## **Examples for CS 443/543**

By Anthony Hornof - last updated October 25, 2023

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# The UO CS Website Got Harder for Students to Use on 12-1-22

(Images collected 10-25-2023 by A.Hornof.)

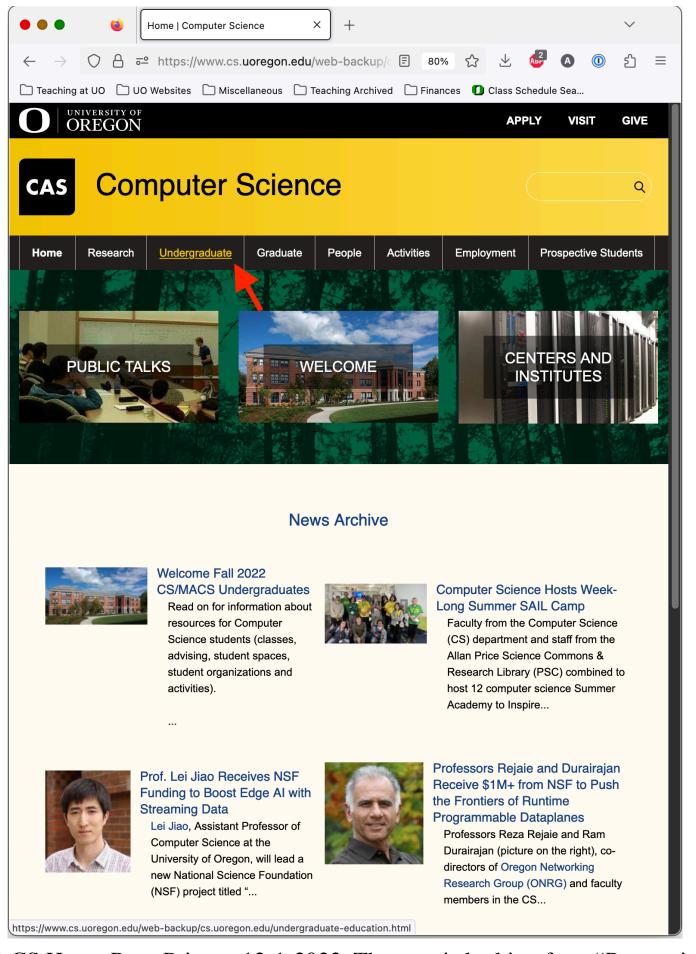
#### This example illustrates a number of different points:

- The new Computer Science web pages do not support common user tasks.
- The new CS web pages are an example of how the "user experience" (the user's subjective impression) is given a higher priority than ease-of-use.
- It is important to provide the user with feedback that they are making progress towards their goal. Otherwise, at some point, they will simply give up.
- A well-organized visual hierarchy of textual information can be scanned quickly and easily.

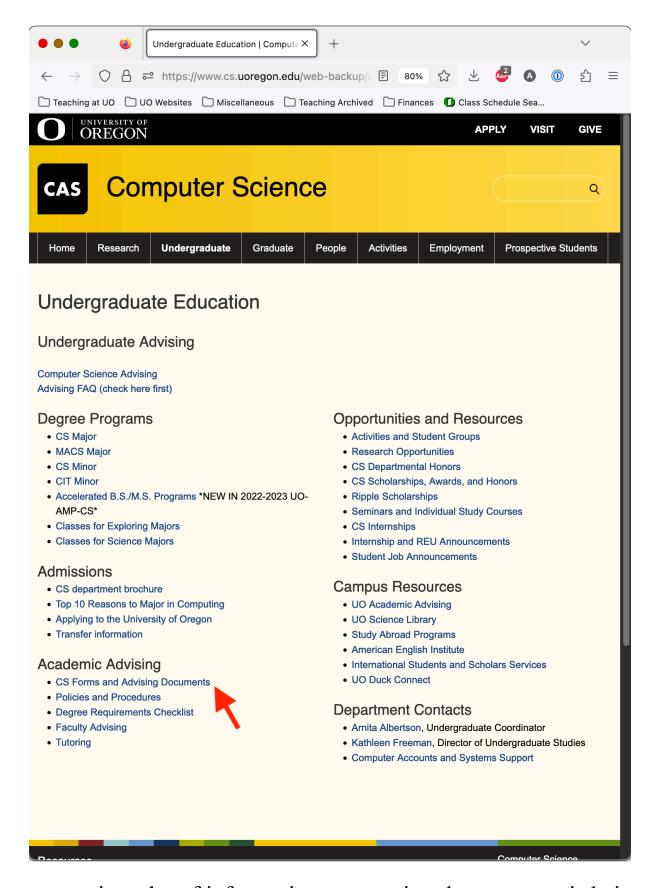
The user's goal is to download a "Prerequisite Override Request Form".

Prior to December 1, 2022, students could download the form with three clicks and also, it turns out, receive continual feedback along the way that they were making progress towards their goal.

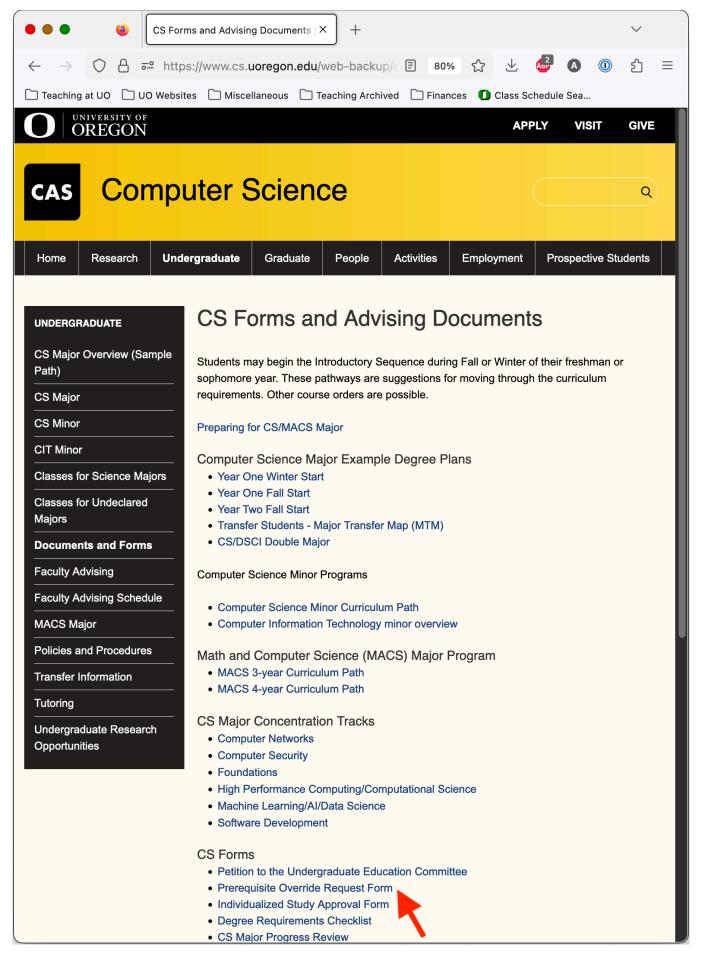
In the following screenshots, the red arrows indicate where the user clicks.



UO CS Home Page Prior to 12-1-2022. The user is looking for a "Prerequisite Override Request Form", and so the user clicks on "Undergraduate"....

