

## Assignments — Week 05 | Design | Design Paradigms

In this assignment, you will explore the use of two design paradigms—metaphorical and idiomatic design—in the context of redesigning the UW–Madison course search and enrollment system. Consider any aspect of the system, e.g., search, scheduler, and degree planner, and think about how you would redesign these systems using metaphors and idioms following the instructions provided below. The “aspect” of the system can be the high-level organization of the interface, such as the “master/detail” pattern that the panes of the course search function follow, or a smaller component, such as the “drawer” that shows course sections. As in past assignments, you will create annotated, hand-drawn or digitally created sketches/mock-ups/wireframes supported by design justifications.

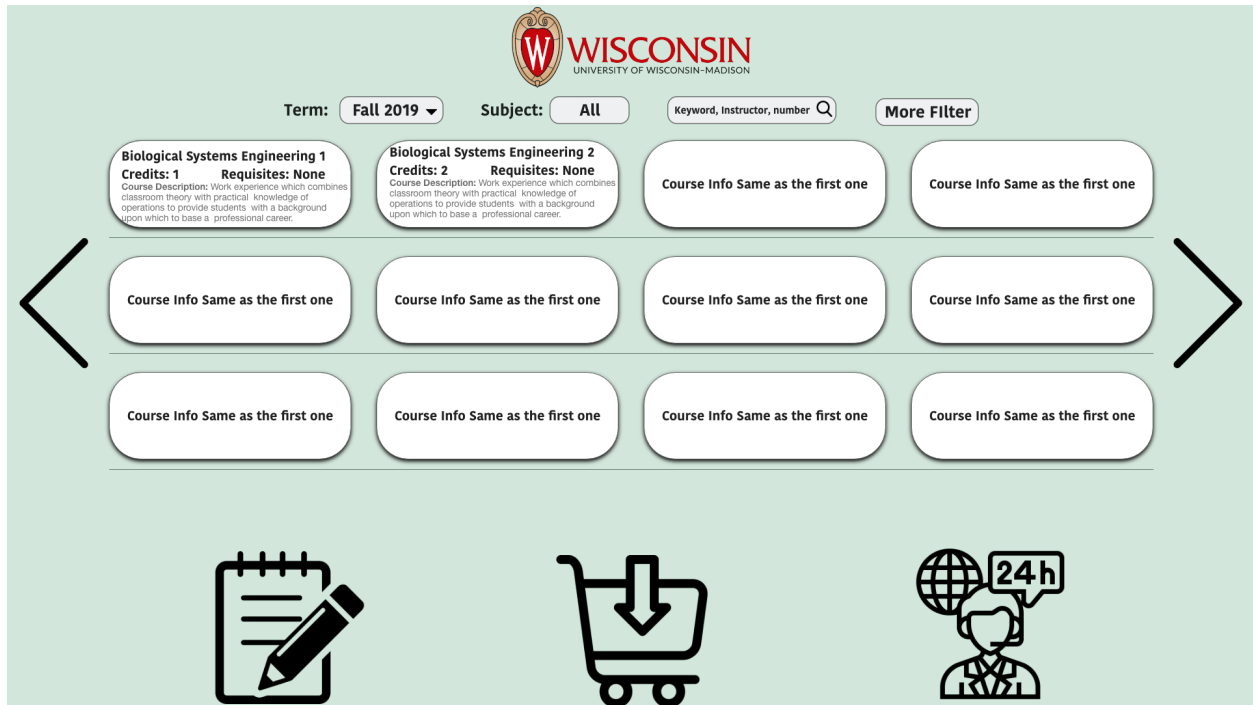
### Part 1. **Metaphors**

In this part of the assignment, you will borrow a “brick and mortar” metaphor from the real world that might serve as a good way to organize the functions provided by the system. For example, a [rolodex](#) can serve as a good metaphor for large lists, such as the list of courses; [baseball cards](#) might serve as a metaphor for information on each course; and a [weekly planner](#) can be a good metaphor for the scheduler. Follow the steps below to redesign the system function using metaphorical design:

1. **Identify the system element that you will redesign.** The element can be a major system function, such as the “scheduler,” or a minor component that supports such a function, such as the ability to add courses to a cart.
2. **Search for appropriate real-world metaphors.** Think about situations in the real *physical* world where people perform functions that are similar to what the users do with the function/ component you chose.
3. **Apply metaphor to the design element.** This step would involve creating the appropriate visual and behavioral representations for the metaphor. E.g., if you chose to represent courses as baseball cards that students will collect, what should appear on the cards, and how should students collect them? Remember to consider and define both the **appearance** and **behavior** of your metaphorical redesign.

