# Assignments — Week 07 | Design | Usability Heuristics

In this assignment, you will put the ten usability heuristics we learned in class into practice toward improving the usability of your Module 1 deliverable. Specifically, you will create a hi-fi prototype of your design, identify potential violations of the heuristics, make design recommendations to address these violations, and implement recommendations that are feasible in your prototype. Use this opportunity to make concrete design decisions about your Module 1 project, to improve your design using the heuristics, and to build a keen eye for identifying usability issues as a UX developer.

Step 1. Prototype your Design. In this step, you will build on the design decisions you made in the previous Design assignment and your plans for the React 3 assignment to create a hi-fi prototype of your Module 1 deliverable using Adobe XD. The prototype should represent the visual design elements and the navigation behavior of your design, although you can make any necessary simplifications due to the limitations of Adobe XD. (If you need to use a scrollable artboard for your prototype, see this page with instructions and sample files.) Provide screenshots of the main 2–3 screens of your prototype.
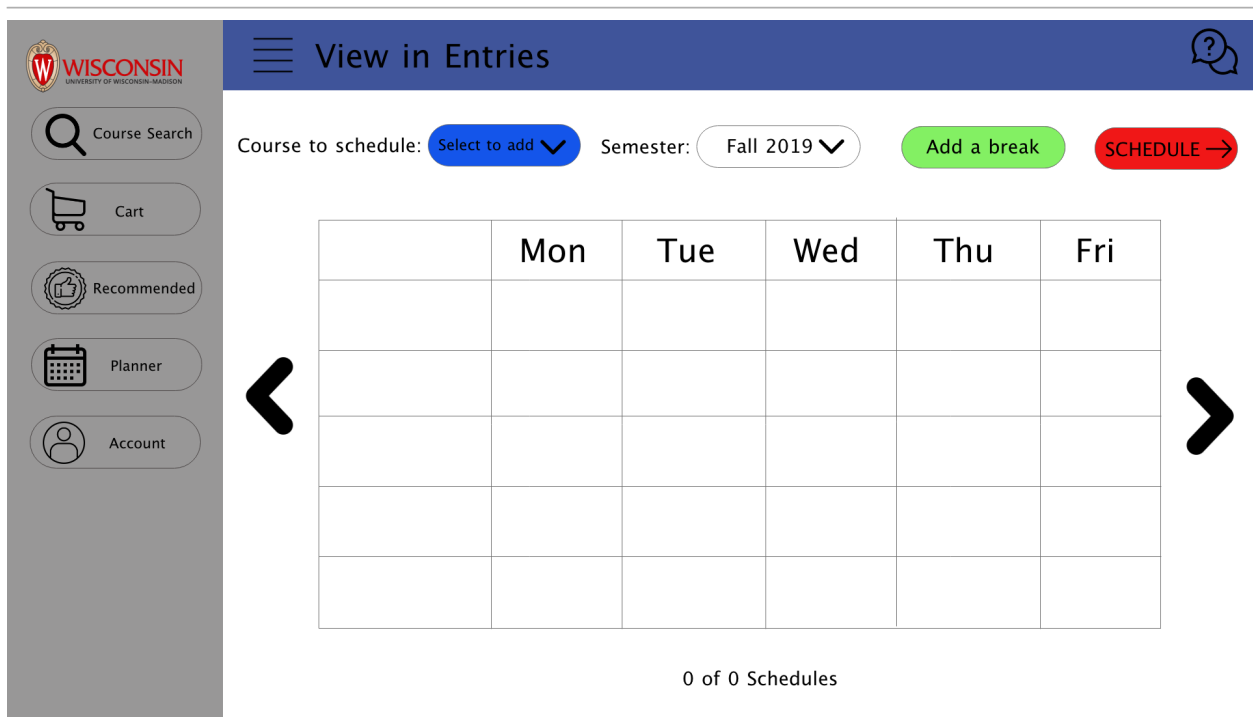
1. **This is the front page when you just enter the planner functions of course enroll and search.**