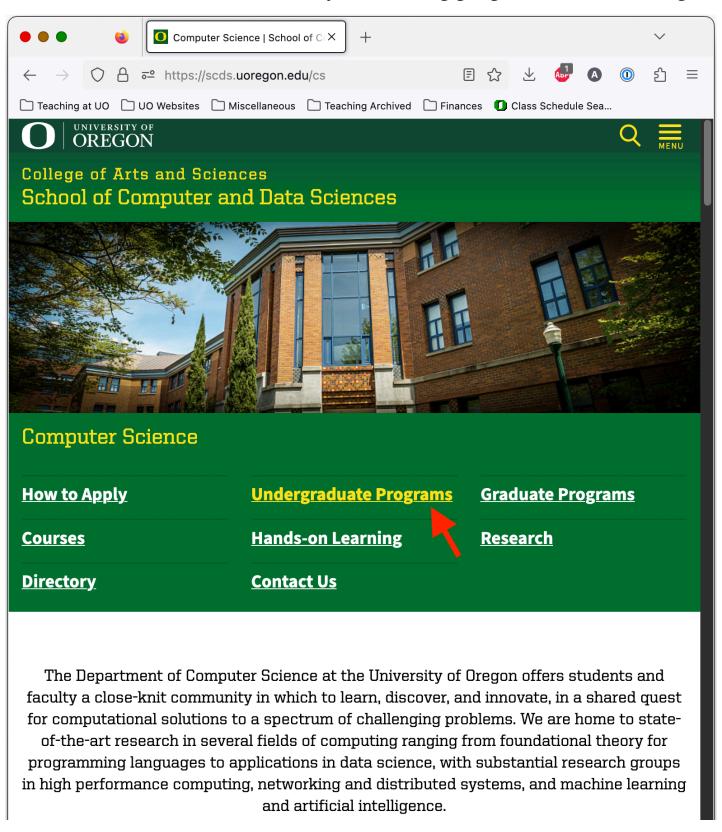


The page contains a lot of information, suggesting that progress is being made. All of the information is accessible with quick eye movements rather than slow scrolling or clicking. The "Academic Advising" heading looks relevant. The user clicks on "CS Forms and Advising Documents"....

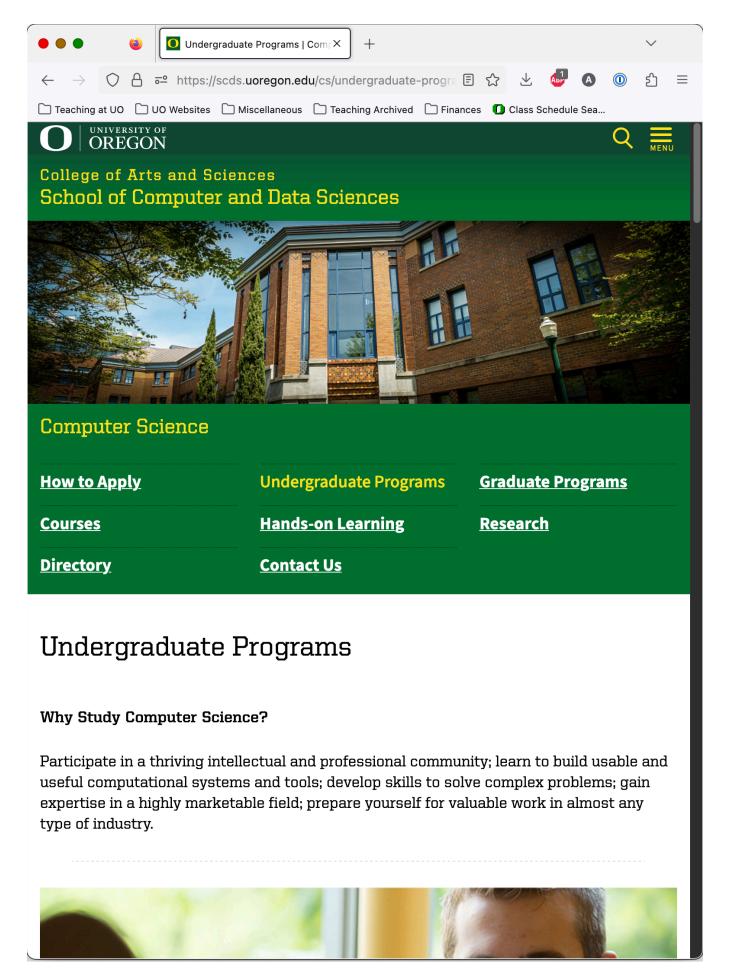


The well-structured page can again be scanned with quick eye movements, to arrive at the target. The user clicks, and sees the PDF. Success!

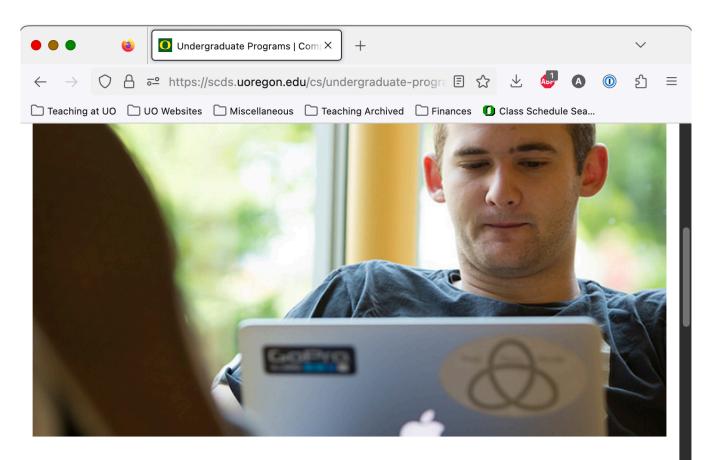
Starting in Dec., 2022, for students to download a "Prerequisite Override Request Form", they need to make four clicks, and do endless scrolling through photos and stories intended to recruit students to the program. The process does not communicate to the user that they are making progress towards their goal.



UO CS Home Page since 12-1-2022. The user is looking for a "Prerequisite Override Request Form". The user clicks on "Undergraduate Programs."....



No new command options have appeared. Nothing. Zero. Somehow, the user has to figure out that they need to start scrolling....



### What you can do with a Computer Science degree

A Computer Science major can prepare you to work in many fields. Computer science is a rapidly-growing field, and graduates are in demand in the job market and for graduate school. Learn about possible careers and hear from alumni.

Explore Careers

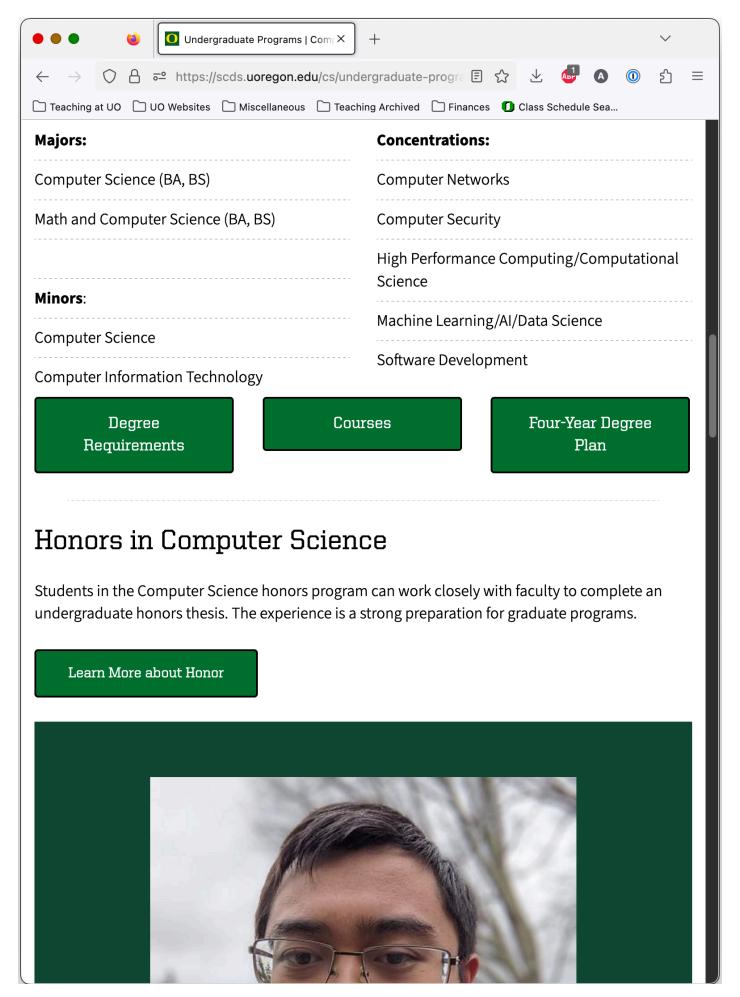
### CS Majors and Minors

Computer Science majors enjoy a liberal arts setting in the UO's College of Arts and Sciences. Most students graduate in four years, and can combine the CS major with a minor or an additional major such as Data Science, Math, or Psychology. They may also pursue our honors program.

