based on the evaluation interview as well as feedback from user testing, we added a tooltip to explicitly state what FERPA is, provided a skip button for AAA, and added a tooltip explaining the consequences of skipping this step.
Rationale: Improves performance support, interaction, and content

Evaluation

User testing proved to be the most valuable evaluation method, as it allowed us to get feedback from the target audience and adapt the prototype accordingly. It was much easier to know what tooltips, and well as additional buttons and interactions were needed, when observing real users. The evaluation interview served to reiterate those results and provide guidance on the changes that would most appropriately suit the identified needs.

Source (UT, PE*)	Issue Priority (Low, Medium, High)	Issue Description	Recommendation	Changed (Yes/No)
PE- low fidelity	High	Phone number for help only appears on intro screen	Add persistent help information to footer	<i>Yes</i> : Added the Tech Support contact info to the footer for each screen.
PE- low fidelity	High	Readability—yellow on gray	Change color scheme of second navigation bar	<i>Yes</i> : Changed both the color scheme and the navigations structure for the entire site.
PE- low fidelity	Null	Functionality—is creating a site like this technically possible?	Make changes to myZou itself rather than nesting the site in an iFrame	<i>No</i> : A valid question, but beyond the scope of the project. Additionally, it only applies to one half of the solution; email setup is equally important. <i>But yes</i> : If myZou itself could implement the proposed changes, that would be preferable. Still, it would not handle the email account setup.
PE- low fidelity	High	Functionality—user taking unexpected actions	Make changes to myZou itself rather than nesting the site in an iFrame	<i>No</i> : The purpose of the wizard is to make only the usable links active, leading the student through the required steps and no others. This may or may not be technically possible, but theoretically, limiting what they can see and access should minimize the risk of them wandering off on their own. Making these changes to the myZou system itself requires agreement among all four campuses, which is very difficult and not likely!
PE- low fidelity	Medium	Too much text	Use text icons to replace text when possible	<i>No</i> : 1) The step-by-step instructions have already been minimized to the extent that it is feasible for students to follow. 2) The text included in the intro portion of each segment is necessary for students to understand what they are doing. 3) There is already minimal text included in the intro and thank you screens. 4) None of the text can be reasonably be replaced by an icon, as suggested.
PE- low fidelity	Low	Readability—text alignment	Left-align all text	<i>No</i> : Almost all text was originally left-aligned, but not the welcome and thank you screens. In these instances, because each page has a single text block and nothing else, good design practices mandate that the text be center-aligned.
PE- high fidelity	High	Performance Support—at several steps, students have questions that aren't currently being answered	Add rollover tooltips	<i>Yes</i>
PE- high fidelity	High	Navigation—users can't go back if they needed	Add a back button at the bottom of all step-by-step instructions	<i>Yes</i>
PE- high fidelity	Medium	Navigation—users may not know where to click on the splash screen	Add a button to get the user from the splash screen to the next screen	<i>Yes</i>

PE- high fidelity	Medium	Ethics—When told to “scroll to the bottom”, students are not likely to read the contents of the scroll box	Change wording regarding each scroll box so that it encourages students to read the material rather than merely scroll.	Yes
PE- high fidelity	Low	Visual Design—The congratulations screen is boring	Add an image to the final screen	Yes
PE- high fidelity	Low	MyZou—the continue button on one screen appears greyed out in the prototype, causing confusion	Replace the greyed out button with a screenshot of the button when active	Yes
Interview- high fidelity	High	Content—confusion over whether to set up FERPA	Explicitly say what FERPA is	Yes
Interview and UT- high fidelity	High	Options—setting up AAA should be an optional step	Provide a skip button and explain the consequences	Yes
UT- high fidelity	High	Content—Confusion over whether myZou and email are linked	Include explanation on intro screen	Yes
UT- high fidelity	Medium	Navigation—No buttons on ending screen	Add a home button to go back to the beginning	Yes, added buttons to the final screen; <i>however</i> , added a myZou button and email button to take students to the actual applications rather than start the application over, since they can only complete it once.
UT- high fidelity	Medium	Too much text	Not sure	<i>No</i> : Unfortunately, the sites being accessed are text-heavy. <i>However</i> : We have added rollover tooltips for FERPA and AAA that students can read as a quick summary rather than reading all of the text on-screen, if they so choose
UT- high fidelity				Yes
UT- high fidelity	Low	The people at the end don't look happy	Change the picture	<i>No</i> : Not sure what would be seen as unhappy about the people in this picture. We'll await further feedback before making changes.

