

Icon/Text Redesign

<i>Design Suggestion</i>	<i>Rationale</i>
<p>Red "alert" button and blue "task" button should be moved apart, or the blue color should be changed. The red text contrasted with a blue background on the navigation bar must also be changed.</p>	<p>"Large adjacent areas of red and blue should be avoided as users have difficulty focusing on these colours at the same time, causing visual fatigue" (Helander, 1987).</p>
<p>Icons should be distinguishable metaphorical representations.</p> <ul style="list-style-type: none">• Icons for "Inbox" and "Compose" are the same color and image, and thus do not convey different tasks. These icons must easily communicate their distinct functions.• Using "F" and "M" instead of the more complex and less familiar gender symbols may be clearer and easier to read.• The bulls-eye graphic which represents the number of completed and total number of orders does not translate well with the information it is supposed to display. This icon is misleading. In addition, users cannot see all of the information without clicking on the icon multiple times. There should just be a display of numbers (i.e. $\frac{3}{5}$) to represent 3 out of 5 orders complete.	<ul style="list-style-type: none">• "Icons should be simple, understandable and distinguishable" (Maguire, 284).• A symbolic sign is preferable only if the symbol reliably depicts visually what it is intended to represent (Sanders and McCormick, 119)

<p>Size of the font as well as the space between each icon should be manipulated.</p>	<ul style="list-style-type: none"> • For individual text letters, a 3:5 width-to-height ratio is well supported by research and is quite satisfactory for most purposes (Sanders and McCormick, 104). • “When reading is critical...or when the characters are subject to change, the character heights should be increased” (Sanders and McCormick, 106). • “For touch screens, the minimum touch area (allowing for gloved hands) should be 2.6 cm²” (Maguire, 284).
<p>Relocate “remove” icon that is present on an unassigned patient screen. Icon should be more appropriately placed, smaller in size, and should not be such a bold red color.</p>	<p>The option to remove a patient is not as much of a priority as some of the other options that are available on this screen. The obvious presence of this “remove” icon right next to the patient name is both distracting and makes it easy for the user to accidentally select this option.</p>
<p>The “Add Order” icon under tasks must be redesigned in a way that makes it more similar in shape and form to the other icons. Presently, this function does not look “clickable” and looks oddly out of place.</p>	<p>This icon should have round cornered buttons like the other icons in the application. Things that are similar in function (icon buttons) should follow the same scheme for consistency and maximum comprehension of function.</p>

Framework Redesign

<i>Design Suggestion</i>	<i>Rationale</i>
<p>Color contrasts must be manipulated. For example, the dark grey in the "All Patients" section should instead be light grey so as to keep a high contrast between the text and the background.</p>	<p>"Ensure contrast between text and background is high" (Maguire, 284).</p>
<p>All of the four categories in the "All Patients" section should be displayed together so that users don't need to scroll to reach each category.</p>	<p>"Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate" (Nielsen).</p> <ul style="list-style-type: none">• Having all four categories displayed at the same time reduces memory load. The user will not have to remember the order of options or waste time scrolling to find a particular option.
<p>Frames might be redesigned more clearly as to satisfy the closure principle. For example, in the task the section, the button "+" seems not very useful, and the frames for the "class" and "category" are not clear.</p>	<p>"Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions" (Nielsen).</p> <ul style="list-style-type: none">• The standards of the "+" sign with interface is usually to expand or contract information vertically. In Cronos, it is being used to hide and show information horizontally, thus going against users' expectations.

<p>Under patient orders, "active" and "inactive" buttons are not very noticeable, and blend in with the other icons on the left hand side of the screen. In addition, the buttons do not look very "clickable". There is no need for two buttons.</p>	<p>Hick's Law regarding information theory states that decision time is a function of the number of possible choices ($H = a + b \log_2(N + 1)$). The more choices available, the more time it takes an individual to make a choice (less choices= less time deciding).</p>
<p>The "Alert" notification on the main navigation scroll bar should be moved to a more noticeable spot, preferably the top left.</p>	<p>Information is more easily processed when it is presented in a way that enforces our cultural norms. Since in Western culture, we start reading from the top left hand corner, this positioning of the alert button would be optimal in grabbing the user's attention.</p>
<p>The "Inbox" and "Compose" icons on the main navigation scroll bar should be combined into one "Mail" icon.</p>	<p>Hick's Law</p>
<p>If "Alert" button is moved and "Inbox" and "Compose" are combined into one "Mail" icon, scrolling would be eliminated as being necessary navigation.</p>	<p>"Try to avoid splitting a menu over two pages, possibly by having two columns of options on one page. If it is essential to split it over two pages, provide clear controls for 'more options' and 'return to previous options'" (Maguire, 279).</p>
<p>Organize information in a way so that it is grouped based on specific rules so as to reduce redundancy. For instance, in the "All Patients" section, all patients' information can be sorted based on the physicians they've been assigned to.</p>	<p>"Chunking" information into clearly distinguishable and comprehensible categories makes it easier to access and recall information.</p>

<p>Way-finding should be changed in a way that reduces the number of steps you must take to get back to a certain point. There should be a "back" button. Instead of go back to the page, the "back" button should go backward for one step.</p>	<p>"If the user is moving down through a sequence of hierarchical menus (a maximum of three levels is recommended), it may be possible to present a conceptual pathway by showing the current menu partially overlaying the previous one. (Maguire, 277).</p>
<p>Under the patient details, when you want to look at actions you must go to the "orders" icon, but when you want to order an action you must go to the "tasks" button. This is inconsistent and confusing. Consider renaming these icons or consolidating them to make it less confusing.</p>	<p>"Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions" (Nielsen).</p>
<p>Under "status", there is too much text. The task (i.e. "check in" or "registration done") and the corresponding time should be flushed to the right and presented in a more delineated and regimented format.</p>	<p>Having all the tasks aligned on top of each other and their corresponding times aligned on top of each other makes the information easier to locate and process. The less muddled with text and inconsistent delineation, the easier it is to extract information.</p>

The Sentient Locked Page is the "lock" page that shows up when you have been idle while using the application. However, the word "sentient" may cause confusion to what has been locked since the application is called "Cronos" and not "Sentient". Sentient may have an unfamiliar connotation to the user. A possible design solution is to have the following appear when idle: "Cronos Locked, please enter password to log back in."

- Match between system and the real world- "The system should speak the users' language, with words, phrases, and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order" (Nielsen).
- Help users recognize, diagnose, and recover from errors- "Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution" (Nielsen).

Adjusted Screenshot:

CRONOS		Mon	1:36PM
All	Unassigned	Mine	Discharged
 Abc, Sat 25 yo F	Headache		3/5 ED A
 Berg, Even 23 yo M	Back pain		3/3 WR 2
 Brown, Arun 40 yo M	Fever		2/2 WR 1
 Klyn, Matt 35 yo M	Depression		2/2 WR 2
 Marz, Nora 32 yo M	Trauma		1/4 ED 2

 Home	 Order	 Alert	 Mail	 Phone
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