2. This is the page when you start to select the course that you want to schedule.

3. This is the page when you click the schedule which system will generate the available schedule to you.

Step 2. Review the Heuristics. Review the ten usability heuristics we discussed in class from the slides, what principle each heuristic represents, and examples of the designs that violate and support the heuristics. Below is a cheat sheet for the Nielsen's ten heuristics that you can use in the next step. (This step does not have any deliverables.)
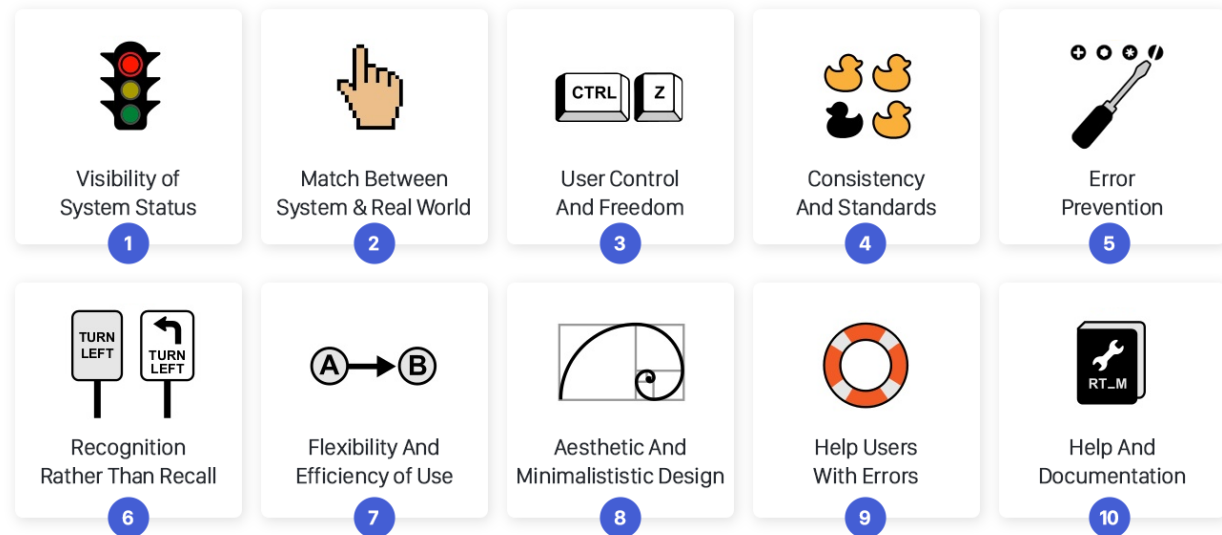

Visibility of System Status **1**	Match Between System & Real World **2**	User Control And Freedom **3**	Consistency And Standards **4**	Error Prevention **5**
Recognition Rather Than Recall **6**	Flexibility And Efficiency of Use **7**	Aesthetic And Minimalististic Design **8**	Help Users With Errors **9**	Help And Documentation **10**

Image source: UX Collective

Step 3. Identify Potential Violations. Focusing on 2–3 key design elements of your prototype, inspect your design, considering each usability heuristic, for any violations of the heuristics. For each violation, use the following table to briefly describe the violation and give it a number. Make copies of your screenshots from Step 1, focusing on the design elements you are considering in this step, and mark them with the numbers so that the reader of your report can find the location of the violation in the screenshots and read your description in the table below. Color-code the violations for severity, using red (4), orange (3), yellow (2), green (1), and gray (1) for the severity-rating scale we covered in class.