*UT= Usability Test, PE = Peer Evaluation

Project Reflections and Recommendations

Sleight (1993) outlines five characteristics that differentiate EPSS from other tools or forms of instruction. The interaction and visual design elements of the New Student's Technology Wizard meet basic standards for electronic performance support systems, as outlined in “What is Electronic Performance Support and What Isn't?”

1. “Computer-based”

The New Student's Technology Wizard eliminates the need for on-paper and in-person instructions, creating a completely online process.

2. Provides “access to the discrete, specific information and tools needed to perform a task at the time the task is to be performed”

The wizard hosts the two account websites side-by-side with all the instructions and information needed to complete account setup. It includes rollover tooltips that the user can access in case of specific questions while performing the task.

3. “Used on the job, or in simulations or other practice of the job”

Rather than serving as a tutorial, the wizard allows students to actually set up their accounts with the instructions there alongside them. On the final screen, it includes buttons that take students to each of the websites to visit and interact with their new accounts.

4. Controlled by the user

Users have the option of deciding what information to include and what settings are right for their own accounts. They also have control over how much guidance they receive from the application: while essential introductory text and instructions are visible automatically on each screen, more specific guidance is hidden until accessed via question mark icons.

5. Reduces “the need for prior training in order to accomplish the task”

No training is needed prior to using the wizard. While students will still have many questions to explore regarding their accounts, the wizard is not intended as a complete introduction. Rather, it eliminates the training required for setup tasks so that students can jump directly into interacting with and learning about their accounts.

Desrosiers (1996) describes four components usually included in EPSS: “(a) an advisory component, (b) an information component, (c) a training component, and (d) the user interface component”. Of these, the only component not implemented in the New Student’s Technology Wizard is the training component. The application is designed to get students through the account setup processes, but does not provide training for navigating and using their new accounts. For account-specific training, students will need to call Tech Support or visit the DoIT website (number and address provided in the application footer) or learn by interacting with the accounts themselves (links provided on the final screen).

Desrosiers, S. & Harmon, S. W. (1996). Performance Support Systems for Education and Training: Could this be the Next Generation? *Selected Papers from the Fifth Annual LEPS*. <http://www2.gsu.edu/~wwwitr/docs/nextgen/>

Goodwin, K. (2009). Principles and Patterns for Framework Design. *Designing for the Digital Age* (pp 405-424). Indianapolis, IN: Wiley Publishing, Inc.

Sleight, D. A. (1993). What is Electronic Performance Support and What Isn't? Michigan State University. <https://www.msu.edu/~sleightd/epssyn.html>

Recommendations

In implementing usability evaluation, we learned that the target audience, while largely appreciative of the wizard’s design and functionality, also desired more interactivity than we had initially provided. More buttons and more specific explanations that could be accessed if desired were the primary requests. Their requests matched incredibly well with the generally accepted standards of design for performance support: the design should give users as much control as possible, including control over how much guidance they receive.

If there were more time to apply lessons learned from the evaluation, the project could potentially be improved by creating further “levels” of performance support: for instance, by hiding the introductory text until users chose to read it by clicking on a question. However, in hiding such essential text, we would need to be extremely careful and conduct extensive user testing, as this measure could just as easily cause confusion or frustration for users who needed the information and did not realize how to access it. As it is, the wizard fully supports the needed performance and provides one level of user control over information through the use of rollover tooltips.

Appendix A – Problem Analysis Interview

Interviewee: Abbey Knaus, Customer Service/Tech Support Team Lead for Summer Welcome and Back to School

1) Do they know about their email and myZou accounts and what they are for?

