(24 pts - 1-2 hours) A darn good Hall of Fame and Shame. Do a really thoughtful critique, with a well-presented and well-justified redesign, of an object or interface of your choice. This can be an improved version of an HFS you have already done, if you wish, or a new critique of something that grinds your gears, but it should be, well, darn good, and it should also show evidence that you understand class principles and readings, and that you think at multiple levels, not just a ho-hum “Affordances, Visibility, Usability” critique. If you're stuck for ideas, think about critiquing the physical and social design of some aspect of the Trillium: the food selection area, the checkout and condiment area, the seating area, and/or the trash/cleanup area. That might help you think about the next questions.

Clock Radios

I’m going to critique and compare the controls on two of our clock radios. I’m including a couple photos of each. I’m not going to critique the quality of the radios themselves, except as it relates to the user interface.

Specimen A (figures 1 and 2)

Photo notes: I needed to use a flash, which washed out the time display. Suffice it to say that the time is easy to read, very visible at night, and not hard to read in daylight either. The left side of the radio, which doesn’t show in the pictures, has absolutely no dials, buttons, or anything on it, so I didn’t photograph it.

Starting with the time display, it has one of those red dots to indicate PM. Very visible, but not very meaningful. The other clock’s display includes the “word” AM during the day, and PM at night, which is much more useful.

This clock radio has an analog tuner, with a dial on the side that affords easily switching stations. Visibility is good. Even though the dial is on the side, that’s typical enough to be expected. The vertical red line (which didn’t show up well in the photos, so I drew it in) shows what frequency you’re on, and is actually very easy to see, providing a comfortable, familiar mapping between the tuning knob and the stations. The visual feedback is very straightforward – turn the knob clockwise to move the red line to the right (higher frequencies), counterclockwise to move it to the lower frequencies. The audio feedback is also what you’d expect – you listen for the next station that comes in.

Similarly, the volume knob is right there next to the tuner, affording turning it to change the volume. Again, the mapping and feedback are exactly what you’d expect – turn it clockwise and the radio gets louder, counterclockwise and it’s quieter.

The last control on the side of the radio is the AM / FM switch, and, since the only thing you can do with a switch is move it back and forth, all its UI properties are excellent.

Let’s move on to the controls on the top of the radio - these are easier to see in Figure 2. I’m going to start with the ones on the right, because it’s the controls on the left that leave something to be desired.
The rightmost button is the all-important Snooze button. Though it's not as big as might be desired, it has the excellent property that it's the only button that responds to your hand landing on the top of the radio. For this reason, I give it high marks. Also, it's obvious that the only thing to be done with it is to push it down, so its affordance property is high. The feedback comes in two parts - the radio goes off (aahh), and then, after 8 minutes, it comes on again (ugh). It's a fine part of the radio's user interface as long as your cat isn't walking around on your radio - but I don't expect the design to account for wandering cats.

Next we have the on/off/auto switch. Once again: high visibility and affordance, and anyone who's used a clock radio knows what the settings mean. This is a very common type of switch for a clock radio, and it has some good aspects, and some bad. The first bad part: there is no feedback at all on the display when the alarm is set, not even a red dot. The second bad part: by its very nature, when you turn the radio off, you're also un-setting the alarm, so you need to remember to set it again for the next day. On the plus side, assuming you don't need to get up on Saturday mornings, you don't need to remember to un-set the alarm on Fridays - as soon as you turn off your radio Friday morning, it's un-set. I don't like this design, though I imagine some people would. I prefer a design where turning the radio on and off is independent of turning the alarm on and off, which is how Specimen B works.

Next, the radio vs. buzzer switch. Not much to say here: affordance is good (a switch with two positions), and the words make it very clear what it's for.

