**Assignment #5: Usability Evaluation**

Group 6

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# Description of Interface

MyUTK (myutk.utk.edu) is a website at the University of Tennessee, Knoxville (UTK) that provides students access to information about college careers and grades. The system facilitates many student needs in one place, with the major purposes being registering for classes, accessing financial aid information, and accessing collegiate progress. MyUTK provides many links to several systems that UTK uses to facilitate these actions.

# Evaluation of Interface

**— James McKoin —**

**Registering for Classes (1/4):**

I rated this feature a 1 on Nielsen’s severity scale because I struggled to find specific heuristics that justified giving this feature a higher score. The visibility of the registration eligibility is immediately visible as soon as you log into myUTK, and a link to search/register/drop for classes is also visible in the “Top Links” section when the website is opened. The terminology used throughout the process is to add/drop courses and confirm registration status, so that there is a match between the system and the real world. The user control and freedom are apparent by a large arrow pointing backwards within the system that allows the user to go back to the previous step throughout the entire process, if something was selected incorrectly. If you choose a term that the registration window has already closed a “Term not eligible for registration” message will prompt. Also, if you try to register for a semester that the window for registration is still open for, but the student isn’t eligible to register for other reasons, this also will be displayed. This solidly addresses error prevention that is necessary for a proper system. Every selection throughout the process is displayed in the sequential portion of the process to register for classes. I did find some issues with aesthetic and minimalist design with this feature, because there is some information that isn’t necessary throughout the process of registering for courses. There isn’t a reason for being able to select terms that students can’t register for classes in regardless of the student’s registration eligibility. The system does a good job of describing errors and allowing students to recover from errors. The system will inform you of what is preventing you from being able to register for classes and if you register for classes that have scheduling conflicts.

**Financial Aid Information (2/4):**

This feature is functional and there are plenty of heuristics that justify a successful implementation, but I think there are a few things that could greatly improve this feature's use. The visibility of the system status has been implemented well, because there is a “My financial Information” that is displayed on the homepage of the myUTK website as well as a “Pay Fees/Account Balances” link included in the “Top Links” section of the website. The student account balance, VolCard balance, and award status of services student accounts readably available at a glance on the home page. This feature does a good job of prompting users with confirmation options before committing to any sort of purchasing action. If you try to add money to your VolCard account, pay fees and tuition, or accept any sort of financial award offer, the system will ask you to confirm this action. There isn’t this level of security around less consequential actions like checking account balances or account statements, so error prevention has been done well. However, this feature does leave something to be desired when it comes to aesthetic and minimalist design. It does a pretty good job of limiting the financial information to the pertinent details, but the problem is the abundance of financial information in one place. I would potentially limit the less frequently used/checked aspects of the financial information in other areas to emphasize the more frequently checked aspects of students’ financial information (I.e. the student and VolCard account balances.

**Collegiate Progress (DARS and uTrack) (3/4):**

I found this feature to have some major usability problems that should be given high priority to address these issues. The myUTK system for degree tracking (DARS) is severely lacking when it comes to visibility of system status. There aren’t any immediate indicators that reflect the current status of degree completion. There is an indicator next to various degree requirements that reflect their general status like complete, in progress, and unfulfilled by a green check mark, a blue box with three white dots, and a red box with a white “x” respectively. However, this doesn’t represent a holistic account of much progress a student has made towards the degree they are pursuing. There are also some pretty severe issues when it comes to flexibility and efficiency of use with this feature. There isn’t any implementation of accelerators for an expert user. Even expert users will have to submit reports for the same degree nearly every time they want to track their degree completion progress, even if they haven’t changed their degree for years. The lack of being able to tailor frequent user actions, and the how buried this feature is within the website, even though it serves such a vital function for every student is what led me to give this feature a 3 out or 4 on the Nielsen’s severity rating scale.

**— Alexandra McFall —**

**Registering for Classes (3/4):**

I rated this feature as a major usability problem because of how there is more than one link that are named similarly and seem to lead to the same thing, yet do not. One link is titled “Search for Classes”, and the other is titled “Add/Drop Classes”. The first link will lead students to simply look at classes, while the second link will lead students to actually register for classes. These same exact links also show up in a dropdown menu at the top, when the user selects “My Resources”. I believe that this feature has a major usability problem because the similarly named links can lead to confusion among users, and will not allow the students to recognize the function from the way it is named. This means that the students will have to remember, or recall, from previous experience with this feature. I also think of this problem as a major one because the two links may cause users to think that they have the same functions.