“Majority of them do not. 50% of the time the parents set it up for them because it is too complicated for the students to understand. It’s sad. We create our own helicopter parents. The parents tend to be helicopter-y anyway, but we reinforce the bad behavior by making the process so complicated. In all honesty, if the system worked better, it wouldn’t be as much of an issue.”

2) How aware are the incoming students about what steps they should complete in myZou?

(laughter) “Not very many. At all.”

3) Do they know they have an email account for MU that needs to be activated?

“I’d say about a third didn’t know that they had one or that it needs to be activated. Lately, we have gotten fewer questions about email. I think because it is easier to figure out. During back to school we get a flood of kids who are tired of using their temp password and want to reset it. So that ‘resetting’ part is still confusing for them. But there are still parents who set up the email and such for them because the kid can’t figure it out.

“Lately, in the last couple years, we see a lot more kids who come to us where the parent has forwarded the student’s email account directly to the parent’s email account, so the kid never even sees the emails and the parent gets everything. One mom said, ‘But I’ll forward her back anything she needs to see.’ All you can do is shake your head and reset the account, but in some cases it is our own fault. The kids don’t want to struggle through the process so the parent does it for them.



“It’s sad. These kids know technology, grew up with all this stuff; it’s not new to them. And this process is still too difficult for them to do it. They aren’t all just lazy; myZou is crazy!”

4) Of the students who have their accounts set up, how many did it themselves (as opposed to the parent setting it up for them)?



“About half and half. If the parents set it up, the kids don’t know what they did or what it is for. It’s lucky if they even know their own password, since parent set it up – and mom may or may not have told the kid what it is. They just call the parent on the phone to get the password; they don’t even think about it. They call their parents for help all the time.”

Appendix B – User Analysis Surveys

1. When did you first learn you had a myZou account?

		Response Percent	Response Count
When I was accepted to MU and received my username(PawPrint) and temporary password		37.5%	3
When I registered for Summer Welcome		0.0%	0
When I registered for classes for the first time (or at Summer Welcome)		62.5%	5
When I first checked my financial/billing account information		0.0%	0
	Other (please specify)		0
		answered question	8
		skipped question	0





2. Did you know how to access your myZou account?

		Response Percent	Response Count
Yes		50.0%	4
No		50.0%	4
		answered question	8
		skipped question	0

3. How did you know how to access your myZou account?

	Response Count
	7
answered question	7
skipped question	1

4. Please rate your initial experience using myZou:

		Response Percent	Response Count
Very easy		0.0%	0
Fairly easy		25.0%	2
Average compared to other sites		25.0%	2
Somewhat confusing or difficult		25.0%	2
Very confusing or difficult		25.0%	2
Could not access my account		0.0%	0
Someone else set up my account		0.0%	0
	Other (please specify)		0
	answered question		8
	skipped question		0

5. Please describe any questions or problems you encountered during your initial experience using myZou:

**Response
Count**

4

answered question

4

skipped question

4

6. What do you like most about using myZou?

**Response
Count**

5

answered question

5

skipped question

3

7. What do you dislike most about using myZou?

**Response
Count**

5

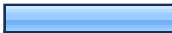



answered question

5






skipped question

3



8. Do you understand your FERPA option that you chose?

		Response Percent	Response Count
Yes		25.0%	2
No		12.5%	1
I don't remember		12.5%	1
I don't know what FERPA is		50.0%	4
	Comment:		0
answered question			8
skipped question			0

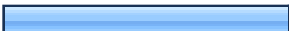

9. Students can use Additional Authorized Access(AAA) to grant others (like parents) access to a limited amount of your student information in myZou, such as billing, directory or financial aid information. Have you used this feature?