Provide an annotated mock-up/sketch of your redesign below. Your mock-up/sketch can be in any level of fidelity, e.g., a hand-drawn conceptual design sketch or a wireframe created in Adobe XD—whichever you prefer. Take photos of hand-drawn designs and screenshots of digitally created ones. Your annotations should highlight the different components of the metaphor, including its appearance and behavior. In a brief paragraph, justify your choice of the metaphor and describe how the metaphor supports the user’s task in using the system element you chose to redesign.

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I redesign the home page of the course and enrollment system. In this new design, it follows the way of how people shopping the item in grocery store as a metaphor. Because I found finding the course that student need is similar to finding an item at a supermarket. I will divide my design into the **appearance** and **behavior** justification.

### Appearance

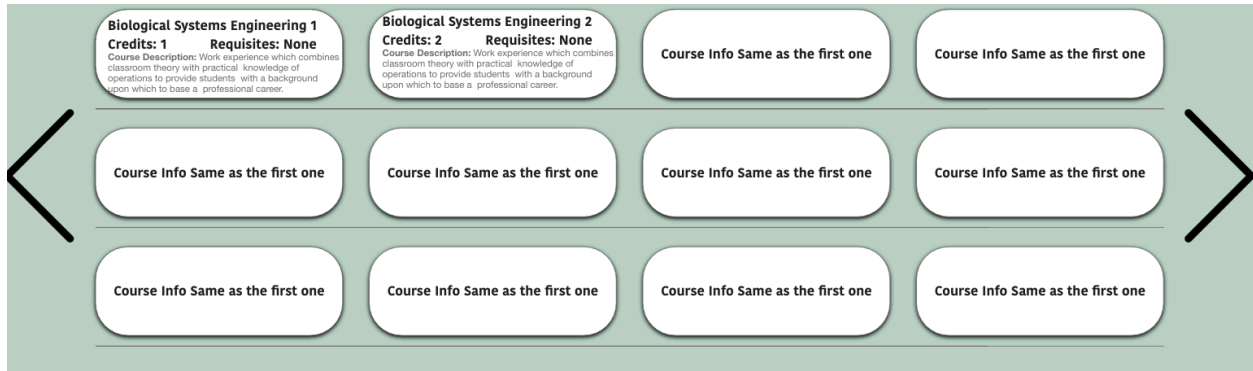
For the appearance design, the layout looks like the aisle in the grocery store which is a perfect metaphor for student find out the things they need. The university logo on top of the webpage, not only help to rebranding the university, but also could serve as a name for the “market” of course search and enrollment. It locates in the center like you entering a market.



In addition, the selection or filter list on the bottom of the logo also borrow from the grocery store metaphor. During shopping, you also could see a large identification or poster on top of each aisle showing what kind of the products are available under each section. We use the same idea here that using will use this top search bar as reference to find the “aisle” that they need to visit. Then a list of the “item” (course) will show up on the bottom



Moreover, the course section list appearance is borrowed from the “items” in shelf from supermarket. When people go shopping in store, there are many difference options to choose from. I’m using the same idea in this design. Students could see a list of the item on the “shelf”, and each of them have the “price” (credits) and description. The arrow on both sides helps you change the aisle in this course search and enrollment market.

