Ceren Dinç 28220

Introduction

Vatan Computer is an electronics retail chain operating in Turkey. It delivers products such as phones, computers, cameras, and more from various brands to customers.

Fitts' Law highlights effective design's reliance on usability, promoting intuitive interfaces for effortless interaction with minimal effort. Also, the duration a user takes to interact with an object depends on its size and the distance to it. To put it differently, when an object is larger, the time taken to choose it decreases. Similarly, the time taken to select an object reduces as the distance a user needs to move to reach it decreases (Yablonski, 2020, p. 13). Fitts also suggested a metric for measuring the Index of Difficulty (ID) in a task involving selecting a target, where the distance to the center of the target (D) can be thought of as a signal, and the width of the target (W) can be seen as a noise (Yablonski, 2020, p. 15).

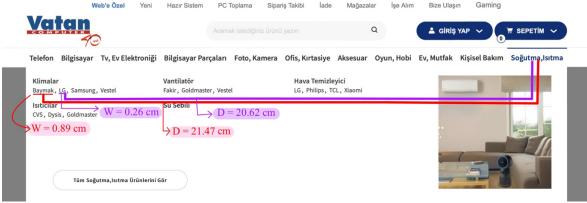


Figure 1. The Navigation Bar of Vatan Computer

As can be seen from the Figure 1, two different targets (Baymak, LG) are chosen to calculate Index of Difficulty separately. Also, in both cases the cursor is positioned on the 'Soğutma, Isıtma' option in the navigation bar. However, as explained in the next section, targets are not sufficiently large in width, and the distances from the cursor to the targets are too much. Considering all of this information, the fact that the Vatan Computer website does not implement Fitts' Law in its design is an issue related to Human-Computer Interaction (HCI).

Analysis with Fitts' Law

As can be seen from the Figure 1, the first target, namely Baymak, has an insufficient width (0.89 cm), and an excessive distance from the cursor (21.47 cm), so it has resulted in a high Difficulty Index (5.59). Similarly, the second target, LG, has a narrow width (0.26 cm) and the distance from cursor to it (20.62 cm), resulted in a high Difficulty Index (7.3).

 $Index\ of\ Difficulty\ (ID) = log_2(2*distance\ to\ move\ (D)\ /\ width\ of\ target\ (W))$

$$ID_{baymak_red} = \log_2\left(2 * \frac{21.47 \ cm}{0.89 \ cm}\right) \cong 5.59$$

$$ID_{\lg_purple} = \log_2\left(2 * \frac{20.62 \ cm}{0.26 \ cm}\right) \cong 7.3$$

Proposed Solution



Figure 2. New design of the navigation bar of Vatan Computer

As can be seen from the Figure 2, I began the solution by shifting the image to the left, ensuring that the targets were closer to the cursor. Additionally, I adjusted the font size of the text. Consequently, Index of Difficulty calculations yielded 4.57 for the Baymak target and 6.04 for the LG target. The reduction in ID results can be attributed to the decreased distance between the cursor and the targets, coupled with the increased width of the targets.

Index of Difficulty (ID) = $log_2(2 * distance to move (D) / width of target (W))$

$$ID_{baymak_red_new} = \log_2 \left(2 * \frac{15.77 \ cm}{1.32 \ cm} \right) \cong 4.57$$

$$ID_{\text{lg _purple_new}} = \log_2\left(2 * \frac{14.57 \ cm}{0.44 \ cm}\right) \cong 6.04$$

References

Yablonski, J. (2020). Fitts' Law, Ch.2 pp. 13-21. Laws of UX. O'Reilly Media.

The Figma Link

 $\underline{https://www.figma.com/file/cz0s3ZkdeVlLH5opToWqXy/cerendinc_hw2?type=whiteboard\&node-id=0\%3A1\&t=6sWki3ieMCZjJodR-1$