Finally, we get to the worst part of this clock's user interface. It's the mechanism for setting the time of day and the time for the alarm to go off. The four buttons are Alarm Set, Time Set, Fast, and Slow. (I'm not going to discuss the leftmost button, Sleep, because I never use it and don't even know what it does.) To set the time, you hold down the Time Set button, and then press Slow or Fast, and the time goes forward through the 24-hour cycle at the speed you picked. While the affordance is clear enough, not great, but predictable, and the feedback and visibility are exactly right (you see the time changing as expected), the problem is that Slow is too slow, and Fast is too fast. And, if you overshoot the correct time, you need to cycle through 24 hours to come around again. Setting the alarm works the same way.

A practical redesign would be to have two extra buttons to go backwards slowly and backwards fast. That would make that part of the radio look more like this:

![Diagram of redesigned buttons](image)

If I could impose a much more convenient time-setting interface, it would be like the ones you often
see on microwaves, with a numeric keypad. Then you’d just enter the time as three or four digits, e.g. 9:45 or 10:15, (it fills in the colon), choose AM or PM, and click a “Set Alarm” or “Set Time” button. The top of the clock radio would need to be laid out differently, but there’s plenty of space for such an arrangement, so it wouldn’t be difficult.

Specimen B (figures 3 and 4)

Without going into such gory detail about this radio’s user interface, I’ll start by saying that it’s quite different, it’s a digital radio, and its UI wasn’t intuitive at all, so I had to read the directions in order to know how to use it. However, having done that, I like this radio a lot. Here are some of its highlights and drawbacks.

All the user interface elements are buttons, and it’s obvious that you press them down to use them. From that perspective, affordance is good – buttons beg to be pressed. However, mapping to actual events is poor. Many functions require pressing two buttons simultaneously or one button repeatedly. For example: to set the alarm time, while the radio is off, you hold either the “1” or the “2” button for alarm 1 or 2, and use the minus and plus buttons in the third row to adjust the time up and down. This is an improvement over the other clock radio. Although this one doesn’t have fast and slow speeds, it goes faster if the button is held down for a while, and the fact that you can go forward or back solves the problem of overshooting your destination. To turn the alarms on and off, you press the “5” button to rotate among four settings. Alarm 1, Alarm 2, Both On, and Both Off. I would redesign this by having an on/off pair of buttons for Alarm 1, and a separate on/off pair for Alarm 2. Currently, words above the time give you feedback about which alarms are set. (This is somewhat visible in figure 3.) An improvement here would be if, instead of just the words “Alarm 1”, it said “Alarm 1: 6:30 AM”.

Visibility is good, except for the little button on the side. However, that button gets used when you’re setting the time (in a similar manner to setting the alarm time), so it’s purposely positioned in a spot where you (and your cat) won’t accidentally press it. From that perspective, it’s a good user interface design for that button.

There’s one button to turn the radio on, and a second button to turn it off. The Off button has a depression in it, which is helpful in the dark or early morning when you’re too sleepy to open your eyes. When the radio is on, the buttons labeled 1-5 are for pref-set station, and the minus and plus buttons in the third row digitally switch the station up and down. I honestly don’t remember exactly how to set the presets, but it’s another clumsy arrangement involving pressing multiple buttons. An improvement here would be to have a keypad to enter the station, e.g. you’d press “92.1”, and then hit a Set Station button. (Of course the same keypad would then be used to set the time.)

In contrast to the first clock radio, when you hit the Off button to turn off the radio in the morning, the alarm remains set, so you don’t need to remember to reset it for the next day. I like this, but it does mean I have to remember to rotate among the settings to make sure it’s off on the weekends. Again, this is personal choice, and I’m sure some people would prefer the approach that the other clock uses.
Figure 1. Clock radio A, side view, showing tuning and volume knobs on the side. The switch on the side towards the back is the AM/FM switch.

Figure 2. Clock radio A, top view, showing the main controls.
Figure 3. Clock radio B, showing the Time Set button on the side.

Figure 4. Clock radio B, showing the main controls on the top.