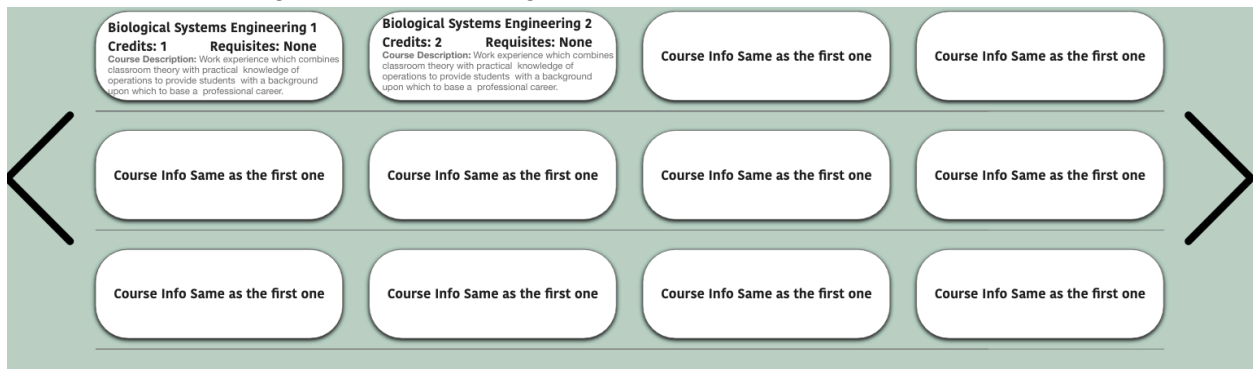


The design of the function bar underneath the course list also borrow from function and customer habit of visiting grocery store. Before visiting the grocery store, everyone may have a check list which includes the item that they want to buy. Thus, the left most icon of writing notebook borrows idea from it. This notebook serves as a check list or planner for students who can find the course that they still need to take in the future. The middle course cart uses the metaphor of shopping trolley in the grocery store. Students will know that it’s the place to have the course that they want to take. Sometimes in a grocery store, if we cannot find the things we need, we will ask for assistance from staff member. Thus, the rightmost icon is coming up by using the metaphor. When students need help, they can just click the button (more discussed on part 2).

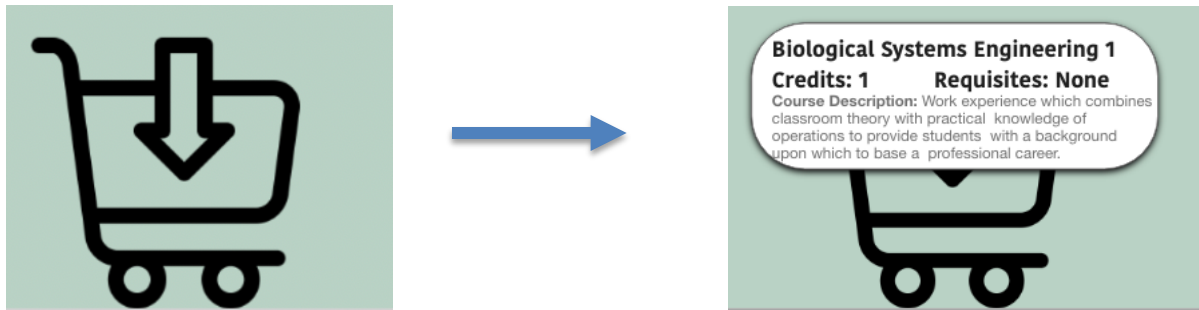


## Behavior

Scrolling behavior: Same as what people when shopping. If a student cannot find a course they need, they can change the aisle by using the arrow on both sides.



Shopping Cart: This is same as the user behavior when shopping in a market. When the students find the course that they need, they can just drag the course the shopping cart. The reason to put the course cart is that it simulates the situation when you stand on the center of supermarket and find the things you need. If you find the item, you just grab from the shelf and put into your cart. This borrows the same idea.



By combining the appearance and behavior metaphor, the new redesign of the course search and enrollment system reminds the time when shopping in a market. When user first open the app, it looks like a strong metaphor when they are shopping in a course market. The top logo reminds the students, they are locating in UW-Madison. And even the user don't know the specific functions tab, but based on the previous shopping experience and will start to get familiar with the layout and function really easily.