**Financial Aid Information (3/4):**

I rated this feature as a major usability problem because the placement of it was not where a user would expect it. There was a section titled “My Financial Information”, but when looking specifically for financial aid information, there was no way to find it. The only way to look for information on financial aid information was to go to the menu at the top of the home page, open the dropdown menu for “Campus Services”, and go to “Office of Financial Aid”. This method may confuse users because they may expect this feature to be in the “My Financial Information” section on the home page. I say that this feature has a major usability problem mainly for how the user has to recall from personal experience where the feature is in order to use it, whereas those that are looking for it for the first time may find it difficult because of how it is not in the place where it is expected.

**Collegiate Progress (DARS and uTrack) (2/4):**

I rated this feature as a minor usability problem because of how it is placed where a user may possibly expect it, but it may not be entirely obvious to newer users. A user can find this feature in the top menu, in the dropdown menu for “My Resources”, and can be found in “DARS and uTrack”. This is likely one of the first options that a user looks at in the top menu because it is on the very left side of it. There may be a better position for it, but it is still somewhat easy to find because the name of the feature is very straightforward with what it has.I consider the problem in this feature to be minor because while the user may need to recall where it is, it is also easy to find because the title of the feature leave no room for any other interpretation.

**— Makayla Lerner —**

**Registering for Classes (3/4):**

One major issue I see here is consistency and standards. Links are often renamed and many features are repeated throughout different links but can yield different results. First, in order to register for classes, a user can navigate from the “Top Links” section and click either “Add/Drop Classes” or “Search for Classes”, having these two separate links lead the user to the same page is redundant and confusing. Upon reaching the “Registration” page, which is a different term than before, the user is presented with several options. However, several of these options have the same feature, such as “Browse Classes” and “Browse Course Catalog”. Clicking either of these will take the user to a “Select a Term” section that is mostly blank and has unreadable text without formatting above the search box. The user is only able to register for classes through the “Register for Classes” section. There are three additional options, “Plan Ahead” which allows users to view the course timetable and create a plan, “Prepare for Registration”, which allows the user to see their class standing and registration status, and “View Registration Information” which allows students to see grades and past schedules, which are already featured in other parts of the system. As is, the system permits errors for users while scheduling or browsing classes, as they can become easily confused by all of the information provided. While several icons are present, they are vaguely indicative of the task the link provides, so the signifiers are not helpful here. Finally, the response from the links is minimal. There is a cursor change, but the links do not change in appearance and the only difference between a link and static text is an underline. The affordance of this page is very low. On the severity scale, I give this a 3, indicating that it is important to fix, but since the system is already released and students have figured out how to use it, and documentation is easy to find, I would not consider it a catastrophe.

**Financial Aid Information (4/4):**

Financial Information can be accessed by students in several different ways. On the dashboard, there is a small summary section that tells the user if there is a balance due on their account, the balance for their VolCard account, the balance for their Flex account (dining plan) and a link for financial aid that is accessed through the button next to the words. All of the aspects have buttons next to them that relate to the respective aspect. However, I feel that there is a consistency and standards issue here, as labels are not specific enough to indicate what these balances are showing. There are separate systems linked here for all of these aspects, clicking “view/pay fees” next to Balance takes the user to UT’s Billing Center, clicking “add funds” next to VolCard Account and Dining Plan takes the user to the VolCard office site, where they must log in once more, clicking “accept award offer” next to Financial Aid takes the user to the Financial Aid dashboard through Banner, and clicking the “TN Hope, SAP, & Requirements” button takes the user to several tables detailing past financial aid awards, satisfactory academic progress, and an “Outstanding Requirements” section. These sections are nonspecific and require the user to have prior knowledge of a specific scholarship and its requirements, which not all students receive. I believe that the use of separate systems for all of these functions easily confuses the user and there are few signifiers on the pages to help the user figure out what links lead them to which tasks. I give this feature a 4 on the severity scale as it is an imperative aspect of the system and easily leads users astray by utilizing several different systems. Users can become easily confused and make several errors which can impact their ability to register for classes or pay for food.