		Response Percent	Response Count
Yes, I set up AAA from the start		25.0%	2
Yes, I set up AAA later on		37.5%	3
No, I chose not to use AAA		0.0%	0
No, I don't need AAA		12.5%	1
I was not aware of AAA		0.0%	0
I don't know why I would need AAA		12.5%	1
I don't remember		12.5%	1
	Other (please specify)		0
answered question			8
skipped question			0

10. When did you first learn you had an MU Student email account?

		Response Percent	Response Count
When I was accepted to MU and received my username(PawPrint) and temporary password		42.9%	3
When I registered for Summer Welcome		0.0%	0
When I registered for classes for the first time		0.0%	0
When I attended Summer Welcome		57.1%	4
When I started my first class		0.0%	0
	Other (please specify)		0
		answered question	7
		skipped question	1

11. Did you know how to access your MU student email account?

		Response Percent	Response Count
Yes		42.9%	3
No		57.1%	4
		answered question	7
		skipped question	1

12. How did you know how to access your MU Student email account?

	Response Count
	7
answered question	7
skipped question	1

13. Please rate your initial experience using your student email account:

		Response Percent	Response Count
Very easy		14.3%	1
Fairly easy		42.9%	3
Average compared to other sites		14.3%	1
Somewhat confusing or difficult		0.0%	0
Very confusing or difficult		28.6%	2
Could not access my account		0.0%	0
Someone else set up my account		0.0%	0
	Other (please specify)		1
	answered question		7
	skipped question		1

14. Please describe any questions or problems you encountered while trying to use your MU Student Email account for the first time.

**Response
Count**

5

answered question

5

skipped question

3

15. What do you like most about using MU Student Email?

**Response
Count**

4

answered question

4

skipped question

4

16. What do you dislike most about using MU Student Email?

**Response
Count**

6


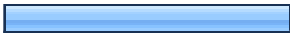

answered question

6

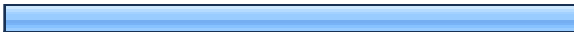

skipped question

2

17. What is your age?

		Response Percent	Response Count
10-16		0.0%	0
17-18		28.6%	2
19-20		42.9%	3
21-24		28.6%	2
25-29		0.0%	0
30-39		0.0%	0
40-49		0.0%	0
50-66		0.0%	0
65+		0.0%	0
answered question			7
skipped question			1

18. Is attending Mizzou your first experience attending college?

		Response Percent	Response Count
Yes		85.7%	6
No, I attended community college		0.0%	0
No, I took college-credit (AP) classes while in high school		14.3%	1
No, I am a returning or non-traditional student		0.0%	0
answered question			7
skipped question			1

19. Are you taking classes

		Response Percent	Response Count
on campus in the classroom		71.4%	5
as a distance-learner		0.0%	0
combination online and classroom		28.6%	2
		answered question	7
		skipped question	1

Page 1, Q3. How did you know how to access your myZou account?

1	I was given instructions in my acceptance letter.	Oct 18, 2013 7:52 PM
2	not	Oct 17, 2013 9:36 PM
3	Directions in the admissions packet.	Oct 16, 2013 9:30 PM
4	Shown by advisor during summer welcome.	Oct 15, 2013 11:43 PM
5	My dad told me	Oct 14, 2013 2:38 PM
6	The person signing me up told me how.	Oct 14, 2013 11:09 AM
7	Since I didn't know how to access my account my academic advisor told me step by step what to do.	Oct 14, 2013 10:46 AM

Page 1, Q5. Please describe any questions or problems you encountered during your initial experience using myZou:

1	why?	Oct 17, 2013 9:36 PM
2	It was difficult to navigate and if I hit the wrong button, the back button didn't work well.	Oct 15, 2013 11:43 PM
3	I didn't	Oct 14, 2013 2:38 PM
4	I had no idea, and still don't have a very good idea, of how it works or how to read it.	Oct 14, 2013 11:09 AM

Page 1, Q6. What do you like most about using myZou?

1	I like searching for classes and putting together my wish list.	Oct 15, 2013 11:43 PM
2	It's fairly straightforward	Oct 14, 2013 2:38 PM
3	Class registry is relatively easy, and I could easily figure out who my adviser was.	Oct 14, 2013 11:09 AM
4	I liked the wish list for my classes	Oct 14, 2013 10:46 AM
5	I can see my class schedule and find pretty much everything about my information at mizzou	Oct 14, 2013 10:34 AM

Page 1, Q7. What do you dislike most about using myZou?

