Heuristic Evaluation of Advisr

Problem

Advisr helps optimize classes to fit interests and multiple academic tracks and allows students to easily generate 4-year plans, helping to eliminate confusion in graduation/major requirements and reduce the time needed to construct an individually customized 4-year plan.

Violations Found

1. H4. Consistency and standards - Found By A, B (Severity 1)
When the user inputs both CS and Art History as majors, there is another circle added (total of 4) to the group of circles at the bottom of the window that track the user's progress through the setup process, making the user believe that there will be an additional step in the setup due to the particular choices they made. However, when the user goes to the next window the added circle disappears. Users may be confused by this inconsistency.

Fix: Keep the number of circles the same if the number of steps the user has left remains the same

2. H4. Consistency and standards - Found By A (Severity 1)
When viewing the "Requirements" screen the name of the logged in user changes from Jane D to Aditi P. Changes to the name of the logged in user without changing accounts will likely lead to confusion.

Fix: Keep the name of the logged in user consistent across all screens

3. H4. Consistency and standards - Found By A (Severity 1)
On the "Your One Year Plan" screen in the "Required Classes" section, "ArtHist" is not in all-caps while all other instances of "ARTHIST" on the page are in all-caps. This inconsistency may make it slightly more difficult for users to realize that they refer to the same thing.

Fix: Make all references to departments use all-caps

4. H4. Consistency and standards - Found By A (Severity 2)
On the "Your One Year Plan" screen, the calendar view shows that there is a paper due for ARTHIST 130 that is not reflected in the grey assignment/exam summary box for fall quarter, even though other quarters include papers in their respective grey assignment/exam summary boxes. This may mislead users, leading them to underestimate their quarterly workload if they do not use the calendar view.

Fix: Include all assignments and exams in grey assignment/exam summary box

5. H4. Consistency and standards - Found By A (Severity 3)

Changes made to the class schedule in the calendar view do not save and changes are not reflected on the non-calendar view. This leaves the user wondering what's going wrong and why the views show different information.

Fix: Make sure that both views show the same classes, even when changes have been made in one or the other

6. H7. Flexibility and efficiency of use - Found By A, B (Severity 2)

On the "Your One Year Plan" screen, the grey boxes summarizing assignments/exams could be improved to speed up the user's consumption of that information, such that they need only glance at it to get what they need. As it is now, the user has to read through everything and there is no clear pattern in which the information is presented.

Fix: In the grey box use two columns: the left shows final exams/papers/projects, and the right shows various assignments. Use distinguishable icons to represent each and put a number next to the icon to show how many exams/assignments there are of that particular type. To help new users, pressing on the icon can bring up a small bubble with helpful text describing what the icon represents (Ex. "Final Exams").

7. H8. Aesthetic and minimalist design - Found By A (Severity 2)

The background coloring of the "Requirements" screen is rather distracting in that it doesn't seem to match the aesthetic of the rest of the app (all other screens have a white background). The blue background with blue buttons offers little contrast between the two, making it more difficult to distinguish what can and cannot be interacted with.

Fix: Use a white background for "Requirements" screen

8. H3. User control and freedom - Found By A, C (Severity 2)

After tapping "AQR" on the "Requirements" screen, there is no way to immediately go back and view all requirements. The user must navigate to a different screen and then back to the "Requirements" screen to return to that page, which would likely be annoying for a user.

Fix: Add a back button that allows the user to return to the screen with all requirements on screens for specific requirements

9. H2. Match between system and the real world - Found By A, B (Severity 3)

The "Requirements" screen doesn't display the number of units/classes needed for each requirement anywhere. A user using this app would expect to have that information available to them (it's essential information for scheduling classes) or else it would require unnecessary research on behalf of the user to find that information.

Fix: Add number of units and number of classes needed for each unsatisfied requirement

10. H2. Match between system and the real world - Found By A, B (Severity 3)

The number of units are not displayed for recommended classes. This is important because although a class may count for a WAYS requirement, it may not be enough units to satisfy the requirement and the person may end up needing to take another class, which could be a critical error. A user scheduling classes would also generally expect to see the unit load of their classes and would be offput by not having this information integrated into the app.

Fix: Add number of units to recommended classes, warn user if they would have to take another class in addition to their selected class to satisfy a particular requirement due to insufficient units

11. H8. Aesthetic and minimalist design - Found By A (Severity 1)

On the "Your Plans" screen, "YOUR CHOICE" and "Search for classes" are red which may lead the user to initially believe that there is an error in these areas. Color is not needed here and distracts/detracts meaning from the other colors on the screen that associate classes with the requirements they full.