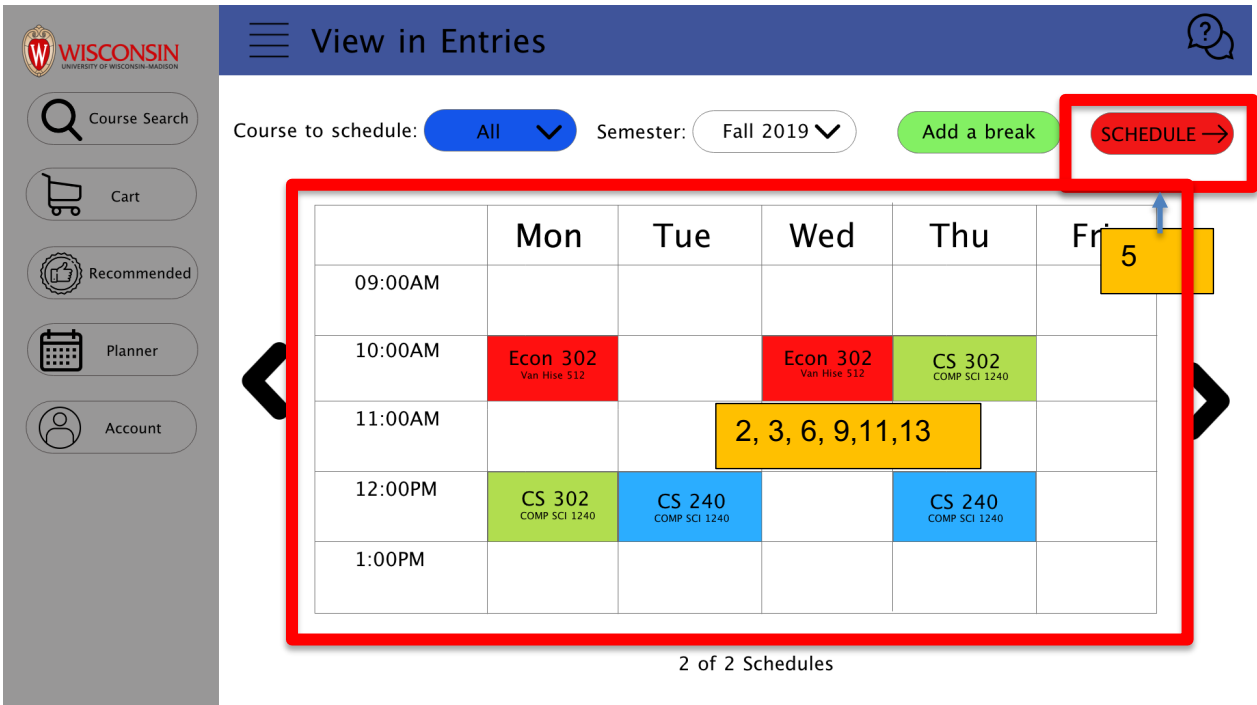| Heuristic	#	Design element 1: (Course Select Button)	#	Design element 2: (Course Viewing Table)	#	Design element 3: (Schedule Button)
Visibility of system status	1	The opacity is 0 which may hide the information for the table on the back	2	Should show the number of courses on the calendar which help user to be more informative		
Match between real world & system			3	User may want to scroll up or down to check the morning schedule or evening schedule	4	May need to change the express way that user is easy to understand instead of just showing

Heuristic	Note 1	Note 2	Note 3
		instead of viewing all time in a single table	the word "schedule"
User control & freedom			5 When users get a new schedule with new searching criteria, they don't have the option to go back the previous search schedule
Consistency & standards		6 The green color may mean a break that added by user. But in the design, it's assigned to a course color. May need to be changed.	
Error prevention	7 When user select the all option, but in the meanwhile, the user also selects the other course, it may cause a confusion to the system.		8 When the schedule generates a conflict, it should pop up a warning window to remind the user before showing the available schedule.
Recognition rather than recall		9 When user click the planner, they may want to see the course from last scheduled course	
Flexibility & efficiency of use	10 User may have a short-cut way (keyboard press) to show the drop-down menu, and check the box for the course that they want	11 User could use the keyboard press to change between different available calendar	12 User may not need to click it on the screen; instead, it can be achieved by using press some short-cut keys on keyboard.
Aesthetic & minimalist design		13 May not need to show location for each of the courses; instead the system could provide user an option to choose whether to show or not	
Help users with errors	14 If user does not have a course in cart, the selection tab for planner is meaningless. Thus, it may need to show up an error message when there's no course in cart.		15 If users have conflicts on their schedule, the system should pop-up a window which allow user to go back and resect the course they need.
Help & documentation	1 User may need to click		User may need an easy