1	The billing page doesn't come up on my phone. Also, I have to navigate a bunch of different pages to find what I'm looking for.	Oct 15, 2013 11:43 PM
2	Class registration and the website set up is inefficient	Oct 14, 2013 2:38 PM
3	It's not user friendly and can be very confusing to understand once you find what you need.	Oct 14, 2013 11:09 AM
4	I dislike that it timed out after 30mi	Oct 14, 2013 10:46 AM
5	it can be hard to find specific things sometimes	Oct 14, 2013 10:34 AM

Page 2, Q12. How did you know how to access your MU Student email account?

1	Can't really remember. I imagine something on a welcome guide told me to set it up.	Oct 18, 2013 7:55 PM
2	didn't	Oct 17, 2013 9:37 PM
3	I was told by a letter in the mail	Oct 16, 2013 9:31 PM
4	I talked to IT when I bought my computer.	Oct 15, 2013 11:45 PM
5	After I called a few of my friends already at MU and they helped me out.	Oct 14, 2013 11:19 AM
6	I have accessed other email accounts	Oct 14, 2013 10:56 AM
7	looked it up on google	Oct 14, 2013 10:36 AM

Page 2, Q13. Please rate your initial experience using your student email account:

1	I had an issue with my email being with the S&T domain, didn't know how to fix it until much later.	Oct 18, 2013 7:55 PM
---	---	----------------------

Page 2, Q14. Please describe any questions or problems you encountered while trying to use your MU Student Email account for the first time.

1	I had an issue with my email being with the S&T domain, didn't know how to fix it in MyZou until much later, I had to end up calling tech support.	Oct 18, 2013 7:55 PM
2	N/a	Oct 15, 2013 11:45 PM
3	My pawprint didn't work for a few weeks.	Oct 14, 2013 11:19 AM
4	I was confused about whether or not to use hotmail and I don't like the new email account called office 365	Oct 14, 2013 10:56 AM
5	where to find it online, how to find where to log in.	Oct 14, 2013 10:36 AM


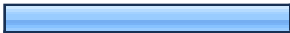

Page 2, Q15. What do you like most about using MU Student Email?

1	Theres a lot of storage and I can personalize my signature.	Oct 15, 2013 11:45 PM
2	It's convenient to use, and is an easy account for professional use.	Oct 14, 2013 11:19 AM
3	I can go to hotmail instead of mu student email	Oct 14, 2013 10:56 AM
4	I can get a lot of information and communicate easily with professors/other students	Oct 14, 2013 10:36 AM

Page 2, Q16. What do you dislike most about using MU Student Email?

1	I really dislike Outlook...a lot. It seems hard to navigate and to find commands I want to use (i.e. Mark all as read.) The way the sorting automatically sets up is not clear.	Oct 18, 2013 7:55 PM
2	not Gmail	Oct 17, 2013 9:37 PM
3	The messages don't stay on my phone after about a week. I have to search the archive for them.	Oct 15, 2013 11:45 PM
4	I don't like how you can't have more than one email signature, or how difficult it is to connect devices like mobile phones and iPads to your email.	Oct 14, 2013 11:19 AM
5	I like eveything	Oct 14, 2013 10:56 AM
6	its hard to get a mobile version that shows you your unread emails	Oct 14, 2013 10:36 AM

1. Do most incoming freshman know what myZou is for and how to access it?





		Response Percent	Response Count
Yes, for the most part		28.6%	2
No, not in general		42.9%	3
It's about 50-50		28.6%	2

Comments: 1

answered question 7

skipped question 0

2. Did most incoming freshman know their myZou password?

		Response Percent	Response Count
Yes, for the most part		14.3%	1
Yes, but they had it written down		42.9%	3
No, not in general		28.6%	2
It's about 50-50		14.3%	1

Comments: 1

answered question 7

skipped question 0

3. Do most incoming freshman have the basic steps in myZou completed (Emergency Mass Notification, FERPA, etc?)

		Response Percent	Response Count
Yes, for the most part		0.0%	0
No, not in general		71.4%	5
It's about 50-50		28.6%	2
Comments:			0
answered question			7
skipped question			0

4. Did most incoming freshman set up myZou for themselves, or did a parent do it for them?

		Response Percent	Response Count
Yes, they set it up themselves for the most part		0.0%	0
No, not in general		57.1%	4
It's about 50-50		0.0%	0
I don't really know		42.9%	3
Comments:			0
answered question			7
skipped question			0

5. Please relate any particular incidents or stories about a student trying to use myZou. It can be insightful, provide an example of how myZou can be improved, a personal experience or just a funny story.