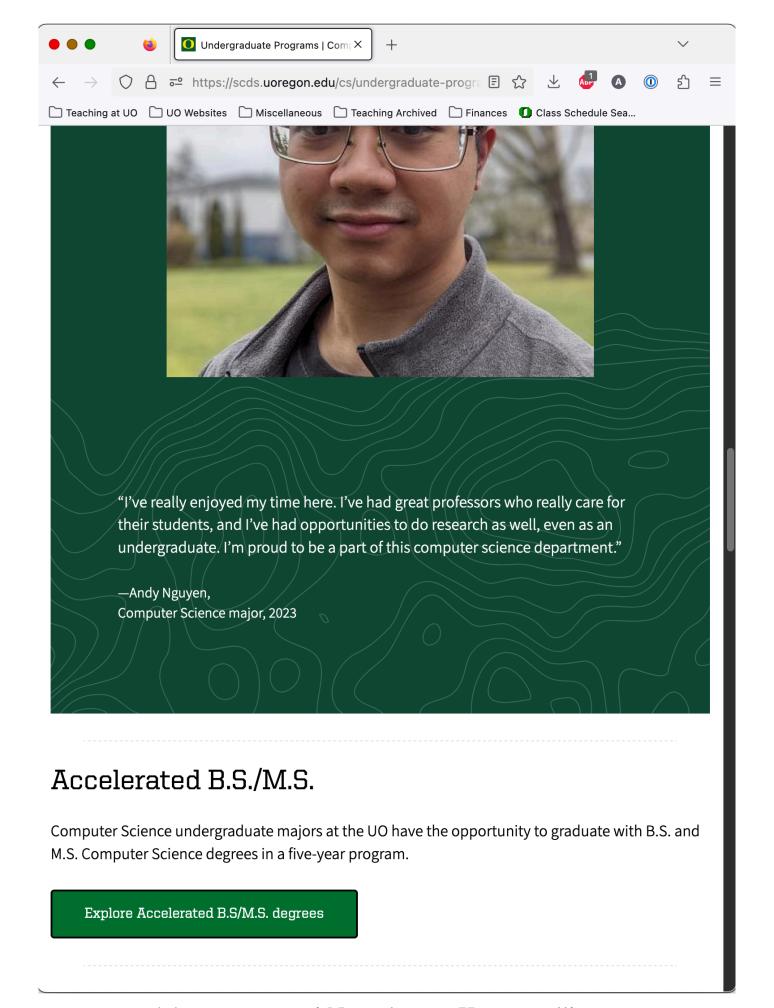
Our students have many hands-on opportunities including undergraduate research and study abroad, career/internship seminars, student computer labs and meeting rooms where students can gather for work and co-curricular activities.

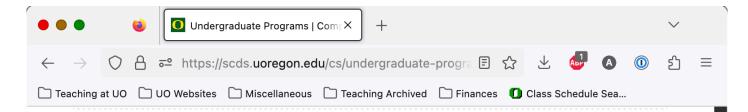
Majors: Concentrations:

One button has appeared. It is not relevant to the goal. Somehow, the user has to decide to keep scrolling....



Four buttons. The student reads them. None are relevant. Keep scrolling....







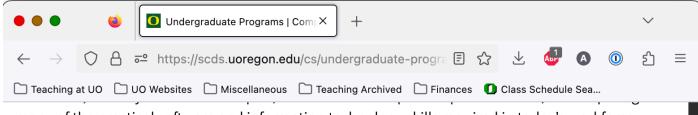
### Real-World Experience

A major in computer science exposes you to research, internships, study abroad opportunities and more. Gaining real-world experiences such as programming is the key for students preparing for job roles such as software engineers, data analysts, and research scientists in computer and information industries.

Hands-On Learning

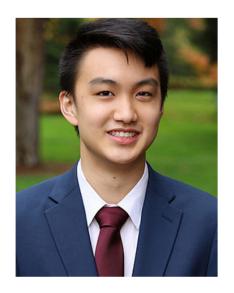
### CIT Minor Gives a Major Advantage

In addition to the minor in Computer Science our department offers, the CIT Minor program focuses on expanding the base technical expertise of non-CS students at the University of Oregon. The minor curriculum includes learning to create web applications from start to finish, working with databases, security and network topics, fundamental computer topics and skills, and acquiring many of the practical software and information technology skills required in today's workforce.



many of the practical software and information technology skills required in today's workforce.

Explore our Minors



"I definitely feel like having the CIT background made me a better candidate and fit for the position I was interviewing for because many of those people had degrees in MIS (Management Information Systems)."

Ethan Wong,Business Administrationmajor and CIT minor, 2023



"Many of the jobs that I'm applying for require experience using React; I also recently did a one-day hackathon where at least half of the projects were using React. The Web App Development class has probably been my career launcher."

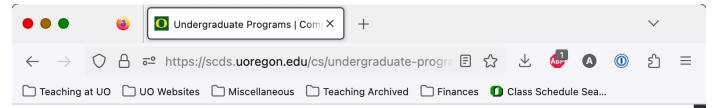
—Lindsay Marean, Linguistics and CS major, CIT minor, 2021



"This minor and the structure of your classes has given me a new perspective on learning, and how to work through problems, that no other individual class has ever succeeded in. It's directly allowed me to pursue a job I would have never been able to, and has been the most valuable part of my college career so far."

—Daniel Knutsen, Business Administration major, CIT minor, Fall 2022

#### Scholarchine and Awarde



### Scholarships and Awards

Learn about ways to apply for funding like scholarships and fellowships through the Department of Computer Science, as well as the College and University.