**Collegiate Progress (DARS and uTrack) (2/4):**

The DARS system is accessed through a drop down menu called “My Resources” and allows users to view progress on a declared degree program and run audits to see what would happen if a major or minor was changed or added. The DARS report is text heavy but uses several relevant signifiers to indicate progress, a green check mark means complete, a red X means not complete, and three dots in a blue box indicate progress. These symbols and colors are commonly used and make it easy to identify the status of the requirements for the degree program. uTrack is an automatic system that uses specific milestones to track progress on a degree program, but not all programs use it. If a student is considered off-track by this system, they will be hindered from registering for classes until they meet with their advisor. I believe this is useful for students. The main issue is an over complication of the page with extra information that should be separate. On the severity scale, I rate this feature a 2, as it is useful as is, but is not the most prominent issue.

**— Calder Novak —**

**Registering for Classes (3/4):**

The biggest issue with the class registration system on myUTK is how many different links and pages a user has to go through in order to actually register for classes. First, one must log into myUTK, find the “Add/Drop Classes” link, click “Register for Classes,” and finally select a term in order to actually choose classes. This is a needlessly complicated process that greatly hinders the efficiency and visibility of this system. First-time users may click “Add/Drop Classes” expecting to add or drop classes, but instead they are given six different links to choose between on the next page, such as “Plan Ahead,” or “Prepare for Registration”. Not only are these links rarely used, but they also include a poor implementation of signifiers, with a simple calendar representing the main page for registering for classes, and various other icons like a clipboard and a file folder that do not add to the visibility of the system. The system as a whole also lacks accelerators that allow advanced users to find the page more quickly, which adds to frustration of users who have accessed the site dozens of times and still have to go through the same process. Because registering for classes is one of the main reasons that users visit myUTK, I believe that this issue is a major one that would land at a 3 on Nielsen’s severity scale. It is not completely unusable in its current state, but it is a significant problem that greatly hinders the user experience of the system.

**Financial Aid Information (2/4):**

Checking financial aid information was the other most commonly used feature of myUTK by all of the students that were observed. I believe this system is handled slightly better than the other key features because most of the necessary information is displayed clearly on the main page of myUTK. However, this information could be presented to the user much more clearly. Right now it is tucked under other parts of the site such as the “Top Links” and “Messages” sections, which contributes to the problem of the entire site needing a more minimalist design. There is too much information that clogs space on the page and takes away from the visibility of the most important information and services. The users that participated in my contextual inquiry both stated that they instinctually scrolled down to the financial information almost every time they visited myUTK. This helps to show that the site holds a large amount of unnecessary information that could be redesigned to facilitate efficient use. Another problem with the financial information system is the lack of consistency. There are many different ways to find the same pages that can feel overwhelming to users and lead to confusion about which page is actually needed, taking away from user satisfaction and efficiency. Overall, I would rate the financial aid system a 2 on Nielsen’s severity scale because it could be improved to improve user experience, but still shows most of the important information without too much required of the user.

**Collegiate Progress (Dars/uTrack) (3/4):**

The Dars/uTrack system is one that was not used as frequently as financial and registration systems, but still has major design issues that hinder the experience of students trying to see their progress. It is similar to the registration system in that it has major visibility issues and is buried under confusing menus and links. Even just finding the uTrack page can be difficult, since it is not clearly displayed on the main page but rather accessed through the menu bar at the top. Such an important part of myUTK that almost all students have to use should not be hidden inside a long list of other, much more rarely used links. An issue with the actual DARS system itself is the lack of feedback that the user gets while requesting an audit. There is very little confirmation showing that the audit was successful, only a simple message at the top saying “Completed audit requests:” If this information were presented easily and plainly on the myUTK homepage, it would be much easier for users to find out their progress with little confusion and less time spent. Even though DARS is less frequently used than financial information and registration, this is still an important service whose efficiency is greatly hindered by its design. I think this issue ranks at a 3 on Nielsen’s severity scale, because it is still functional for users who know exactly what to do. However, it causes major confusion for new users and could be much clearer and more efficient if it were implemented more effectively onto the homepage of myUTK.