	Response Count
	2
answered question	2
skipped question	5

6. Do most incoming freshman know they have a MU Student Email account and how to access it?

		Response Percent	Response Count
Yes, for the most part		42.9%	3
No, not in general		42.9%	3
It's about 50-50		14.3%	1
	Comments:		2
	answered question		7
	skipped question		0




7. Did most incoming freshman have their MU Student Email account setup completed?

		Response Percent	Response Count
Yes, for the most part		0.0%	0
No, not in general		100.0%	7
It's about 50-50		0.0%	0
Comments:			0
answered question			7
skipped question			0

8. Did most incoming freshman set up their MU Student Email account for themselves, or did a parent do it for them?

		Response Percent	Response Count
Yes, they set it up themselves for the most part		14.3%	1
No, not in general		57.1%	4
It's about 50-50		28.6%	2
I don't really know		0.0%	0
Comments:			2
answered question			7
skipped question			0

9. Did most incoming freshman know their MU Student Email account password?

		Response Percent	Response Count
Yes, for the most part		0.0%	0
Yes, but they had it written down		14.3%	1
No, not in general		71.4%	5
It's about 50-50		14.3%	1

Comments: 1

answered question 7

skipped question 0

10. Please relate any particular incidents or stories about a student trying to use their MU Student Email account. It can be insightful, provide an example of how email can be improved, a personal experience or just a funny story.

	Response Count
	0
answered question	0
skipped question	7

11. Please share any Summer Welcome story you have: funny, freaky, frightening or fiendish - please TELL ALL!

	Response Count
	0
answered question	0
skipped question	7

Page 1, Q1. Do most incoming freshman know what myZou is for and how to access it?

- | | | |
|---|--|----------------------|
| 1 | They know what it is and how to access it, but not the nuances of what it is for. I doubt many know you register for classes, pay bills, accept scholarships, etc, through it. | Oct 17, 2013 8:51 PM |
|---|--|----------------------|

Page 1, Q2. Did most incoming freshman know their myZou password?

- | | | |
|---|--|----------------------|
| 1 | 30% know their password, 50% have it written down or their parents know it, 20% don't have a clue what it is/could be. | Oct 17, 2013 8:51 PM |
|---|--|----------------------|

Page 1, Q5. Please relate any particular incidents or stories about a student trying to use myZou. It can be insightful, provide an example of how myZou can be improved, a personal experience or just a funny story.

- | | | |
|---|---|-----------------------|
| 1 | Mom did not want to tell the son his own password. Finally she did and then we changed it to something she didn't know. | Oct 18, 2013 11:21 PM |
| 2 | Sometimes there'd be students who just didn't have a clue. I tried to get a girl to be able to reset her MyZou and email passwords and she didn't know any of the information. After three trips back and forth with her mom, we were able to get enough information to reset her MyZou password, only to have her forget it when trying to recover the initial password for her student email. | Oct 17, 2013 8:51 PM |

Page 2, Q6. Do most incoming freshman know they have a MU Student Email account and how to access it?

- | | | |
|---|---|----------------------|
| 1 | Most of them knew they had MU Student Email but never access it before summer welcom | Oct 18, 2013 4:25 PM |
| 2 | Again, there would be students who already had it completely set up and then students who didn't know it existed and struggle to set it up. | Oct 17, 2013 8:58 PM |

Page 2, Q8. Did most incoming freshman set up their MU Student Email account for themselves, or did a parent do it for them?

- | | | |
|---|--|----------------------|
| 1 | I guess about 50% of the freshmen who had their emails set up before summer welcome were done by their parents. I say this because these parents knew the passwords. | Oct 18, 2013 4:25 PM |
| 2 | Of the few that did have it fully set up... | Oct 17, 2013 8:58 PM |

Page 2, Q9. Did most incoming freshman know their MU Student Email account password?

