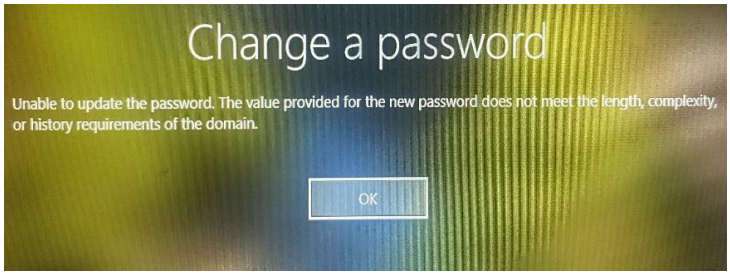
Design Diary Assignment 1 *Yağmur Dolunay 29323*

1. Introduction and Association with the Literature

Task Description

The task involves changing the password on a Windows system interface that requires certain criteria for the password's length, complexity, and history. The goal is to help the user create a new password that meets these requirements without confusion by providing the necessary information. Additionally, the interface has a "Cancel" button at the bottom, which could be mistaken for a submit button, adding to the potential confusion. The goal is to allow users to create a compliant password and submit it successfully without unnecessary frustration or errors.



Problem Definition

Personally, I encountered this problem on my company computer when I had to change my password because my password was limited within 3 months. Since I did not know the password requirements, I tried to solve this problem by changing the location of the characters of my old password, but when the result was unsuccessful again, we had to determine my password together with the employee in charge of information technologies.

Based on my personal experience, the definition of the problem in general is:

Ambiguous Error Messages: When a user tries to create a password that does not meet the system's criteria, the error message does not specify which requirement was not met (length, complexity, or history), which makes it difficult for the user to figure out how to fix the error.

Lack of Instructions: The interface does not provide clear instructions or feedback about password requirements before the user starts creating the password, which leads to trial and error behavior.

Misleading Button Placement: The absence of a clearly labeled submit button and the placement of the "Cancel" button at the bottom of the form can cause users to accidentally click "Cancel"

instead of submitting their password. This design could result in data loss and force users to start over, adding unnecessary frustration and confusion to the process.

Why is it an HCI Problem?

This is an HCI problem because it directly affects the user's ability to complete a critical task—changing their password. The design issues violate essential HCI principles by creating confusion, increasing error rates, and forcing users to engage in trial and error to meet the system's expectations. This leads to a poor user experience.

Framework/Theory - Norman's and Schneiderman's Principles

Norman's Seven Stages of Action:

Forming the Goal and Intention: Users aim to create a valid password and submit it. However, the absence of clear password guidelines and the confusing button placement disrupt users' ability to form the correct intention (Norman, 2013).

Specifying the Action: Without visible password requirements, users cannot clearly specify the action needed to create a compliant password, leading to repeated attempts. Additionally, users may mistake the "Cancel" button for the "Submit" button due to poor placement and labeling.

Executing the Action: When the user submits a password, unclear error feedback and the possibility of accidentally canceling the process complicate the execution phase, as the user may not know how to proceed or may unintentionally erase their progress (Norman, 2013).

Perceiving and Interpreting the State of the System: The feedback provided by the system is vague, failing to indicate which specific password requirement was not met. Additionally, accidentally clicking the "Cancel" button may confuse users who do not understand why their action erased their data (Norman, 2013).

Schneiderman's Eight Golden Rules:

Offer Informative Feedback: The system's error messages are vague and do not clearly specify which requirement (length, complexity, or history) was not met, violating Shneiderman's rule of providing informative feedback (Shneiderman, 2016).

Error Prevention and Simple Error Handling: Placing the "Cancel" button at the bottom, where a "Submit" button is typically located, creates a situation where users may click it by mistake. This violates the principle of error prevention, as users may lose their progress unnecessarily. Additionally, not displaying the password guidelines upfront forces users into a trial-and-error process, which could easily be prevented by clear instructions (Shneiderman, 2016).

Reduce Short-term Memory Load: Users should not have to remember password complexity rules or repeatedly guess them. Displaying these requirements upfront would reduce cognitive load and simplify the task (Shneiderman, 2016).

2. Recommendations and Proposed Solution

To resolve these issues, the following improvements are recommended:

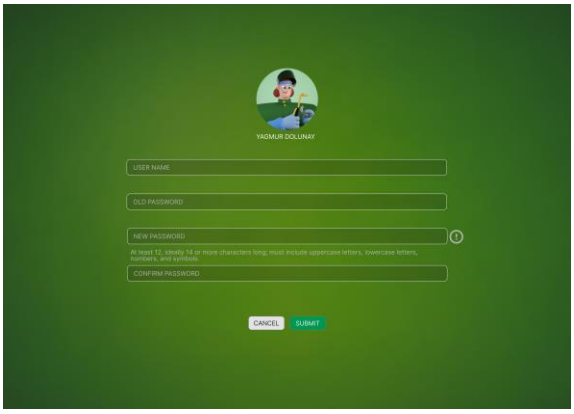
Provide Clear Guidelines: Display the password requirements (length, complexity, special characters, etc.) directly on the password creation screen. This would allow users to create a compliant password on their first attempt, reducing frustration.

Rearrange Buttons: Add a clearly labeled "Submit" button in a more intuitive location.

Why the Proposed Solution is Better

These solutions directly address the HCI principles outlined by Norman and Shneiderman. By providing clearer guidelines, preventing common errors, and offering more information, the user experience will be significantly improved. Users will feel more in control of the process, reduce cognitive load, and avoid making accidental errors due to poor button placement.

Prototype in Figma



In the prototype, there are 2 pages that one is without the information, that is the starting page, when the user clicks the new password, the password requirements are displayed. Also there is one cancel and one submit button, so that users would not be confused.

Prototype link: https://www.figma.com/proto/MIYAtejQ2f2slDKmw3ZMIR/Untitled?node-id=0-1&t=D9GDMWxxrqD6ZKQC-1

3. References and format

Norman, D. (2013). The Design of Everyday Things: Revised and Expanded Edition. https://openlibrary.telkomuniversity.ac.id/home/catalog/id/117488/slug/the-design-of-everyday-things-revised-and-expanded-edition.html

Shneiderman, B., Plaisant, C., Cohen, M., Jacobs, S., Elmqvist, N., & Diakopoulos, N. (2016). Designing the User Interface: Strategies for Effective Human-Computer Interaction (6th ed., pp. 81-120). Pearson.

Figma link: https://www.figma.com/design/MIYAtejQ2f2slDKmw3ZMIR/Untitled?node-id=0-1&t=D9GDMWxxrqD6ZKQC-1