**— Matthew Tarnoff —**

**Class Registration (2/4):**

In this part of the product, Class Registration Services tended to be on the better side of usability. While the product’s parts included several different formats of registration, most of the issues regarding this section of the system were based on organization, formatting, abundance of options, lack of assistance, and lack of initial recognition and knowledge. The biggest issue is that of recognizing and fixing errors. This mainly includes the lack of follow-up in the event of either not having a class to attend, having one of several errors (Including registration, advising, and prerequisite holds), and being unable to register for certain classes. However, that does not excuse the fact that there are several sections of the site and system for this aspect of the product that are difficult to understand. This includes, but is not limited to error messages being displayed in easy to miss places, visual user interface issues regarding displaying class specifics and information, a student’s schedule, and their class application confirmation, and further confusion regarding how to fully manipulate and control said interface to achieve several goals efficiently, effectively, and satisfactorily. While this system and its usability issues are important and should be eventually confronted, users can easily find out how to manipulate the system to a satisfactory degree through learning with another user who already knows how to utilize the system.

**Financial Aid Information (2/4):**

This section of the system proved to be more confusing than unusable, but still provided an issue. Overall, this section revolves around the heuristics of consistency and minimalistic design. I will admit that I may have an inaccurate view due to my lack of financial aid, but there are still some minor usability problems that should be addressed. In general, the financial aid problems stem from over informing users instantly with long announcements, most of which is unnecessary for users who are looking to simply find the uses, functions, and goals that users want to complete. Additionally, there were several issues stemming from a lack of congruency concerning the financial aid’s sections User Interface. In this overload of information and lack of consistency, several points of user frustration and confusion could occur.

**Collegiate Progress (3/4):**

This section of the product served to be the one with the largest amounts of issues. Similar but more extreme than the financial aid page, these issues mainly stem from consistency, minimalist and efficient design, and feedback. Once again, however, due to my major, some of the finer details regarding this topic may have escaped me, as my DARS and UTrack are minimal and have no extensions. Regarding consistency, there are once again incongruencies with this specific section and its user interface in accordance with the rest of the system and its offshoots. On the topic of design, there is still a numerous amount of extra steps, information, interactable objects, etc. within the design that confuse users. Finally, there is little to no feedback regarding the system's status, your requested tasks, and confirmation of said tasks. This consistent lack of information proved to be more confusing than all of the other main sections described.

**— Group Evaluation —**

**Class Registration Average Rating: 2/4**

The major usability problem we all noticed is consistency and standards. We noticed that several functions are provided to the user by multiple names instead of just one name. The signifiers are not helpful for the user to understand the function of links and links do not interact with the user when clicked.

**Financial Aid Information Rating: 3/4**

This feature was rated, on average, as a major usability problem because of issues with recalling the information, instead of recognizing what the function is from looking at it, as well as with the consistency and standards of the website. What this means is that the methods to finding information on financial aid may not be entirely obvious to the user without prior knowledge of it. Without a clear indication of where to find this feature, the users may become confused about where to locate the information on financial aid.

**Collegiate Progress (DARS/uTrack) Rating: 3/4**

This feature had some of the most severe usability issues we noticed. It suffers from issues with consistency and standards, minimal and aesthetic design, and efficiency and flexibility of use. As is, this feature is difficult for users to navigate and understand, providing an influx of information to the user that is overly complex. It is a very useful feature, though it is not noted often as many students are unsure where to find it or how to comprehend it.

# Recommended Solutions

**Class Registration Average:**

The major usability problem we all noticed is consistency and standards. Our suggested solution would be to simplify the amount of links provided so that multiple links are not leading to the same place. This would reduce system redundancy and complexity for the user, so that there would only be one link and one signifer for each action. This would involve changing the options provided to just “Registration Information”, “Register for Classes”, and “Browse and Plan for Classes” instead of the six options currently displayed. This change would increase both efficiency and visibility for new and experienced users.

**Financial Aid Information:**

The major usability problem that we noticed for this feature involves the consistency and standards of the website, as well as having to recall information rather than simply recognizing it. One solution to this problem would be to create a section on the myUTK homepage so that the user will not have to go to a third-party website in order to access this information. The biggest issue is that, in order to locate the information for financial aid, the user has to go to a third-party website so that they can access certain types of information. In order to fix this type of problem, there needs to be sections on the myUTK homepage, for things such as financial aid information, so that users may be able to access them more easily.