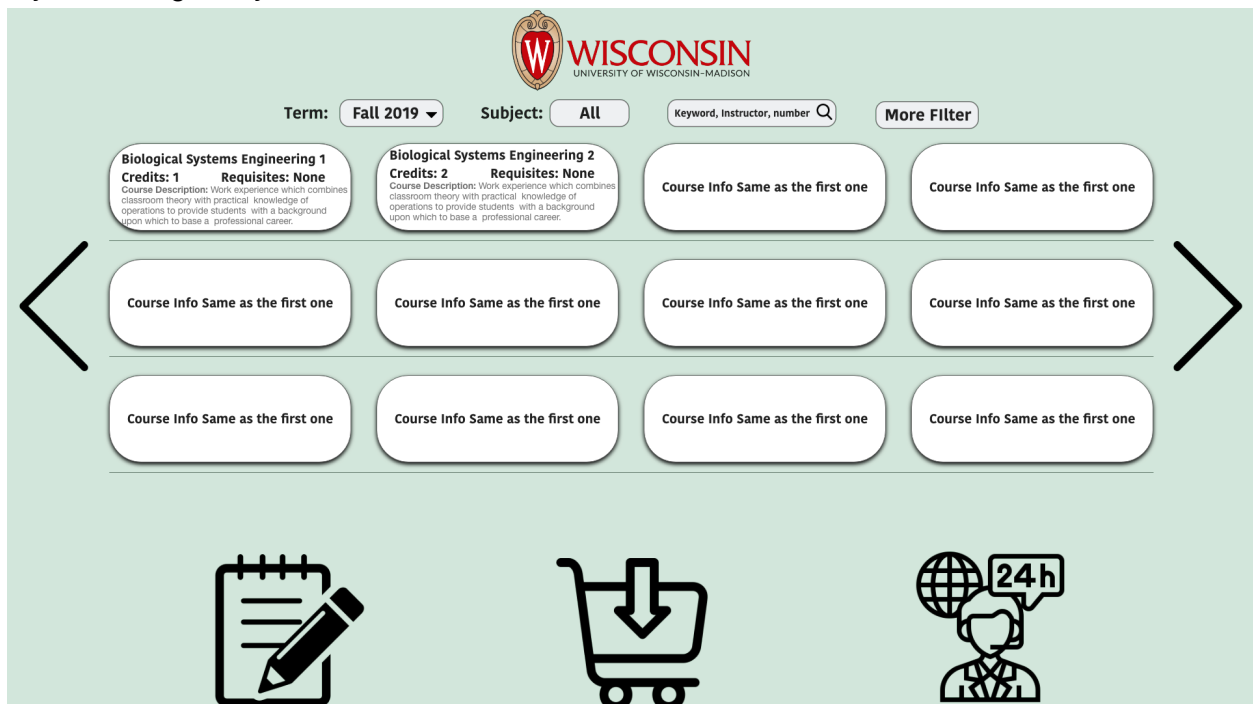
## Part 2. Idioms

In this part of the assignment, you will practice idiomatic design by redesigning either the same system element you focused on in Part 1 or a different system element. Remember that idioms are highly expressive, dedicated interaction capabilities that users might learn. To practice idiomatic design in this part of the assignment, follow the steps below:

1. **Study the element.** Inspect the element to analyze how it is visually represented and how it behaves, *i.e.*, characterize the current idiom. What is the essential function of the element? For example, if there is a “drawer” that comes out to show more information on a course selection, how does that work, and what are the visual elements that make it up?
2. **Devise an alternative structure.** Now that you understand the essential functionality of the element, can you think of alternative—and potentially more effective—idioms to support its functioning? In the example above, what might be a novel way to present the necessary information?
3. **Define the idiom.** Remember the three levels of the idiom from Cooper et al., *idioms, compounds*, and *primitives*. Describe how your idiom will work at each level. What visual elements will cue users into using them, and how will your new design behave?

To describe your idiomatic design, provide an annotated mock-up/sketch below in the same fashion as you did in Part 1. Support your sketch/mock-up with a brief paragraph that justifies your design choices and describes the elements of the idiom.

I will use the same fashion and element as I developed in part 1. The following is a screenshot of my new design for your reference.