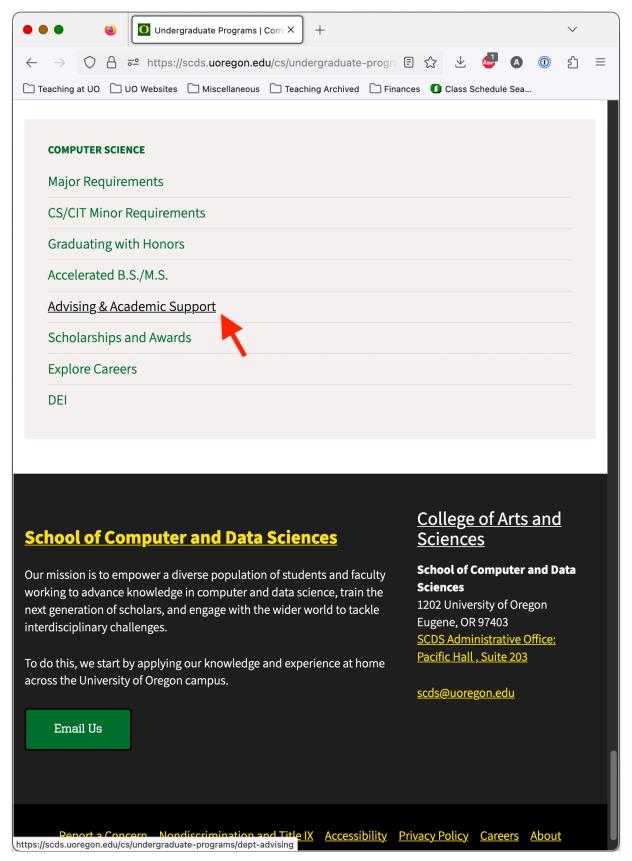
Explore Scholarships and Awards



### Advising and Academic Support

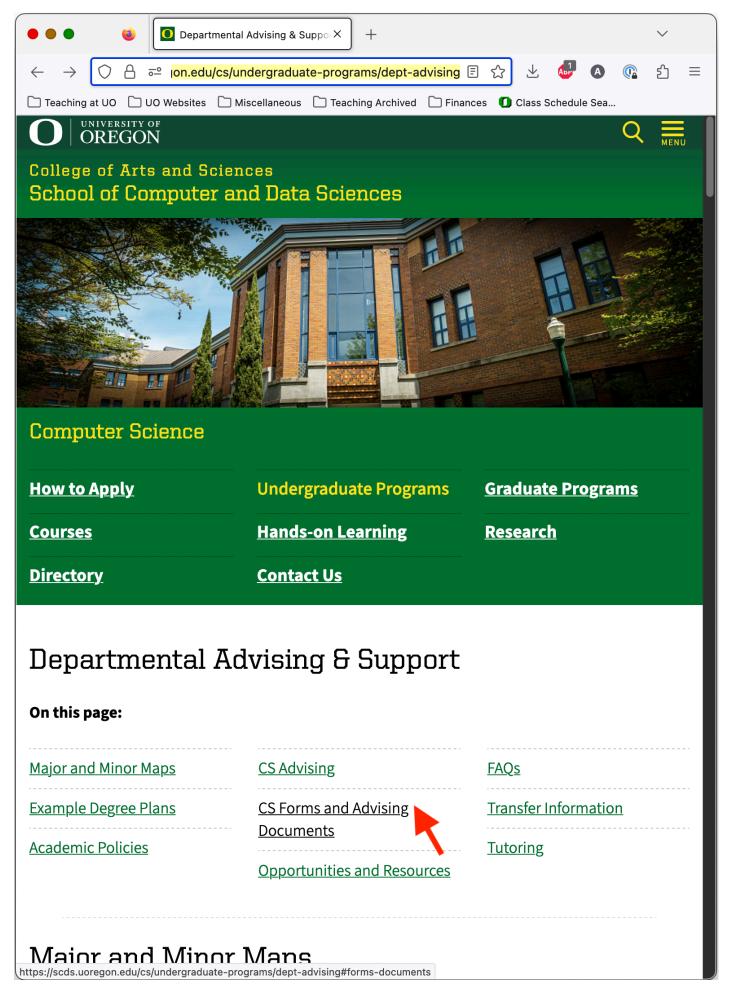
CS advisors are here to help our students. Schedule an appointment with a faculty advisor, find important department forms and get answers.

Departmental Advising and Support

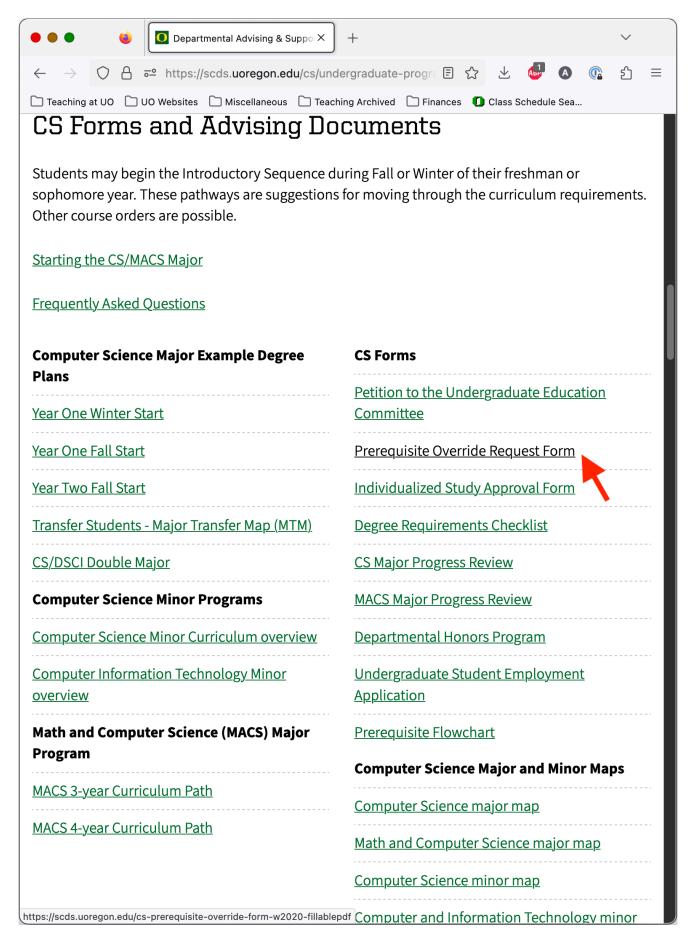


Finally, if the user has hung in there through all of that scrolling, they arrive at eight potentially useful links.

Note that there will be a greater cost to look into this "Advising & Academic Support" link compared to the cost of looking into the "Academic Advising" heading in the previous version of the website. The user clicks....



The user arrives at *nine* new potentially useful links. The user clicks....



Finally, the user has arrived at a page with a lot of useful links, organized with useful headings. The user scans the headings, finds "CS Forms", and then finds the target form. The user clicks and sees the PDF. Success!

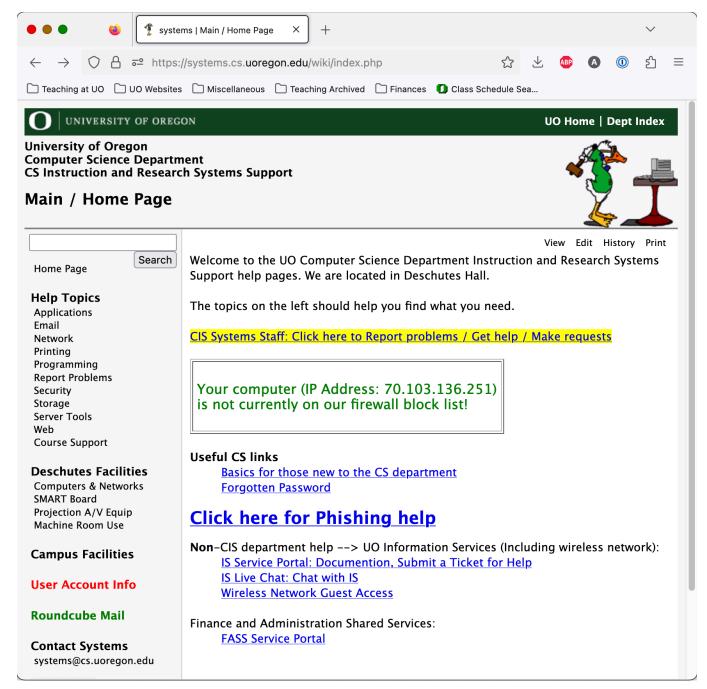
### This extended example illustrates a number of different points:

- The new CS web pages do not support common user tasks. I am not aware of any effort that was made in 2022 to try to understand the many common tasks for which students, faculty, and staff use the CS website.
- The new CS web pages are perhaps an example of how the "user experience" (the user's subjective impression) is given a higher priority than usability (ease-of-use). It is otherwise hard to understand the justification for some of the web pages having zero, or just one, new button.
- It is important to provide the user with feedback that they are making progress towards their goal. At some point, they will simply give up.
- A well-organized visual hierarchy of textual information (including hyperlinks) can be scanned quickly and easily.

# The UO CS Website Got Harder for Faculty to Use on 12-1-22

(Images collected 10-25-2023 by A.Hornof.)

The previous CS Departmental website included a link to this page, which contains a wealth of useful technical information:



This web page is no longer available through the CS website.

It is entirely orphaned. You must type in <u>systems.cs.uoregon.edu</u> to get here.

You must know this secret to gain access to the info on this web page.

This does not support the many faculty, staff, and student's tasks associated with this web page.

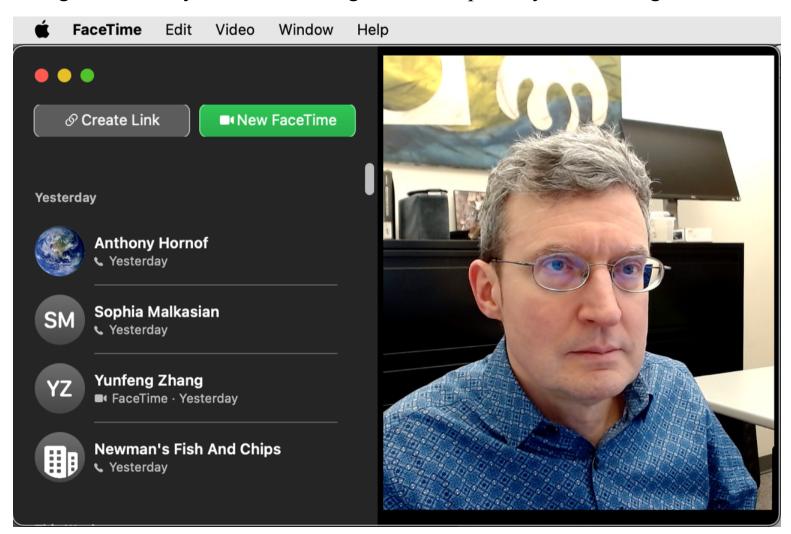
# Change your Microphone on FaceTime (and other videoconferencing apps)

(Images collected 10-25-2023 by A.Hornof.)

