
HEURISTIC EVALUATION OF EZ ICU

Collaboration

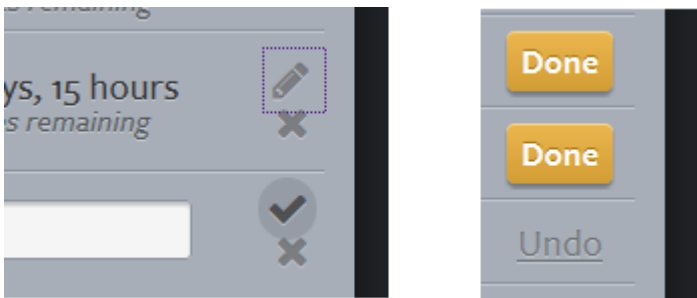
I did not collaborate with anyone on this assignment.

USABILITY SUCCESSES

1. General aesthetic implementation (Aesthetic)

The general overall layout is clean, minimalist and very clear. For example, I think the use of yellow was great for affordance, since most of the important clickable objects/buttons are in yellow, while the rest of the interface is a clean monochrome.

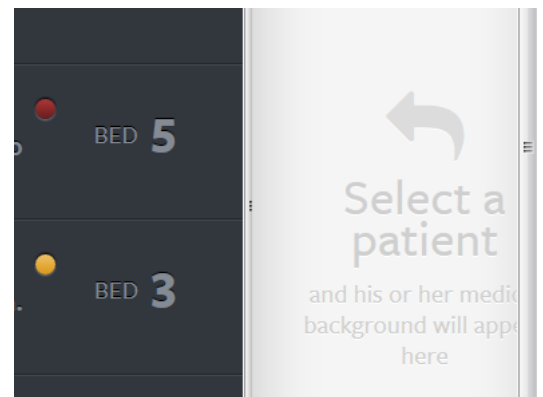
2. Undo feature well implemented (Affordance, Efficiency, Error Recovery)



While editing prescriptions for the patient, there are clear, obvious buttons which allow the user to immediately undo a wrong action or delete an incorrect prescription. The icons/buttons for these features are obvious and clear, and this error recovery also gives the user control over the data.

3. Help Feature (Help, Visibility)

When the user first enters, a useful help message appears giving good instructions on what to do. Unfortunately it is a bit too light and might be challenging to read on some computer screens, and it is also blocked partially (covered in problems below).



USABILITY PROBLEMS

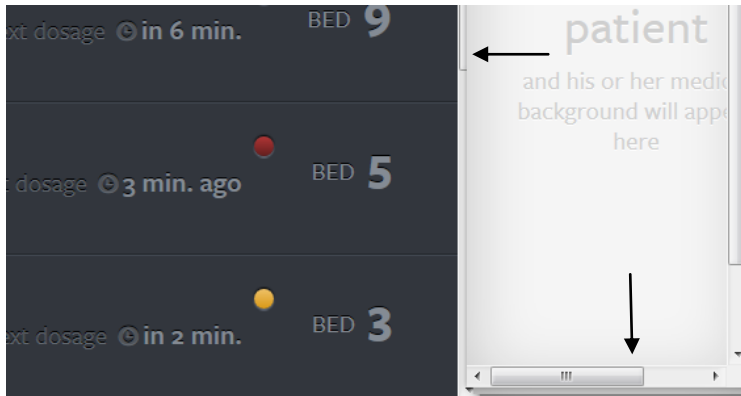
1. Minor: Color Scheme (Visibility, Aesthetic Design)

I praised the layout and clean choice of colours, but at the same time, the abundant use of grey may render some texts hard to read. For example, the help message as I described above. Or just the grey

text against the dark grey background in general. However, I appreciate how the text is usually large and therefore easier to read.

Suggestion: Increase contrast of works to a lighter shade of grey, and make help message text a bit darker. Use the squint test to see if the text really blends into the background or not.

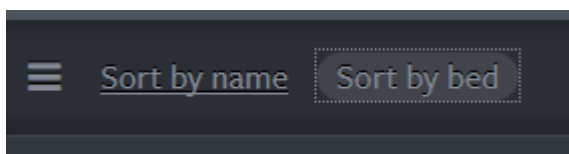
2. **Catastrophic: Unusual scroll-bars present/ some scroll bars blocked** (Affordance)



There are two major problems here. On the left side (patient list), the scroll bar is almost completely hidden by the pane on the right side. While it was not a problem for me because I always use a mouse and I always use the scroll-wheel, many users who do not will find this frustrating especially because they cannot resize the window panes. This is in contrast with the two scroll bars visible on the right side, which also displays an unusual horizontal bar at the bottom.