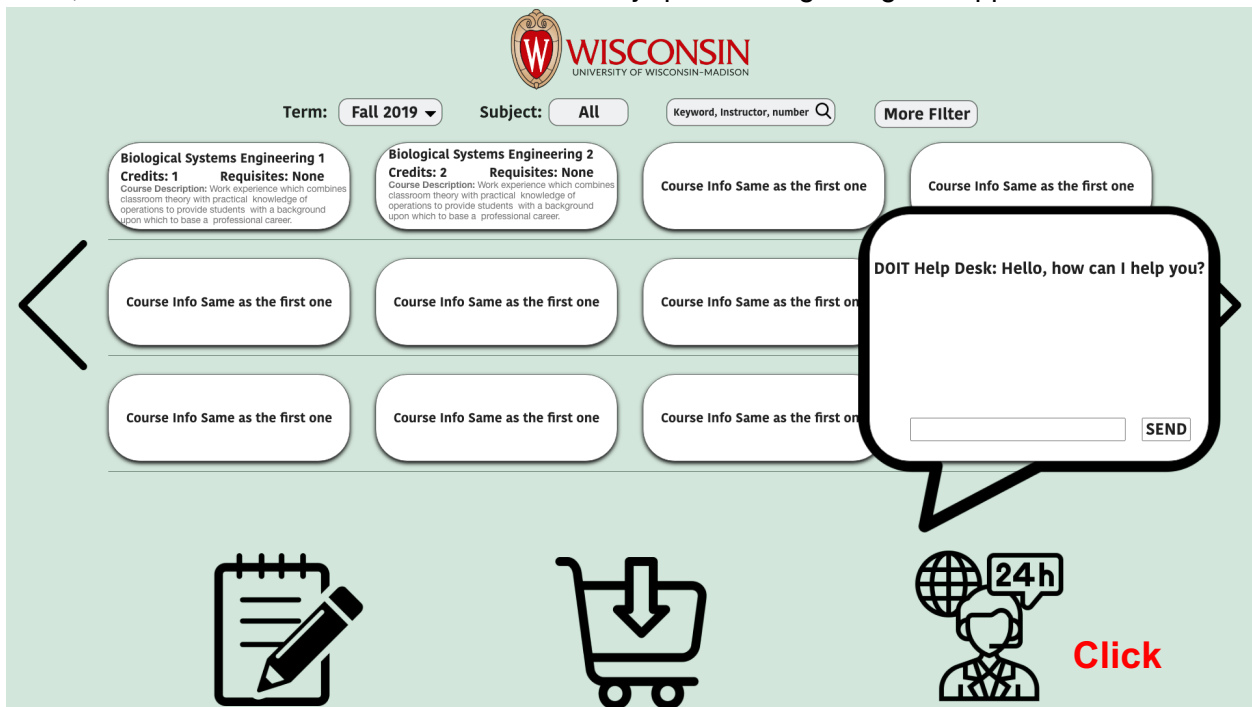


The idiomatic design I will focus on the support/customer service icon since it has more functions than it seems. In my design, this icon is not only the place to ask for how to use the system or send the feedback, but also a place to chat with your course advisor and schedule the meeting with the people you want to meet.