**Collegiate Progress (DARS/uTrack):**

The major usability problems we noticed are efficiency and flexibility of use, minimal and aesthetic design, and consistency and standards. The solution we suggest is a redesign of this page with more signifiers, including a summary section with degree progress represented as a percentage and the number of requirements that have been met, are in progress, and have not been met. The user would be able to select which of the categories(met, in progress, not met) and a drop down menu would list the courses in each category. We also suggest integrating this aspect of the system with the home page, allowing users to access it more easily. Additionally, for users that have majors that are not in uTrack, they could be able to add their own requirements and track their progress as well. An integration between this system and registering for classes would also be beneficial for users.

# Summary

**— James McKoin —**

I thought this was an interesting thought experiment and laid the groundwork for some pretty interesting changes that could be brought to the myUTK website. I actually learned a lot more about each feature that was evaluated, and I became a lot more familiar with Nielsen’s 10 Heuristics, his severity rating scale, and Norman’s Affordance and Signifiers. I would have liked to implement some design features and do some prototyping to better visualize how/if these changes would actually bring about meaningful improvements to the system’s use. This assignment also enhanced my perspective that my experience with a given system is often, largely at least, singular to me. My classmates had some pretty different positions on how severe each usability problem was, but there was some overlap. The overlap helped us narrow down the issues that were more objective than the others and hopefully suggest some strong solutions to some of these problems.

**— Alexandra McFall —**

Before this assignment, I had never been given the chance to compare my results and perspectives with other group members, at least not to this extent, and figure out solutions to the issues that we collectively found. I enjoyed this experience because it taught me how to collaborate with the other group members so that we can understand the common issues and how to fix them together. Some of the challenges that I encountered with this assignment include evaluating the three features and the functions associated with them, as well as figuring out solutions to the common issues that we found with each feature. I had no prior experience with evaluating the heuristics of certain features of a website when completing the assignment, but I thought that it was interesting to go over what a feature needs in order for it to be suitable enough for the potential users to utilize. Overall, I found that I learned a lot about heuristics from this assignment, and how to identify whether or not a feature properly followed them.

**— Makayla Lerner —**

This assignment was interesting to me because I have had little experience with usability evaluations of sites. I felt that I use these heuristics when I open any site, but I have never sat down and identified all of the issues within a system. I feel that it is somewhat difficult to describe usability issues, but very easy to notice them. I think usability can be very dependent on emotion and prior use, so when a system triggers the wrong emotion, the user can get frustrated. I think this is the challenging part, knowing something is wrong, but not knowing what it is or how it should be. There is so much information in how a user feels, and I think that heuristics and the severity scale help researchers describe user feelings and thoughts in a useful way. As always, my team was excellent and I have had a great time working with them.

**— Calder Novak —**

Ranking key features using a severity scale and comparing them to heuristics definitely helped me to better understand precisely what is wrong with this system and what needs to be changed. Before starting, I only had a general idea of what the main issues were, but doing this assignment helped me solidify those ideas and come up with specific solutions. However, it was difficult at first to classify exactly which heuristics and affordances applied to which problems that we found with the site. I was also especially surprised at some of the variations between severity rankings that our group members gave, but we were able to easily discuss them and come to a consensus once we met for the last time. Overall I think this assignment, like the others before it, provided another useful perspective of the design process that I have not experienced yet in other information science courses.

**— Matthew Tarnoff —**

This assignment proved to be both challenging and interesting in the regard that, as a designer, I would have rarely evaluated a design this late in the process myself. However, I did excel at these evaluations due to my experiences in INSC 311, as I had well acquainted myself with several systems of heuristic evaluation and especially Don Norman’s elements and principles of design. That does not mean that this assignment held no challenges for me. Analyzing initially without a group, it made it harder to search and confirm problems that needed to be solved, and finding actual solutions without implementing them also proved to be an issue. Regardless of any issues or advantages that I encountered, I do appreciate heuristic evaluation as a critical analysis of any product, system, or design.

1. **References**

Nielsen, J. (1994, November 15). *Severity ratings for usability problems: Article by Jakob Nielsen*. Nielsen Norman Group. Retrieved May 10, 2022, from https://www.nngroup.com/articles/how-to-rate-the-severity-of-usability-problems/

Nielsen, J. (2020, November 15). *10 usability heuristics for user interface design*. Nielsen Norman Group. Retrieved May 10, 2022, from https://www.nngroup.com/articles/ten-usability-heuristics/