Suggestion: Resize the right pane accordingly so the horizontal scroll-bar is not required, and adjust the pane sizes so that the scrollbar on the left pane is not blocked.

3. **(Cosmetic) What does the icon with 3 lines do?** (Affordance, External Consistency)



What does the icon with the 3 lines do? I tried to click it but realized that it was not a button. The 3 lines could either mean some sort of menu, or some sort of draggable handle. In this case it doesn't do anything.

Suggestion: Either remove the icon, replace it, or add a function to this like a drop-down menu.

4. **(Minor) Sorting Prescriptions** (Efficiency)

On the topic of sorting, I realized that I could not sort the drugs (in a patients prescription list) by dosage or by name or by anything at all. For patients who have a lot of drugs, this could be an important feature for the healthcare working delivering the doses.

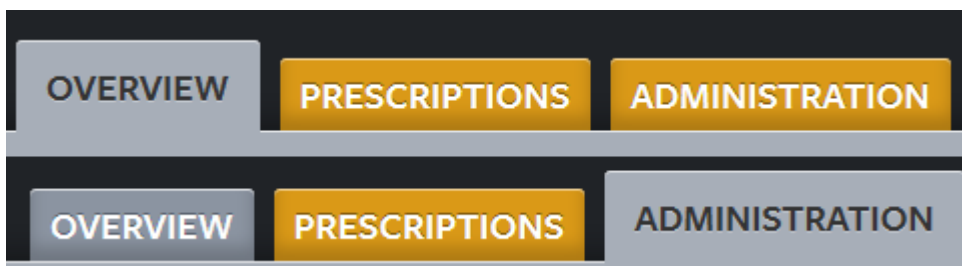
Suggestion: Add a sorting feature for drugs in terms of a few methods such as dosage, drug name and importantly, dosage time.

5. **(Major) Removing patients from list** (Affordance, Efficiency, User Control, Error Recovery)

I commented just now that the undo feature for prescriptions was very nice, but I realized I could not do the same for patients at all. How do I delete patients? How about patients who will be discharged? Does this mean my database will quickly fill up with a lot of patients if I keep adding them?

Suggestion: I know you will probably implement in the future prototype, but the interface should allow the doctor to remove a patient. I also suggest that an undo feature for deletion should be present, since it might be quite catastrophic if a patient was wrongly deleted!

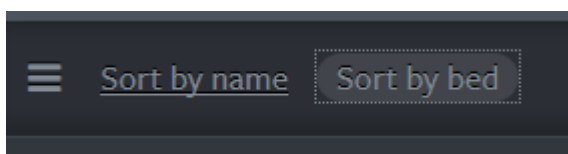
6. **(Minor) Inconsistent Tab Colours** (Internal Consistency)



The colouring of the tabs seems a bit inconsistent. When I click a tab, I expected it to be a different colour, but in this case, the un-clicked overview tab is grey while prescriptions and administration are yellow. This is a small issue but I think the colouring scheme could be more consistent.

Suggestion: Make the tabs the same colour scheme.

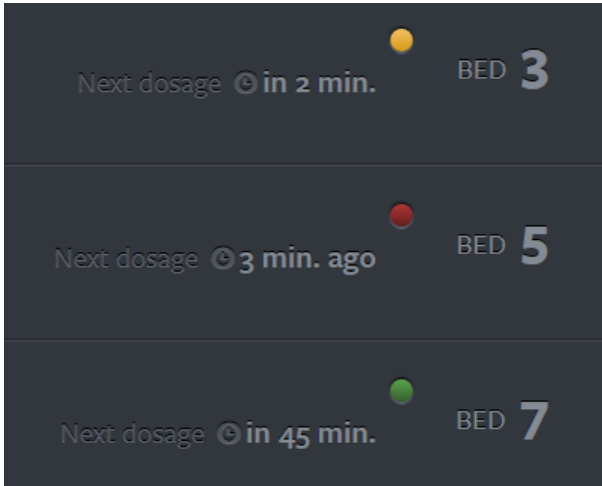
7. **(Catastrophic) Sorting by Dosage not present** (Efficiency)



As a doctor, I believe the most crucial thing I would be concerned about would be the schedule for drug delivery. I realized that it was impossible for me to sort by “Next Dosage”, which presents a large efficiency problem. I have labeled it catastrophic because it could also be potentially dangerous for the patient if the doctor misses out on the drug delivery time. I understand that the status of drug delivery is represented by coloured dots however, which brings me to the next point.