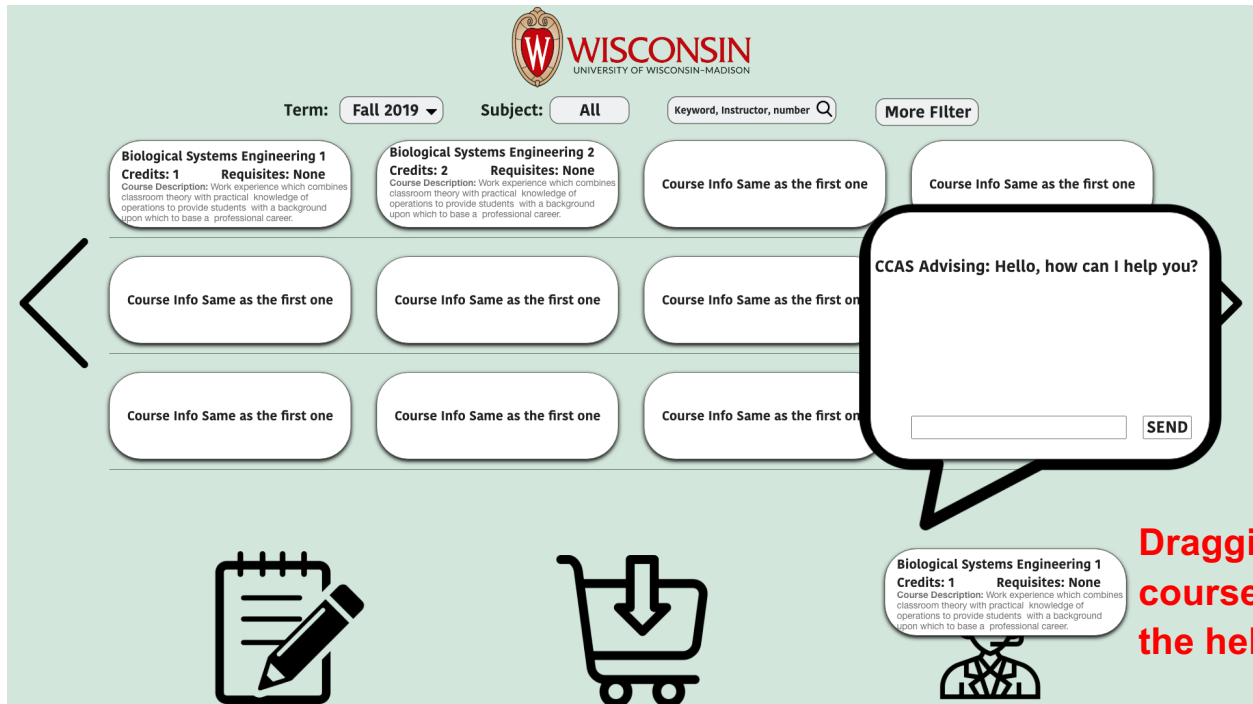
### *primitives*

Through **clicking** the customer service icon, the students see a pop-up window which could chat with people about anything for this course search and enroll system. Even though through the looking at the icon, people may think they are going to have a phone number or talk to the people through the phone, but actually, it's a chat box showing up. Thus, this primitive's layer is easy to learn, and user could have the chance to ask any question regarding this app.