This example shows:

- How it helps to "speak the user's language".
- How consistency helps the user.
- How following typographic, print-based, helps the user.
- How it is helpful to let the user know they are making progress.

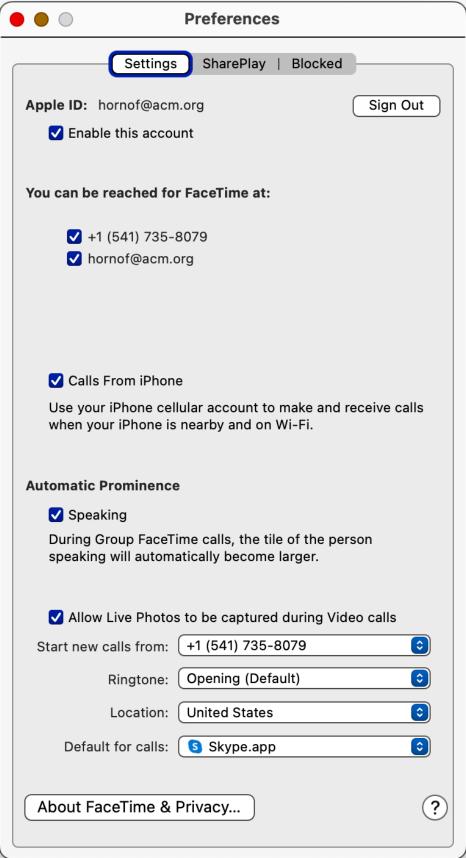
Using FaceTime, you want to change the microphone you are using.



Looking at the interface, there are no clearly visible "audio" commands. Other applications put this under "Preferences" or "Settings", so you look there.

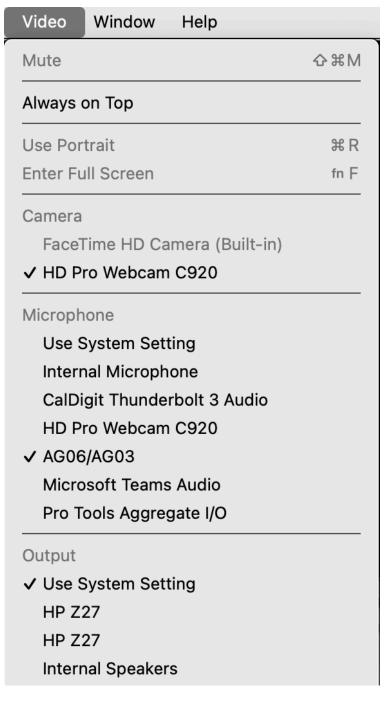
You try the keyboard shortcut "Command-I" because this often works on a Mac...

"Preferences" appears. Command-I worked. You were able to re-use some procedural knowledge. This is good.



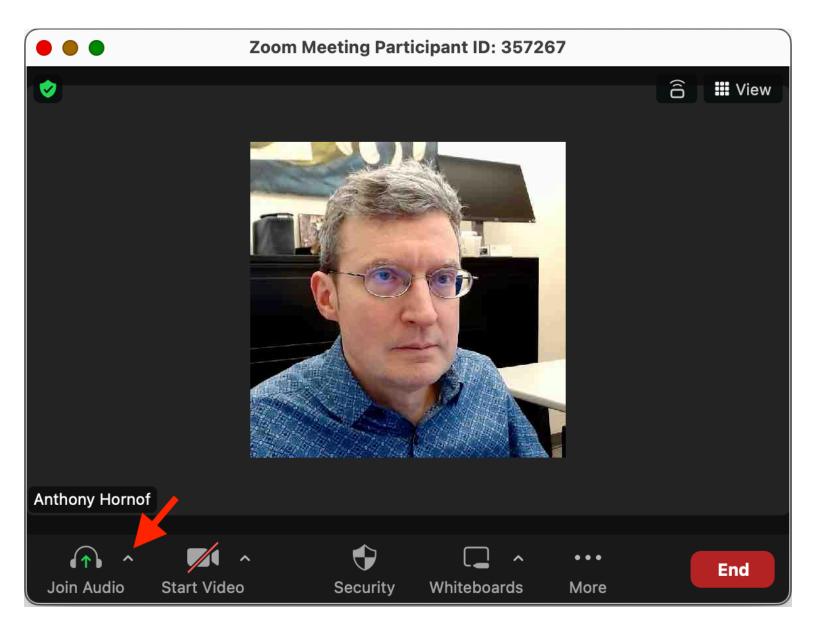
But there is nothing under "Preferences" to change the microphone. The design of the dialog box permits the user to quickly figure this out, because the design follows typographic, print-based, conventions.

- So how do you change the microphone setting? You start looking through all of the menus, and eventually you find it under the "Video" menu.
- Which is odd, because other videoconferencing software consider "audio" and "video" as two separate things, with two separate settings.
- And so, because of this inconsistency, you were unable to re-use that particular knowledge from other applications (that "audio" and "video" have two separate settings).
- Though the problem is *somewhat* easily solved, it is made more difficult in real-time because you are also engaged in the actual phone call, and using your "echoic" memory to listen to the other person speaking rather than to read through the menus, to figure out that "audio" might be part of "video".



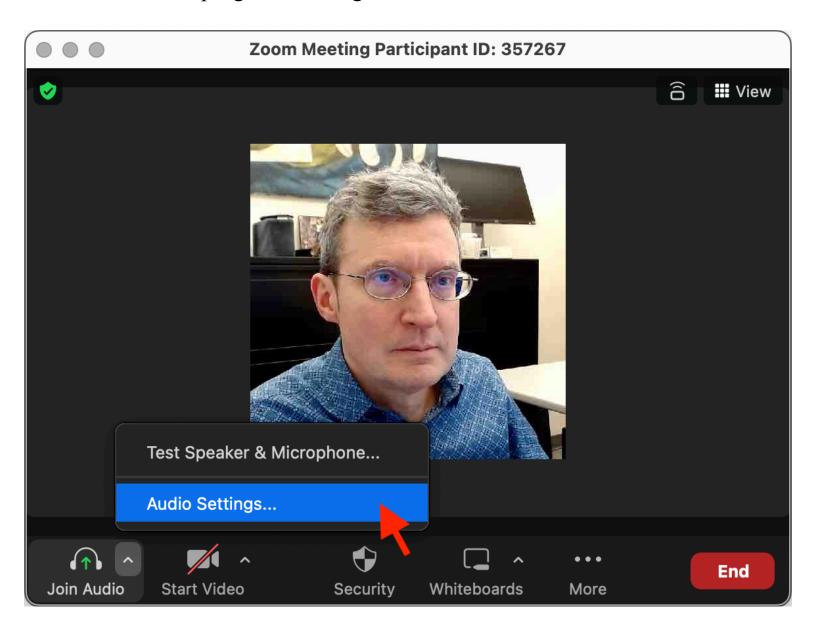
### In Zoom...

There are separate commands for "Audio" and "Video". (And the user learns this, and expects it in other applications.) To change the microphone, the tiny up-arrow by "Audio" suggests functionality.



Click on the tiny up-arrow (pointed to by the large red arrow) and....

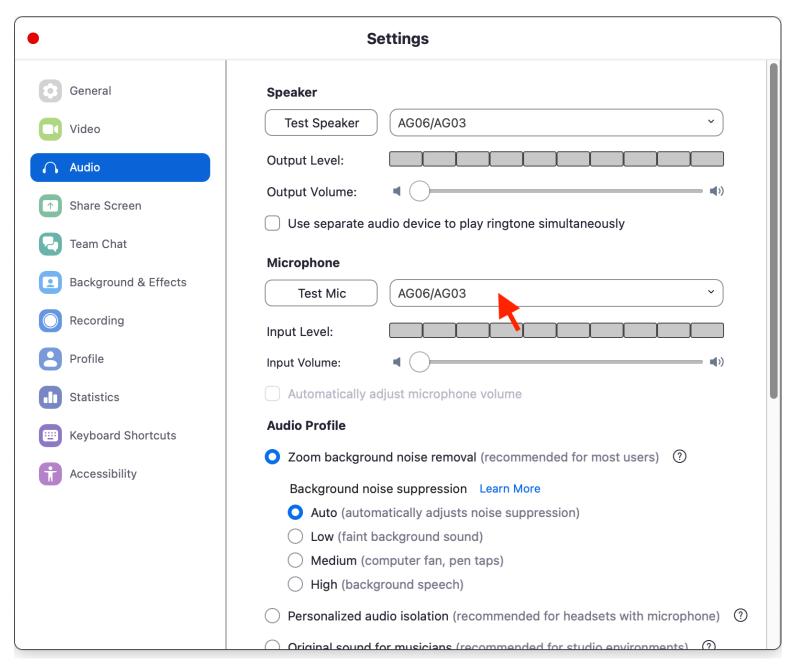
The user sees that progress is being made.



