Exercise 1: Noticing the design of everyday things-doet

1. Drinking Water Fountain

    The drinking water fountain has a pressure-sensitive button that controls the flow of water. However, the button lacks clear indicators about the sensitivity level, leading to inconsistent user experiences. Users often face unexpected splashes or a face full of water if they press too hard. This issue affects learnability, as first-time users may not know how to properly adjust the pressure. Efficiency is compromised because users must experiment to find the right pressure. Safety is a concern as the sudden spray of water can startle or discomfort users, potentially causing an unpleasant experience.

    The primary dimension affected is learnability. New users are not informed about the sensitivity of the button, leading to a trial-and-error approach to control water flow. This issue also impacts efficiency since users might waste water or become frustrated while trying to achieve a steady stream. Safety is compromised as users might get an unintended splash of water.

    Implementing a pressure limit mechanism would address these usability issues. A controlled pressure system could ensure a consistent and moderate flow of water, preventing excessive splashing. Adding clear visual indicators or instructions near the button would inform users about the correct pressure to use. Also designing the button to have a gradual resistance could help users easily find the right pressure without sudden surges of water. These improvements would enhance user satisfaction and encourage repeated use of the fountain.

2. Refrigerator Ice tray

       The ice cube tray features a lever mechanism intended to release ice cubes by flipping the tray upside down. However, due to the cold temperature, ice cubes often freeze tightly and fail to release when the lever is turned. This issue significantly diminishes the functionality and effectiveness of the tray, making the design impractical.

       The primary dimension affected here is efficiency. Users find the ice tray ineffective because the ice cubes do not release as intended, which complicates and delays the process of retrieving ice. Learnability is also impacted, as users may struggle with a design that does not perform reliably, leading to confusion and frustration. Safety is less affected but still relevant, as users might exert excessive force or try alternative methods to remove the ice, potentially causing accidents.

       To improve the usability of the ice tray, several changes can be considered. One approach is to reduce the amount of water per ice cube, which can help prevent the ice from freezing too tightly. Alternatively, redesigning the tray to include an additional mechanism, such as a twisting feature, could help facilitate the release of ice cubes by breaking the bond between the ice and the tray. These changes would enhance efficiency, making the tray more user-friendly and effective.

3. Light Switches

Many standard light switches are designed in a simple up/down fashion, but this can lead to confusion, especially in multi-switch configurations where it's not immediately clear which switch controls which light. This impacts learnability as new users may need to experiment or ask for guidance. Additionally, efficiency can be affected when users need to toggle multiple switches to find the right one, and safety issues arise if users operate switches blindly, potentially leading to confusion in critical situations (e.g., during a power outage).

To help resolve this problem, we can redesign light switches with clearer labelling. For physical switches, using colour-coded or backlit switches can enhance clarity. Clearly labelling each switch with its associated light or creating a diagram in the switch panel can help users quickly understand their functions.