Suggestion: Simply add a new method to sort by “Next Dosage”.

8. **(Minor) Confusing Color Indicators** (Efficiency, Internal Consistency, Learnability, Visibility)

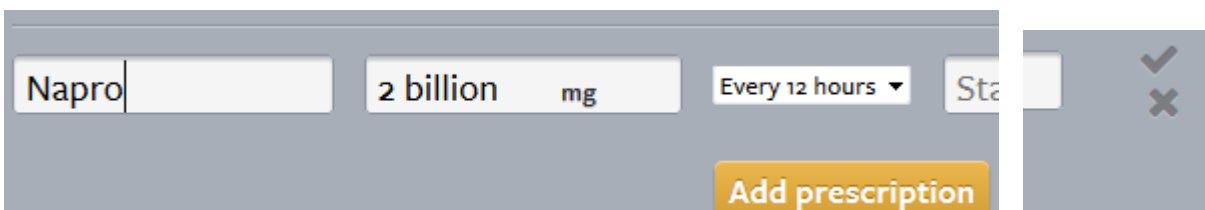


There are a few issues with this. Firstly, I was a bit confused as to what the dots represented, but I figured that it probably meant the time to the next dosage, with red being urgent and green being not so urgent. However, I realized that the colours actually also described the time **after** a dose was given or missed. So now I'm really not sure what the colours really mean. One example of a bad implementation of colored indicators are the stars beside ebay usernames. I had to check online to find out what they meant, and I could not remember the ordering afterwards. The confusing symbols make it a bit less learnable and a bit less efficient.

Secondly, a squint test shows that the yellow dot pops out the most, followed by green, and the red simply fades into the grey due to its poor contrast. I believe the red should be the most prominent; in this case, it's the least visible.

Suggestion: Try a slightly different indicator colour scheme. Perhaps use different colours/hues, or even forgoing the colours, using no indicator for non-critical doses, a yellow indicator for urgent ones and a flashing one for missed doses.

9. **(Major) No checks or auto complete for drug prescription** (Safety, Error Prevention, Efficiency)



This can be viewed as a few problems in one. Firstly, there is no auto complete in the drug-name input. I believe that there are many patients who might need similar drugs, so this will help in efficiency, and also will help the doctor in spelling the complicated drug names.

Secondly, there needs to be some sort of safety check for the prescription, so the user will not enter impossible dosages. For example, if the prescribed dosage is unusually high, it would be nice if the interface prompts the doctor that the dosage is unusually high and pops an alert message.

Finally, I realized that you needed to click the grey tick to save the drug; I initially tried to click "Add

Prescription” but realized that it was to make space for a new prescription.

Suggestion: Add autocomplete, add some sort of check for prescription input, change the “Add Prescription” button to something like “Add new input for prescription” and make the tick more visible, by making it into a button with a word “Save” on it.

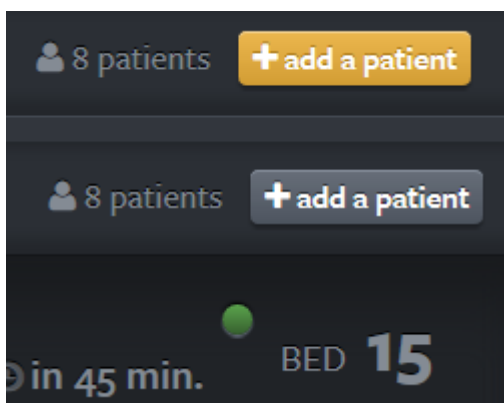
10. **(Major) Editing Patient Information** (Error Recovery, User Control, Efficiency)



I could not find out how I could add newly discovered allergies, change other medications, patient history and others. I know you probably haven’t implemented it in your prototype yet, but I think this is an important feature, since the patient status may change dramatically since he/she is in the ICU.