Click on "Audio Settings..." and...

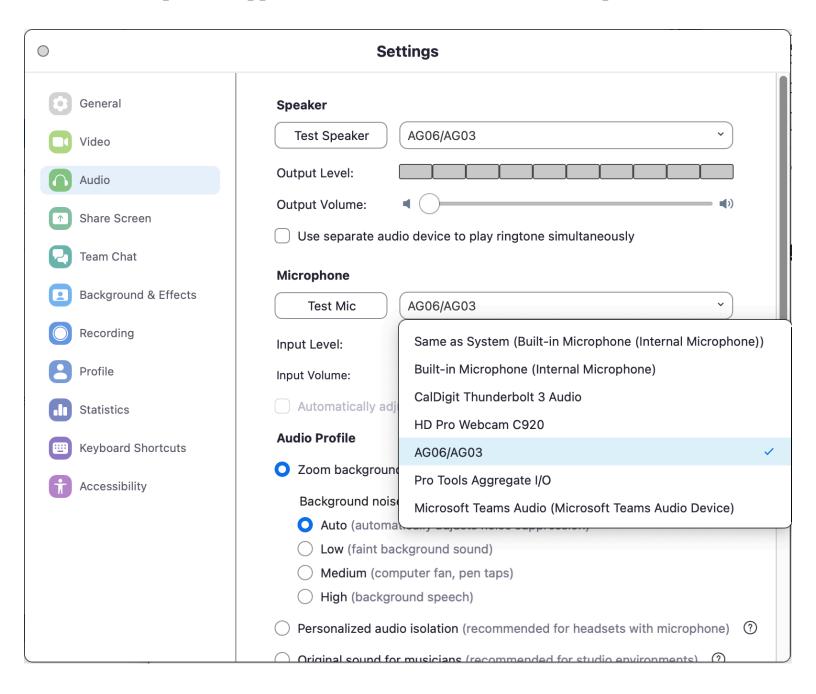
The "Audio" settings appear. (Clearly distinct from "Video" settings.) The "Microphone" heading is quickly found, along with a list.

Again, typographic conventions are sort of followed, making it somewhat easy to see the three main headings of "Speaker", "Microphone", and "Audio Profile".



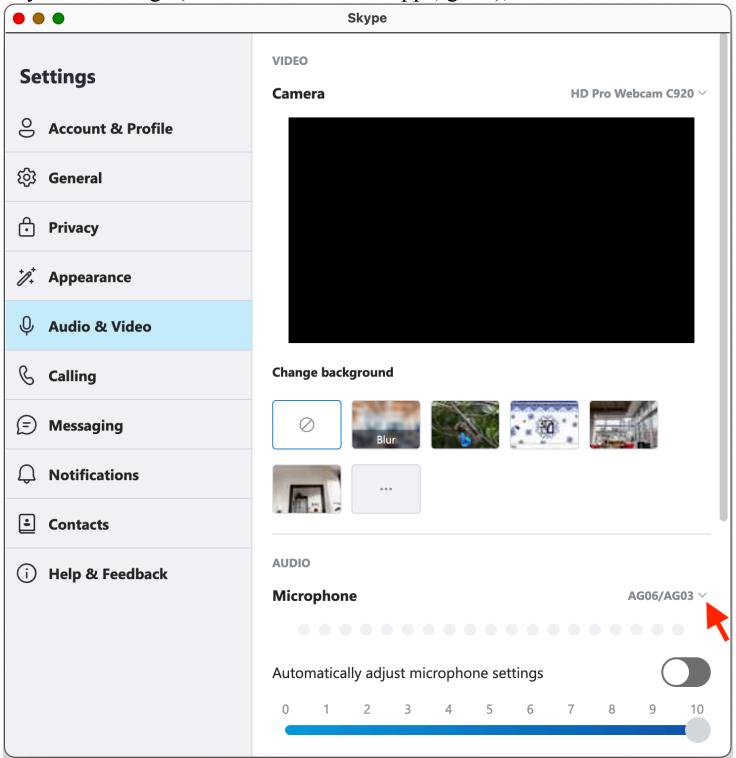
The user clicks on the list and...

A list of microphones appears. The user can select the microphone. Success!!!



## In Skype...

There are no clues on the main screen (not shown here), but Command-I takes you to Settings (consistent with other apps, good), and the user sees...

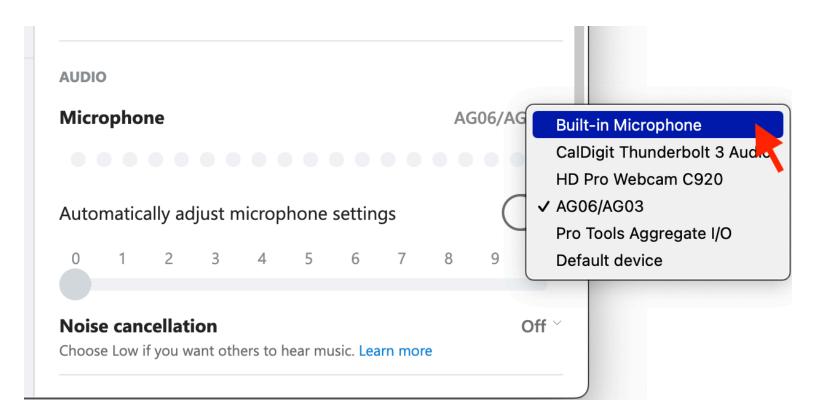


The "Audio & Video" option communicates that both Audio *and* Video will be under this heading, as opposed to just Video.

(Typographical, print-based, conventions were *not* followed. "VIDEO" and "AUDIO", and perhaps even "Settings", do not stand out as headings.)

A small down arrow (pointed to by the red arrow) suggests a list. Click here...

And a list of microphones appears, and you can pick one. Success!!!