Fix: Change "YOUR CHOICE" and "Search for classes" to have white boxes

12. H8. Aesthetic and minimalist design - Found By A, B (Severity 1)

On the "Your Plans" screen, the boxes with "YOUR CHOICE" text unnecessarily draw attention away from classes actually scheduled and clutter the screen with text.

Fix: Remove the "YOUR CHOICE" text from the boxes

13. H4. Consistency and standards - Found By A (Severity 2)

Across the app, things that are the same color are associated in some way. The coloring on "Your Graduation Progress Report" screen has the text "Sophomore: Undeclared" and the "Dashboard settings" button both as blue. This leads the user to believe that there is some connection between the two, but there does not seem to be a clear connection, which may confuse the user.

Fix: Change the "Dashboard settings" button to be another color or make "Sophomore: Undeclared" text black and make it distinguished using something other than color

14. H2. Match between system and the real world - Found By A, B (Severity 1)

The grey arrow icons at the bottom of each of the bottom row of boxes of the "Your Graduation Progress Report" screen would make the user expect those boxes to expand downward in some way since the arrows point downward. However, the boxes expand to the side which would not match the user's expectations and make for a slightly awkward interaction.

Fix: Use an icon that appropriately indicates which way the boxes will expand or use another way of signifying that these boxes can be tapped on and expanded

15. H4. Consistency and standards - Found By A (Severity 3)
The "2/10 complete" for WAYS on the "Your Graduation Progress Report" screen does not match up with what's shown on the "Requirements" page. Having information be consistent across screens for a course planning app like this is critical to avoid confusion and to prevent users from making mistakes in planning, which could have serious consequences for the user.

Fix: Make sure the completion status of GERs match up across all screens in the app

16. H2. Match between system and the real world - Found By A (Severity 3)
On the "Your Graduation Progress Report" screen it states "2/10 complete" for WAYS, but in reality there are only 8 WAYS. Terminology and grouping of requirements that differ from what Stanford has defined will lead to confusion and misinterpretations.

Fix: Make sure terminology and grouping of requirements is used in such a way that aligns with what Stanford has defined.

17. H5. Error prevention - Found By A (Severity 2)
On the "Your One Year Plan" screen the user has classes scheduled such as ARTHIST 130 and ARTHIST 172, but those classes do not exist. In addition, the coloring of these classes indicate they satisfy requirements for the Art History major. These are problems that should be prevented to avoid confusion.

Fix: Do not allow users to add non-existent classes to their schedule

18. H3: User Control & Freedom - Found By B (Severity 2)
After the login flow, the user is presented the option to select one of three paths. On this screen, I noted the "X" button in the top right corner. I'm assuming this allows the user to logout and enter potentially different credentials; but it's not immediately obvious as to what this button might do.

Fix: Display a "Logout" Button instead of the "X" -- if this is meant to indicate a logout feature.

19. H2: Match Between System & World - Found By B (Severity 2)
From the tasks described in class, I know that you are intending to help students through three primary use cases: helping students choose majors, helping students select required courses, and personalizing 1 year plans. With that mind, the onboarding screen displaying the three paths "Declared", "Deciding", and "Exploring" makes sense. But from a user's point of view, the "Exploring" category might be confusing to be presented with off the bat during this onboarding workflow. Personally speaking, I think that students are either "deciding" or "declared" and that

exploration helps supplement the classes that one already knows they have to take. Using the app the for the first time, I would understand how to bin myself into the "declared" and "deciding" categories but wouldn't necessarily understand what "explore" would mean.

Fix: I think the explore functionality is critical, especially since it's one of your primary tasks but I'd "push it down" in the UI. Specifically, I'd bring it up and highlight this ability after a user has onboarded, rather than present it as an initial option.

20. H4: Consistency & Standards - Found By B (Severity 1)
This isn't a violation but rather more of a suggestion. When you traverse the onboarding process you highlight text boxes with a bunch of different background colors, i.e. red, orange, green. For consistency, you might want to pick a subset of colors to use throughout the app.

Fix: Select a subset of the colors that are currently being used to highlight user input fields

21. H2: Match Between System & World - Found By B (Severity 1)
After selecting all the profile information, the user is automatically taken to the page displaying their graduation status, etc. It may be confusing to the user as how you retrieved this information or might seem intrusive of their privacy, considering that other services affiliated with Stanford, e.g Carta, doesn't have access to this information.

Fix: The user logged in with the sudnetID, so maybe just show a brief loading screen that says "Advisr is pulling your personal information from Axxess", or something along those lines in order to keep the user posted.