1 If they had it fully set up, they likely knew their password. Otherwise, no.

Oct 17, 2013 8:58 PM

Appendix C – User Observation Form

Tester Observations for Student Technology Wizard

Participant 1

User Profile

Age	
Gender	
Internet Experience	
Year in School	
Date of Test	
Platform/Browser	

Observation Form

	Time spent to complete	Difficulty to complete	Errors to complete
Set permanent password in myZou			
Establish Additional Authorized Access.			
Accept FERPA.			

Difficulty Rating: 1=Easy 2=OK 3= Difficult

Additional Statements from Testers

Appendix D – Usability Test Form

Usability Testing for Student Technology Wizard

Participant 1

User Profile

Age	
Gender	
Internet Experience	
Year in School	
Date of Test	
Platform/Browser	

Usability Form

	Strongly Agree		Neutral		Strongly Disagree
I think the tool was easy to use and navigate.	5	4	3	2	1
I was not overwhelmed by the complexity of the tool.	5	4	3	2	1
The tool performed the way I expected.	5	4	3	2	1
I found it easy to determine my location in the tool.	5	4	3	2	1
All interaction elements worked as expected.	5	4	3	2	1
I thought the visual design was pleasing.	5	4	3	2	1
The content was easy to understand and aligned with the purpose of the tool.	5	4	3	2	1
My overall experience with the tool was very good.	5	4	3	2	1

Appendix E – Evaluation Interview

1. **Is the application easy to use and navigate?**
Yes
2. **Does the application sufficiently simplify the setup processes?**
Yes, click next and it goes. I like that you click next on the right and the left side goes with it.
3. **Does the interaction fit students' mental models?**
Do they have a mental model? The app is so straightforward that it doesn't have to follow a particular model. Or, the simplicity of the app allows it to fit any model.
4. **Is the visual design appealing?**
Yes, very Mizzou-y.
5. **Does the application perform as expected?**
Yes, does what it needs to do.
6. **Will students understand the purpose of the application?**
I don't think so, but it doesn't matter. All they need to do is complete the process. It doesn't require understanding, just doing.
7. **Will students easily be able to identify what step they are on and how close they are to completing setup?**
Yes, nice map at the top.
8. **Is the content relevant and written clearly?**
Yes, very.
9. **Will students like using the application?**
Like? No, but that doesn't matter because that's not the purpose. It isn't meant to be a game. They aren't going to want to play again.
10. **What factors are not currently addressed by the application but should be?**
Needs to explicitly say what FERPA is and that they don't have to give parents access. It seems like a required step and it isn't.
11. **Assuming the link to this application were included in the letter of acceptance to incoming students, would this tool be a sufficient introduction to myZou and student email?**
It isn't an introduction. It gets it set up with all the requirements. Yes it does what it designed to do efficiently. But it isn't a tutorial, nor is it meant to be.
12. **In what situation(s) would a student likely still require help from IT during myZou and email account setup?**
Mailbox moves or if they lost the application letter with their PawPrint temp password.
13. **Do you foresee any problems the student would encounter using the tool?**
Giving their parents access (AAA) when they didn't mean to. That's not an issue with the tool; it's an issue with life.
14. **How does Summer Welcome IT staff feel about the application?**
I can only speak for myself. I think it will be very useful. It will help resolve the need that we are creating for helicopter parents. It helps the students set up the tools they need to succeed at the University.
15. **Does the application address the major problems IT staff help incoming students with during Summer Welcome?**
Yes, with the exception of mailbox moves, which are always a special deal. There's no good business process to deal with them. An app can't fix that.
16. **Will the app help address the problems you see when you work with the kids?**
Yes. It makes it so even the most-procrastinating, non-tech kid can be lead through the whole process. It's *Mizzou Tech for Dummies*; just what they need. This whole thing will make it so much easier! Digging through PeopleSoft (myZou) is a terrible pain.

The app is really easy to use. Very spiffy. The kids get so overwhelmed by the amount of info they have to take in during the application process and during Summer Welcome, that they will really welcome an easy process like this. This (account setups) isn't the stuff they should *have* to think about. It should just be easy. We are here to help support them in their education, not challenge them technically!