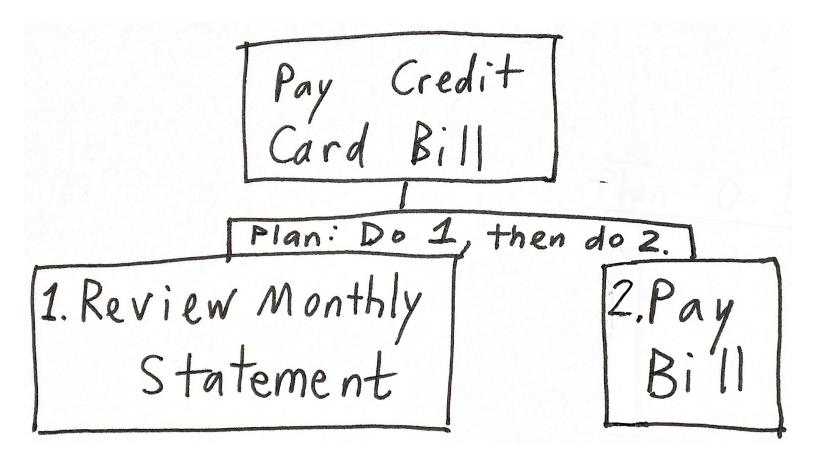


#### This example shows:

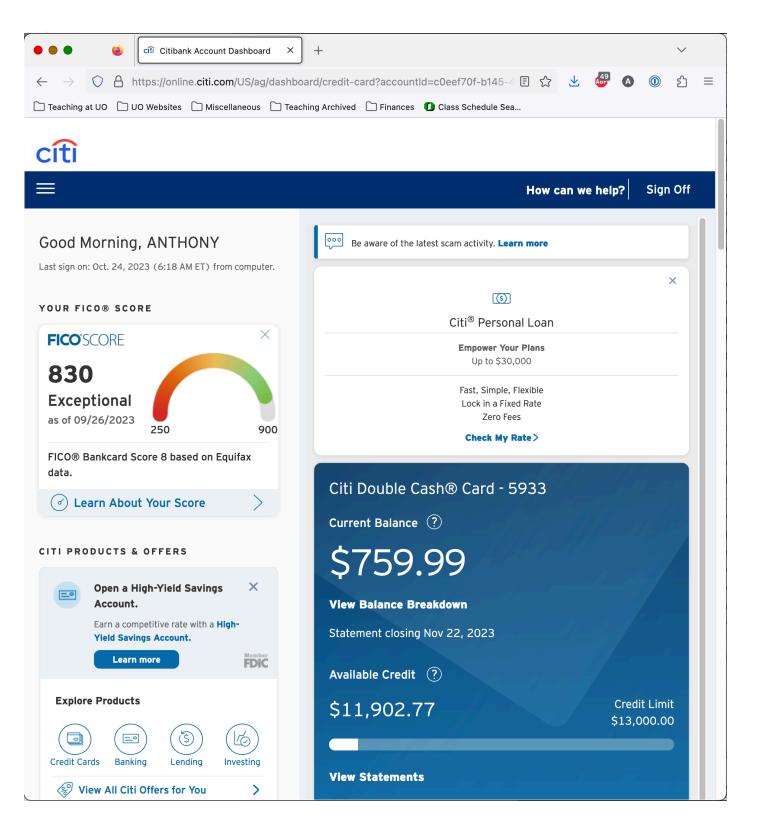
- How it helps to "speak the user's language". Users probably think of audio and video are two different things, not that audio is a part of video.
- How consistency across applications helps the user. If all videoconferencing software treated audio as a subset of video, that is what the user would come to expect. But that is not the current convention, or standard.
- How following typographic, print-based, standards for organizing text makes it easier to visually parse the information in a dialog box. Clear headings makes it easier to move your eyes from heading to heading until you find the relevant heading, and then continue your search only within that heading.
- It is helpful to let the user know they are making progress towards their goal.

# Bank Account Websites Make it Hard to Pay Your Credit Card Bill

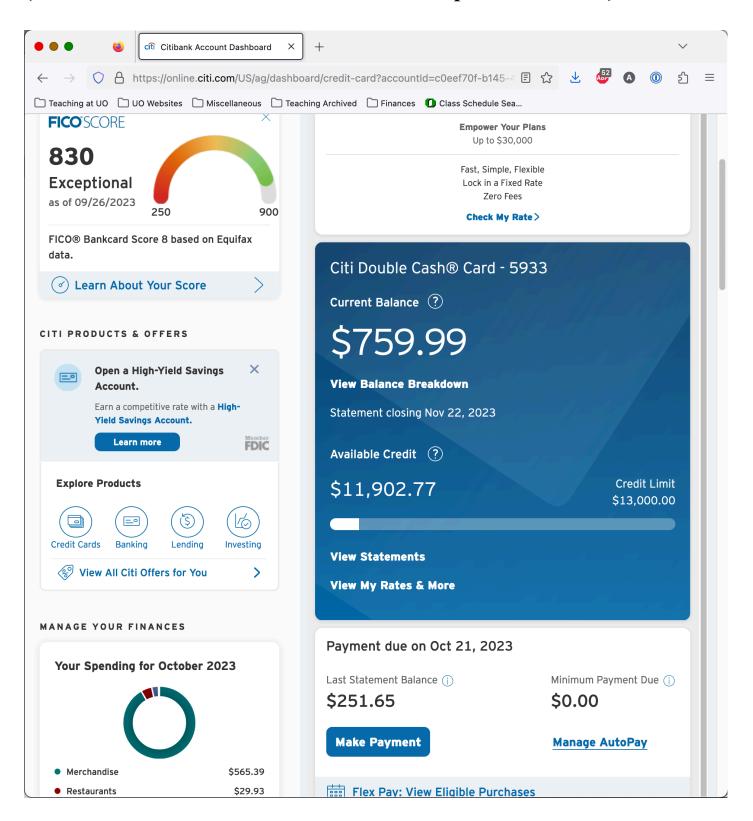
The top-level hierarchical task analysis for paying your credit card bill.



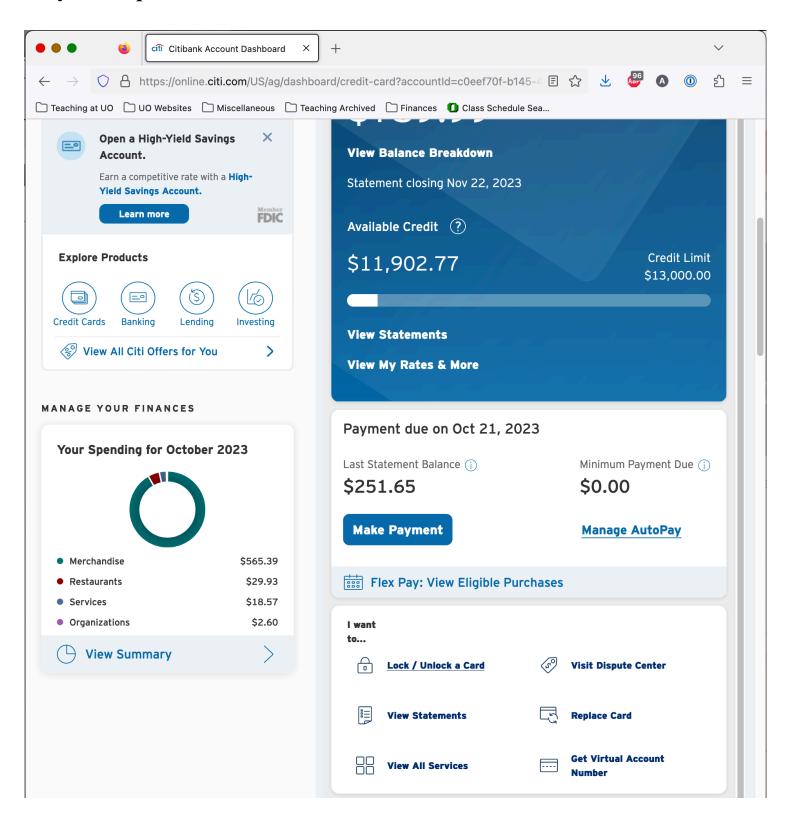
## After logging in at Citibank, you see the following. It is not clear how to do either subtask:



# If you scroll down a little, "Make Payment" becomes available. (I did not even see the "View Statements" pseudo-button.)

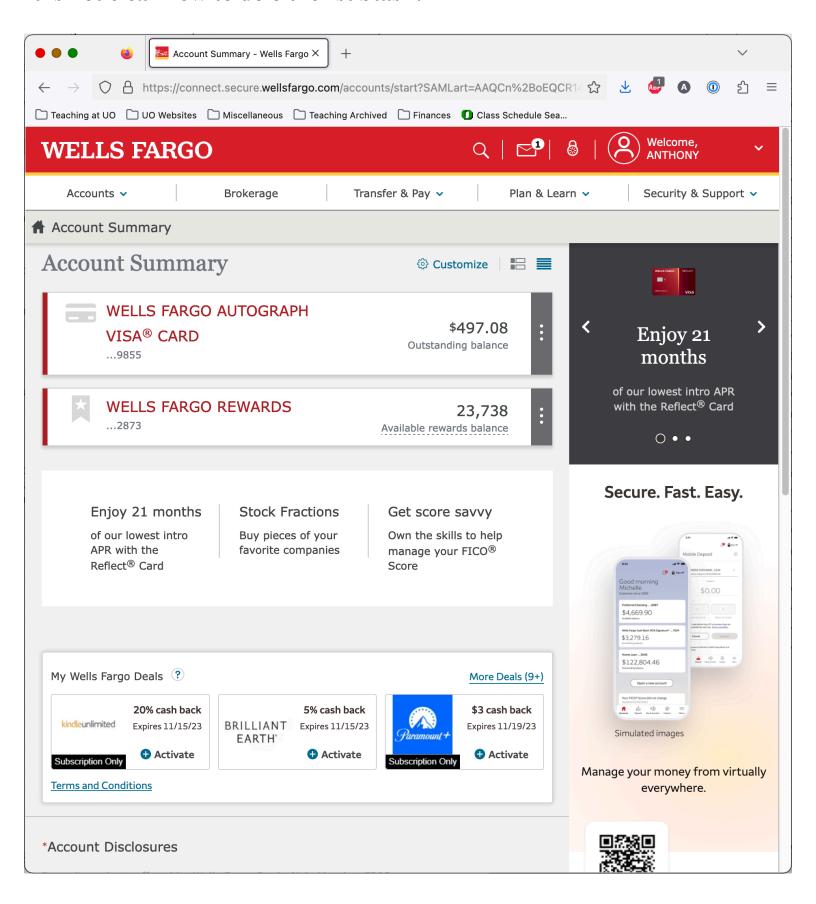


If you scroll down a little more, "View Statements" becomes available in very small print.