22. H8: Aesthetic and Minimalist Design - Found By B, C (Severity 2)
On the dashboard page, there is a button for "Dashboard Settings". It's not immediately intuitive as to what changes one might want to make to their dashboard.

Fix: It may be useful to obscure this feature -- as right now it has a very prominent position and instead place a button there that might get more use from a typical user.

24. H7: Flexibility & Efficiency of Use - Found By B (Severity 3)
One of the key tasks you have for the product is allowing the user explore new classes they may have otherwise never considered. Right now this feature is highlighted on the front page and by entering the actual coursework plan and playing around with a student's "free slots". Being a senior using this product, I'd want to access this immediately, rather than have to dig through a menu to "explore" new classes.

Fix: Have an "explore" button or highlight his functionality on the dashboard itself.

25. H7: Flexibility & Efficiency of Use - Found By B (Severity 3)

On the page that displays the calendar for the upcoming year, it's nice that one has the ability to thumb through the classes one needs for the major, but it's somewhat of a nuisance to thumb through these classes one at time, especially if you're trying to figure out specific course load aspects for one of your majors.

Fix: Tap on the major to have a list of classes appear below the button that you can drag and drop into your schedule.

26. H10: Help Users Recognize, Diagnose, and Recover from Errors - Found By B (Severity 3)
If I'm playing with my schedule on the calendar view and accidentally hit "X" on a class I actually want, there's no immediate way to undo the change I just did on accident.

Fix: Add an "undo" button to undo the last action taken by the user.

27. H8: Aesthetic & Minimalist Design - Found By B (Severity 2)
I like the color coding and grid layout of the "1 Year Plan Page" but I am a little overwhelmed by all the things happening on the page and all the things I can click,

Fix: Maybe move the major to be adjacent to the "1 Year Plan" title to free up space. This would allow you to make the actual plan slightly larger, giving it more space to breathe. Also maybe hide away the search bar. It's a little confusing to have the search bar and the "your choice" boxes. Intuitively I'd want to click on the boxes and then have that open up a search bar that takes up the page, allowing me to scan to through a large list of search results, from which I could select a class and then have it fill the slot of the "your choice" block that I had selected.

28. H7. Flexibility and efficiency of use - Found By C (Severity 1)
In the welcome page, choosing your status, after clicking the "DECIDING", it could directly go to the next step, but I to get one more step to click the right arrow to go to the next step.

29. H6. Recognition rather than recall - Found By C (Severity 2)
In the welcome page, choosing interested areas, it could should what major I've chosen in the previous step, rather than remembering by myself. Beside, if I click the left arrow to go back to the choosing major stage and back to the choosing interest areas stage, wish it could remember what I've chosen, rather than clearing them and let me restart choosing.

30. H3. User control and freedom - Found By C (Severity 2)
It is hard to get back to the homepage. Wish there could be some one-click button
31. H3. User control and freedom - Found By C (Severity 3)
Wish the user could change majors they've chosen, i.e. have a way to modify the information inputted in the welcome pages.

32. H10. Documentation - Found By C (Severity 4)
As a user who know nothing about the undergraduate requirement system (new students using this app might have the same problem), I would appreciate this app have some introduction

page to tell me some background. For example, at most/least how many major/minor I can choose; what is GERs and how many GER courses I need in total; what are the different abbreviations in GERs-WAYs mean; how many units I need for each quarter.

33. H6. Recognition rather than recall - Found By C (Severity 2)
Wish could show some small words for new users to know what the abbreviations mean, like AQR, FR, SI, CS110, CS106, CS140.

34. H4. Consistency and standards - Found By C (Severity 2)
Most of the pages using course id, e.g. CS106X, to represent courses. But in the GERs-WAYS-AQR page, they are the course names.

35. H4. Consistency and standards - Found By C (Severity 0)
In the Requirements, we have "GERs" with "s", but "WAYS" with "S"

36. H8. Aesthetic and minimalist design - Found By C (Severity 1)
For the status name, there are "Your Plans", "Your Graduation Progress Report", "Your Course Requirements" and "Your One Year Plan". "Your"s are redundant.

