8 Golden Rules of Interface Design

Ben Shneiderman's eight golden rules are intended to help designers solve problems, and for this purpose Shneiderman offers them significant help with his eight heuristics. In order to improve usability, an interface needs to be well designed to be "user-friendly"[1].

Ben Schneiderman's 8 golden rules are:
1. Strive for Consistency: *by utilizing familiar icons, colors, menu hierarchy, call-to-actions, and user flows[2].*
2. Enable frequent users to use shortcuts: *keyboard shortcuts for copying and pasting, so as the user becomes more experienced, they can navigate and operate the user interface more quickly and effortlessly[2].*
3. Offer informative feedback: *The user should know where they are at and what is going on at all times. For every action there should be appropriate, human-readable feedback within a reasonable amount of time[2].*
4. Design dialogue to yield closure: *Tell them what their action has led them to[2].*
5. Offer simple error handling: *Systems should be designed to be as fool-proof as possible, but when unavoidable errors occur, ensure users are provided with simple, intuitive step-by-step instructions to solve the problem as quickly and painlessly as possible[2].*
6. Permit easy reversal of action: *offer users obvious ways to reverse their actions[2].*
7. Support internal locus of control: *Allow your users to be the initiators of actions. Give users the sense that they are in full control of events occurring in the digital space[2].*
8. Reduce short-term memory load: *interfaces should be as simple as possible with proper information hierarchy, and choosing recognition over recall[2].*

Figure 1: Ben Schneiderman's 8 Golden Rules

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8 Golden Rules

1. Strive for Consistency:
   ● Use Vue js default font style consistently
   ● Use consistent colour scheme
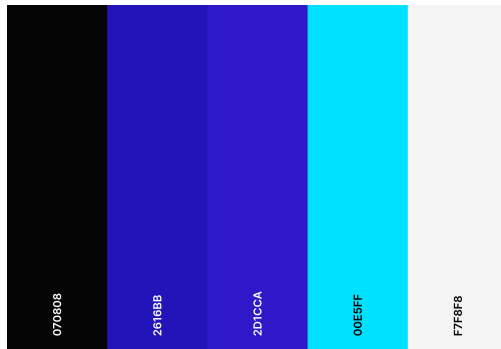
   ● Re-usable ui components for consistent styling
   ● Consistent form design

2. Enable frequent users to use shortcuts:
   All keyboard shortcuts already provided by browser
   ● Ctrl+R
   ● Ctrl+C
   ● Ctrl+X
   ● Ctrl+V
   ● Ctrl+Z

- Ctrl+A
- Tab

Add: Enter to submit

3. Offer informative feedback:
   Implementation:
   - Button highlights when hovering over it
   - Cursor changes to loading after clicking a button
   - Redirect to a loading page before redirecting the user to their correct page
   - When a user inputs an image, display the name of the image

4. Design dialogue to yield closure:
   Implementation:
   - A success card dialog pops up informing the user their task has been completed successfully
   - Show the newly changed email or phone number if the user has changed either details
   - Redirect the user to a page that thanks them for voting after they have voted

5. Offer simple error handling:
   Implementation:
   - Display a 404 page not found page if an incorrect url is entered
   - Display an error if a required input is empty
   - Display an error if a form input is not entered with the correct details or format
   - Display an error if there is a problem submitting a form
   - Display an error if the user votes incorrectly
   - If the user is not supposed to be at a certain webpage, redirect them
   - Clear error messages with suggestions

6. Permit easy reversal of action:
   Implementation:
   - Form reset button to clear the form
   - Use the navigation bar to go to their intended page

7. Support internal locus of control:

Implementation:
- A confirmation dialog box pops up to ask user's to continue or go back and check
- Navigation bar to allow users to freely navigate through the system
- Allow users to change their email address or phone number
- Allow users to change their password if forgotten

8. Reduce short-term memory load:
Implementation:
- Big and suggestive titles to display the current page the user is on
- For the admin, display how many candidates have been added and how many are required
- Tell the user to check their email for an authentication code

Interface Objectives

<u>Usability Goals</u>

The primary usability goal is accessibility, make the voting web application accessible to ensure a user-friendly interface for a user of any background such as age and computer knowledge. A readable and clear font will be chosen as well as contrasting text colours to aid visual impairments.

The second usability goal is efficiency, to make the user interface as efficient as possible for speed and low mental load during the use of the system, these will be incorporated by prioritising low click rates, optimisation for faster processing and a loading screen to provide feedback on page loading times.

The third usability goal is learnability, to design the system in a way that is intuitive and easy to understand. These can be implemented using familiar patterns for navigation and recognition, offer instructions and provide user feedback on actions using messages or progress indicators.

<u>UX Goals:</u>

The two user experience goals are satisfaction and aesthetics, it is vital to ensure the user is satisfied with their voting experience and motivated enough to vote again later in the future as they may use the system multiple times. Satisfaction will be incorporated by ensuring the system is responsive through various devices and screen sizes, allowing the user to vote from any platform. Aesthetics will be incorporated using a fixed color scheme, font and spacing throughout the design.