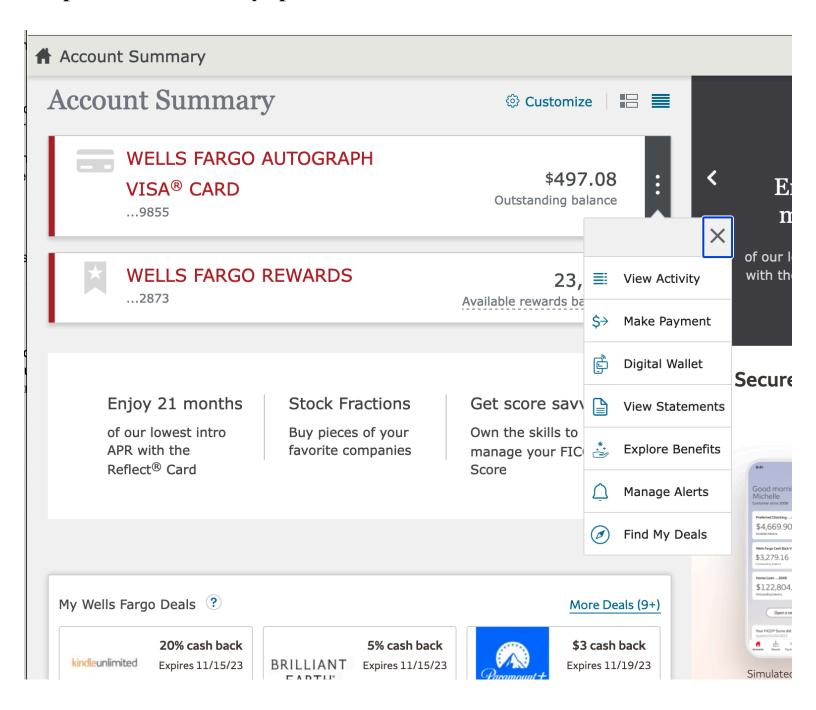


The system does not appear to be well-designed to assist users with this particularly task, and task hierarchy.

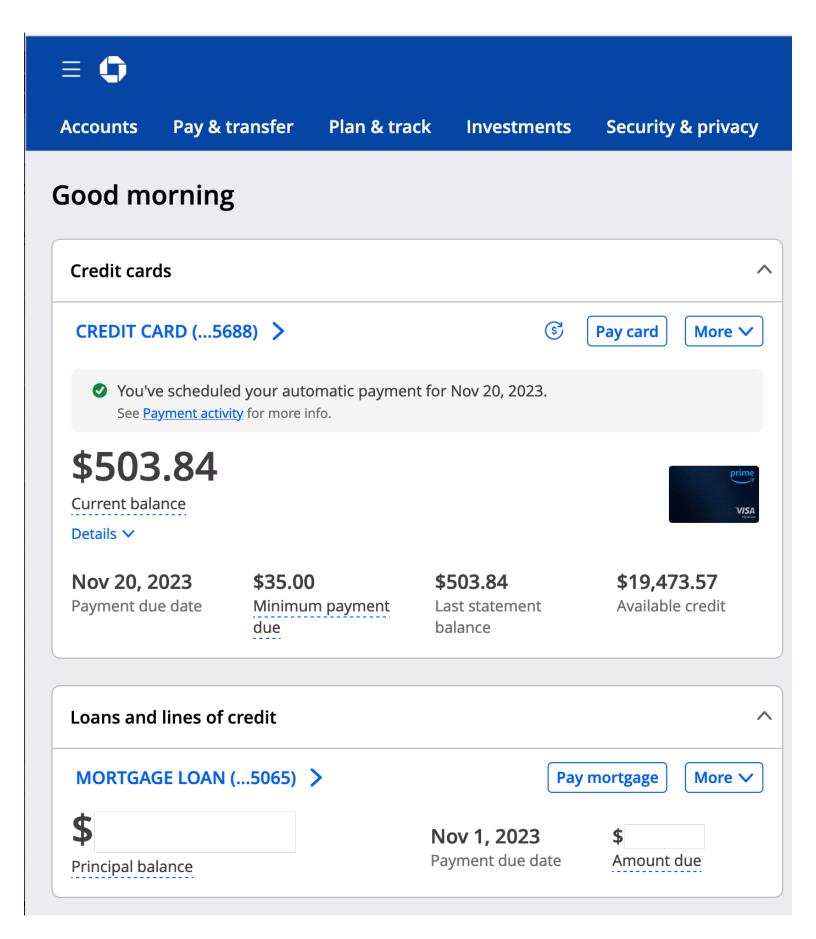
## After logging in at Wells Fargo, you see the following. It is not clear how to do either subtask:



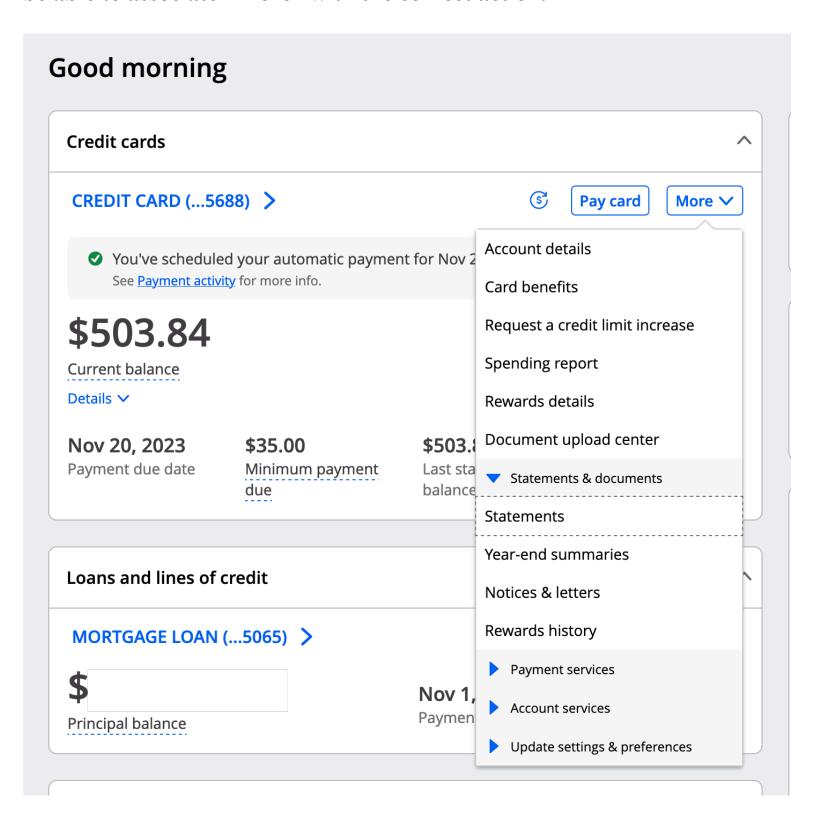
Somehow the user is supposed to know to click on three vertical dots that are positioned in a very specific location on the screen:



## After logging in at Chase, you see the following. At least it is clear how to do one of the subtasks!



The user needs to click on "More" to get to statements. Perhaps users will be able to associate "More" with the correct action.



There is very little consistency across these three interfaces. It would be much harder to do the task on a smartphone.