37. H4. Consistency and standards - Found By C (Severity 1)
In Requirements, there is "Course". In Plans, there are "classes"

Summary of Violations

Category	# Viol. (sev 0)	# Viol. (sev 1)	# Viol. (sev 2)	# Viol. (sev 3)	# Viol. (sev 4)	# Viol. (total)
H1: Visibility of Status	0	0	0	0	0	**0**
H2: Match Sys & World	0	2	1	3	0	**6**
H3: User Control	0	0	2	2	0	**4**
H4: Consistency	1	4	3	2	0	**10**
H5: Error Prevention	0	0	1	0	0	**1**
H6: Recognition not Recall	0	0	2	0	0	**2**
H7: Efficiency of Use	0	1	1	2	0	**4**
H8: Minimalist Design	0	4	3	0	0	**7**
H9: Help Users with Errors	0	0	0	1	0	**1**
H10: Documentation	0	0	0	0	1	**1**
Total Violations by Severity	**1**	**11**	**14**	**10**	**1**	**37**
Note: check your answer for the green box by making sure the sum of the last column is equal to the sum of the last row (not including the green box)						

Evaluation Statistics

Severity / Evaluator	Evaluator A	Evaluator B	Evaluator C	Evaluator D	Evaluator E
sev. 0	0%	0 %	100%		
sev. 1	54.5%	35.7%	27%		
sev. 2	42.9%	50 %	43%		
sev. 3	50%	30 %	10%		
sev. 4	0	0 %	100%		
total (sev. 3 & 4)	45.5%	27.2%	18%		
total (all severity levels)	45.9%	37.8 %	32%		

*Note that the bottom rows are *not* calculated by adding the numbers above it.

5. Summary Recommendations

Many of the heuristic violations of the app were due to the information being inconsistent across the app. As an app that helps with course planning, where details matter, it is crucial that all information presented is accurate and remains consistent across all screens of the app. If not, the utility of the app quickly degrades and the user will likely not trust the functionality of the app. Inconsistent information also makes it difficult for users to successfully complete tasks that the app was designed for. In its current state there is also an absence of many crucial details such as units for classes and required units/number of classes for GERs that are essential to making the app useful. Before focusing on making the app innovative, the focus of the app should be implementing functionality that allows users to do most of what they can do on Axess (searching for classes, viewing unit load, viewing class descriptions, showing class conflicts, etc.) in a way that makes it easier for the user or at least as easy as it would be to do the same task on Axess. This would be a baseline expectation of functionality for users, which should be met. We also wish that Advisr provided more information for new users/students who have no background information about the undergraduate course requirement system.

However, the app does feel calming and soothing, which is exactly what you want want in a platform that helps with something as stressful as course planning. Overall, we see a lot of potential in the app and if these heuristic violations are taken care of, the app could be immensely useful. Looking forward to the Hi-Fi prototype!

Additional feedback/recommendations:

- When accessing the sidebar menu, the screen is shifted by the width of the sidebar menu, pushing a portion of the current screen off the right side, which I find to be an awkward interaction

- "Summary: November, 3 2017" is not a very important or particularly useful bit of text and does not need to be emphasized by having the 2nd largest font size on the screen. "Sophomore: Undeclared" is a more useful/informative bit of text and should be prioritized over the other bit of text
- Everything else on the screen fades out when clicking to find out more info on current major, which doesn't seem to make sense. A user would still want to be able to clearly see all other information on the screen, as it remains relevant
- It may become annoying to scroll through required classes, clicking the left and right arrows, to find a particular class. Consider a dropdown menu/list. This could work really well within the "drag-and-drop" interface you discussed last week in class.
- Wish there were quick buttons to help users navigating through different pages easily.
- There are lot of parts that only show limited numbers of courses, e.g. in the dashboard under GERs, the GER-WAYs-AQR list, and Plans on the right. We think there might need some rolling bar to fit and show more items.

Severity Ratings

0 - don't agree that this is a usability problem
1 - cosmetic problem
2 - minor usability problem
3 - major usability problem; important to fix
4 - usability catastrophe; imperative to fix

Heuristics

H1: Visibility of System Status
- Keep users informed about what is going on

H2: Match Between System & Real World
- Speak the users' language
- Follow real world conventions

H3: User Control & Freedom
- "Exits" for mistaken choices, undo, redo
- Don't force down fixed paths

H4: Consistency & Standards

H5: Error Prevention

H6: Recognition Rather Than Recall
- Make objects, actions, options, & directions visible or easily retrievable

H7: Flexibility & Efficiency of Use
- Accelerators for experts (e.g., gestures, kb shortcuts)
- Allow users to tailor frequent actions (e.g., macros)

H8: Aesthetic & Minimalist Design
- No irrelevant information in dialogues

H9: Help Users Recognize, Diagnose, & Recover from Errors
- Error messages in plain language
- Precisely indicate the problem
- Constructively suggest a solution

H10: Help & Documentation
- Easy to search
- Focused on the user's task
- List concrete steps to carry out
- Not too large