WISCONSIN
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Course Search
Cart
Recommended
Planner
Account

View in Entries

Course to schedule: Select to add ∨   Semester: Fall 2019 ∨   Add a break   SCHEDULE →

7,10,14,16

4, 8, 12,

Mon Tue Wed Thu Fri

0 of 0 Schedules

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Course Search
Cart
Recommended
Planner
Account

View in Entries

Course to schedule :   ∨   Semester: Fall 2019 ∨   Add a break   SCHEDULE →

☑ All
☐ CS 302
☐ Econ 302
☐ CS 240

15, 17

1

Tue Wed Thu Fri

0 of 0 Schedules

Step 4. Develop Design Recommendations. For each violation you identified in the previous step, provide a design recommendation for addressing it along with an indication of whether or not it is feasible to implement the recommendation in your prototype. (Only recommendations that are beyond the capabilities of Adobe XD or beyond the scope of the project should be marked as not being feasible.) Rank the recommendations based on the severity of the usability problem, from most severe to least severe. Use the table below for the recommendations, adding additional rows as needed, and follow the same color-coding from the previous step for severity ratings.

#	Recommendation	Feasibility (Yes/No)
3	Add a scrolling function or change the size of table frame size which enables the screen to scroll	No (It possible for Adobe to perform scrolling for the whole screen, but not for certain section area)
1	Change the capacity which user could see the table in behind	Yes
4	Change the innerHTML to "find schedules"	Yes
7	Add an if statement to the script, when user select all option in the course list, all other course selection will be deselected.	No (It may involve JS in order to work)
8	It should have a warning message window to warn user that the course they select are having conflicts	Yes
14	When there's no course in the shopping cart, it should pop-up an warning or error message to remind user that there's no course in the cart since it's not possible to make a schedule.	No (but it may involve in separate storyboard

		or if statement to make it work)
2	Add a text line in the bottom which will tell the user how many courses on the calendar	Yes
5	Change the inner text for "find schedule" button to "previous search" after generating the schedule	Yes
10	Add a downward arrow for show up the drop-down list, and enter for make selection for courses	No (It will be realized throughout the code)
11	Add left arrow and right arrow for switching next and previous calendar	No (It will be realized throughout the code)
12	After selecting all the criteria, the user can press enter to generate schedule instead of clicking "get schedule" button	No (It will be realized throughout the code)
15	On the warning of conflicts page, user c	Yes
16	Add a faster link to the FAQ section for selection button	Yes
17	Add a short-cut link to the FAQ section for schedule button	Yes
6	Reserve the color of green for the break that user adds to their schedule	Yes
9	User will enter the last generated schedule when they enter the planner next time	No (needs the history data for it)
13	Add a button for showing the location or not under the schedule	Yes

Step 5. Update your Design. In this step, you will implement the design recommendations that you identified as "feasible" in the previous step in your prototype, updating your design. Provide a link to the live Adobe XD prototype below and a paragraph that summarizes the outcome of the heuristic evaluation. Reflect on how your design improved, what you learned about usability in the process of applying the heuristics, and whether you gained any unexpected insights about your design.

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https://xd.adobe.com/view/8e967ca3-d756-4aaf-6081-6674dd273064-f8a7/

After using heuristic evaluation, my design becomes more thoughtful with a better usability. Before, my design is more like a personal idea which generate by how to make the windows look pretty and comfortable. After following the steps that mentioned in the lecture about the heuristic design requirements, my prototype is revised by following the design around user behavior or usability. This is a shifting from me to others/users which is really important when design the products. Other things I notice through heuristic evaluation is that when design the products, we need to make sure user associate the current action and achieve the correct outcome which is the goal of a product or application. Thus, through using the heuristic evaluation, it will make my product become more meaningful, and design from a user's perspective. Most importantly, it will allow me

to guide the user to achieve their goal of using my product which is also the foundation of my design.