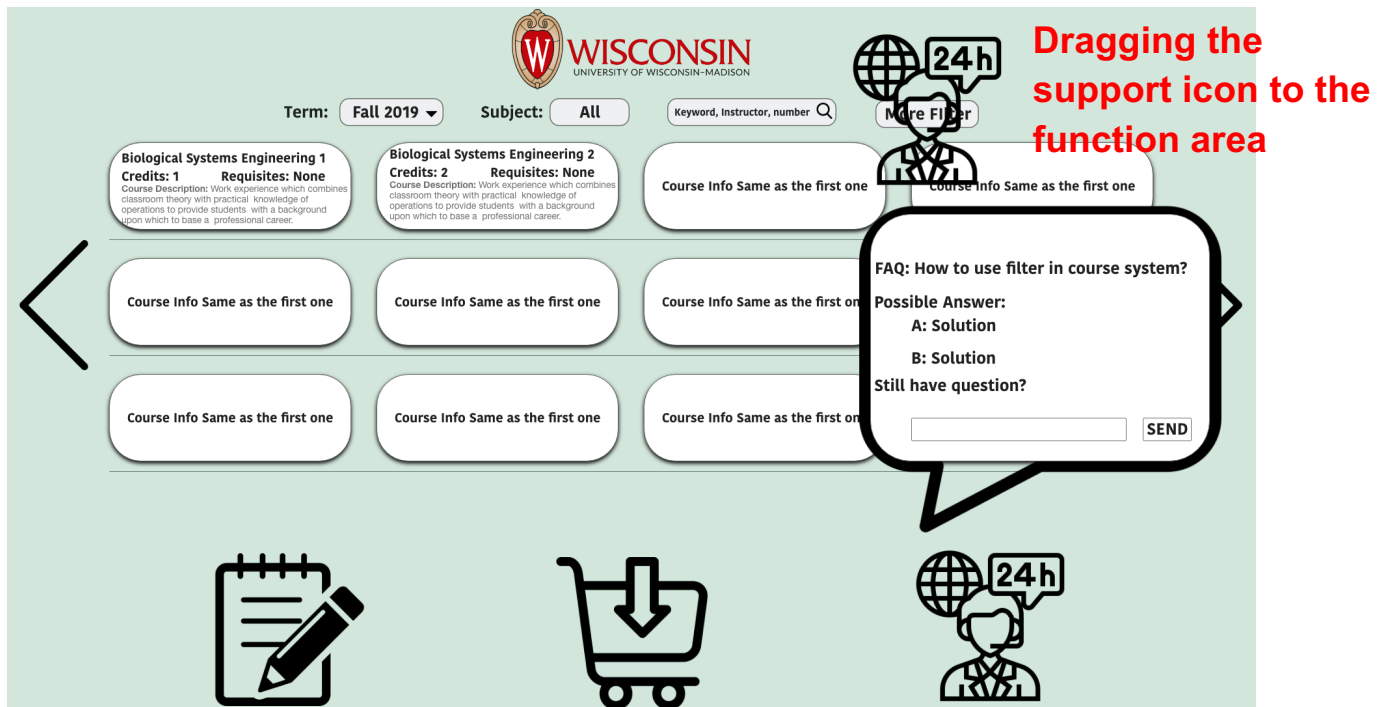


## compounds

The compounds part is more complicated and required more actions compared to the primitives' part. The main actions in this idiomatic design is about dragging the function icon and may require user to spend some time to learn. The first example is that if a user has a question regarding the course and whether he/she need to take it in the next semester, they can actually reach for help through the help icon. However, since the people who can help them are the advisor instead of the technical support staff, separating help channel become an important task for our design. However, it can be solved by using idiomatic design, since it could achieve our goal through different actions. If a user wants to chat with an advisory, since most of the table, box, or icon can move around, they can simply drag the course to down to the help icon and they will start to connect and chat about the student's questions or concerns. (Refer to following graph)



Another way to find for support is through dragging the customer service icon to the function area to find for support. This happens during the time that users or students have question about how to use certain function in this course search and enroll app. A simple way to find the FAQs is through using the customer support icon, they can just drag the icon to the area that they have questions. Then a chat box will appear on the screen with the quick answers that may solve their problems. If the problems or concerns still exist, they can start to chat with the technical staff. (Refer to following graph)



Using this compound layer of idiomatic design will provide two major benefits to user and layout. The first one is that it will save space on the layout, since we don't need to provide extra tab for FAQs and talking with advisors. The second benefit is that it provides more accurate and precise information when user asks question to technical staff or advisors, because the users does not need to talk about which area or which course that they have question with. The only thing they need to do is dragging the icon to the area where they have question or dragging the course tab to the help icon. Then the people who received the message will get all information including their actions of dragging. Thus, with the idiomatic design, it helps not only save the space, but also provide a more efficient way for people to provide support. However, this process may require user extra time to learn how to user this idiomatic design.



## idioms

Under the idioms level, since it's about the higher-level elements, I'm going to use "customer support" icon to schedule a meeting with advisor. In this case, there is no perceptual information, but there is (idiomatically designed) affordance. Since users have already explored on how to use "customer support" icon to find the support for using system or asking question with advisor. However, if a student or user has many questions regarding the courses and want to find a time to sit down with advisors, they may need to use another app to schedule a time. However, with the help of idioms layer in idiomatic design, it could solve the problem through user learning experience. Since we already know that dragging the "help" icon to the function will pop up the FAQs for certain function, how about we do opposite way. Many people may think it will generate the same result. However, in the reality, our design will provide you difference function which are affordable but not perceptual information. For example, if user drag the "notebook" icon to the help icon, he/she will have a chance to schedule a meeting with the advisor. However, this process need user to spend time on figuring out the complex high-level elements. But it's a great idiomatic design, since the "notebook" means the check list or to do list, and the "support" icon means the chat or talk with someone, if a user combine "notebook" and "support" together, it could mean talk about how to use "notebook" and in opposite way, it could also mean to talk with someone in future which means the scheduler. Thus, different dragging direction have different meaning which user need to learn in these high-level elements.

The screenshot shows the University of Wisconsin-Madison course catalog interface. At the top, there is the university logo and name. Below it, there are filters for Term (Fall 2019), Subject (All), and a search bar for Keyword, Instructor, or number. A 'More Filter' button is also present. The main content area displays course information for 'Biological Systems Engineering 1' and 'Biological Systems Engineering 2'. A large speech bubble overlay on the right side of the page contains the text 'Welcome to schedule assistance. Schedule for your CS advisor' and a calendar grid. At the bottom of the page, there are three icons: a notebook with a pencil, a shopping cart with a downward arrow, and a person with a calendar and a pencil. A red text annotation on the right side of the page reads 'Dragging the notebook icon to support icon'.