Suggestion: Add features to edit patient information. One more suggestion: it might also be a good idea to add an entry for emergency contact information, so his family members can be easily contacted in case something happens.

11. **(Minor) Adding Patient Button** (Internal consistency, Affordance)



The add a patient button is yellow when no patient is selected, so I know I can click on it. After I select a

patient, it turns grey, but I can still click on it. The removal of the yellow also removes its information scent of clickability.

Suggestion: Do not change it from grey – just leave it as yellow since it’s always clickable.

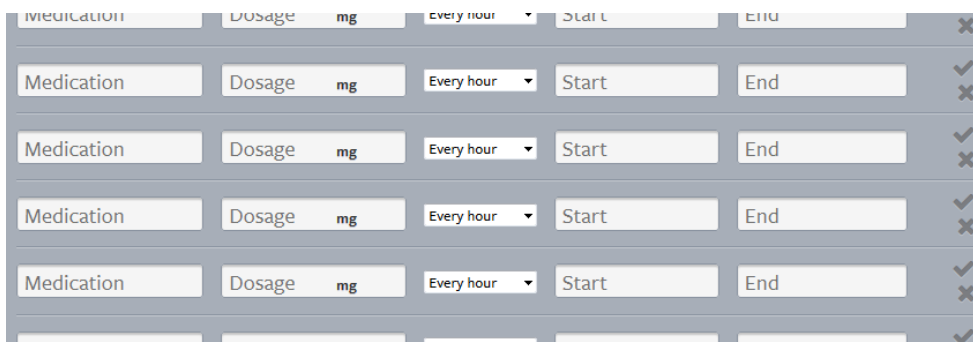
12. (Minor) Top-bar doesn’t do anything (Efficiency, Aesthetic Design, Minimalism)



The top bar sits at the top of the screen and doesn’t do anything other than take up space and let me know that I am Dr. Strangelove. It could do a lot more, making it more efficient since it sits above everything all the time.

Suggestion: Allow the logo to be clickable which may perhaps bring the user to some sort of home page? Also, allow the user to edit his profile, but I’m sure that you just haven’t implemented it in this iteration.

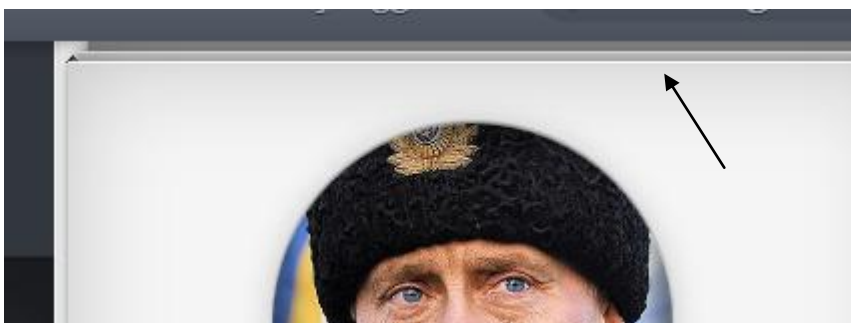
13. (Minor) Multiple Rows of Prescription (Aesthetic Design, Minimalism, Efficiency)



I can create basically infinity rows of prescriptions which remains there even when left empty. I understand that it may be more efficient when entering prescriptions, but these can be removed when they are not used and when the doctor goes back to the page. Otherwise, he would have to click the cross many times, and may accidentally click save.

Suggestion: Clear unused prescriptions input area.

14. (Minor) Unknown Functionality (Affordance)



What is that? It looks like more pages which I can flip through, but I don’t know how to do that. Perhaps it’s not implemented yet, but it looks like an affordance which made me try to do something but

couldn't.

Suggestion: If there is no functionality, fix the image, or if there is, provide clear affordance to manipulate it.

CONCLUSIONS

In conclusion, I think your site is a very nice, elegant and well put-together site, with a very strong, clean design and a cohesive feel! I was quickly able to understand your site even without reading your wiki page, and I think this speaks well about how the interface achieves its purpose efficiently and with external consistency to similar interfaces, making the interface both easy to learn and easy to use.

Also, I understand that not all the components are done because this is just a prototype, so some of my comments here are probably more like reminders. I had a great time playing around in this prototype and I'm looking forward to see it progress!

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