Design Principles

Colour Scheme

The color theme chosen for the system design is blue as blue represents trust and integrity. The right-most color, white is chosen as the background with the left-most color, black chosen as the text. [#2616BB] is chosen as the primary color as it has the most contrast to the background with a stronger call to action, [#00E5FF] as the secondary colour with less contrast compared to the primary color and [#2D1CCA] as the accent colour to complement the primary colour.
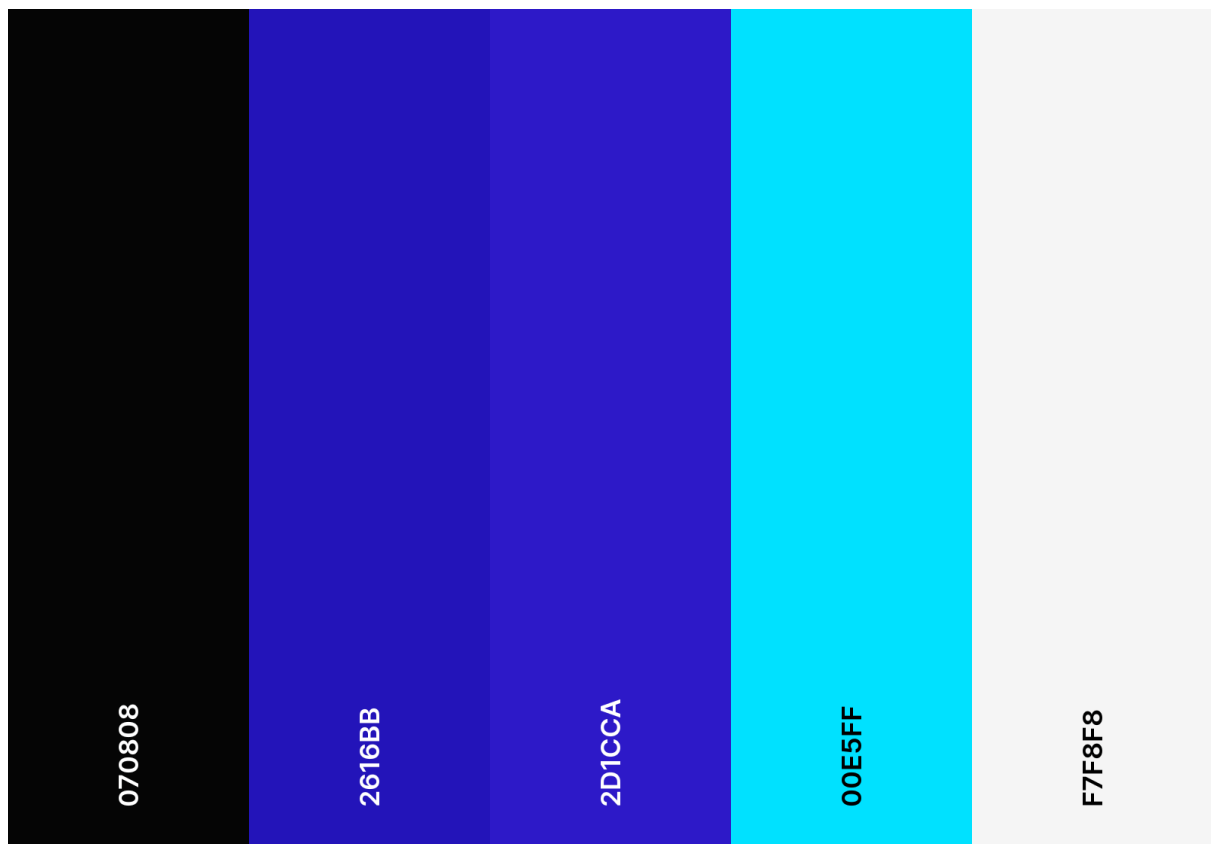

Figure 2: Colour palette

Font

The font chosen is Roboto from google fonts as part of the sans serif family for ease of readability.

The icons will be imported from FontAwesome. The icons used will be simple and solid icons using the text colour as their primary colour.

This is Heading 1 --> 40px

This is Heading 2 --> 32px

This is Heading 3 --> 24px

This is text --> 18px

References

Shneiderman, B., 1986. Eight golden rules of interface design. *Disponible en*, *172*.

Mazumder, F.K. and Das, U.K., 2014. Usability guidelines for usable user interface. *International Journal of Research in Engineering and Technology*, *3*(9), pp.79-82.

Nacheva, R., 2015. Principles of user interface design: important rules that every designer should follow. *IZVESTIA, JOURNAL OF THE UNION OF SCIENTISTS-VARNA, ECONOMIC SCIENCES SERIES*, *1*, pp.140-149.