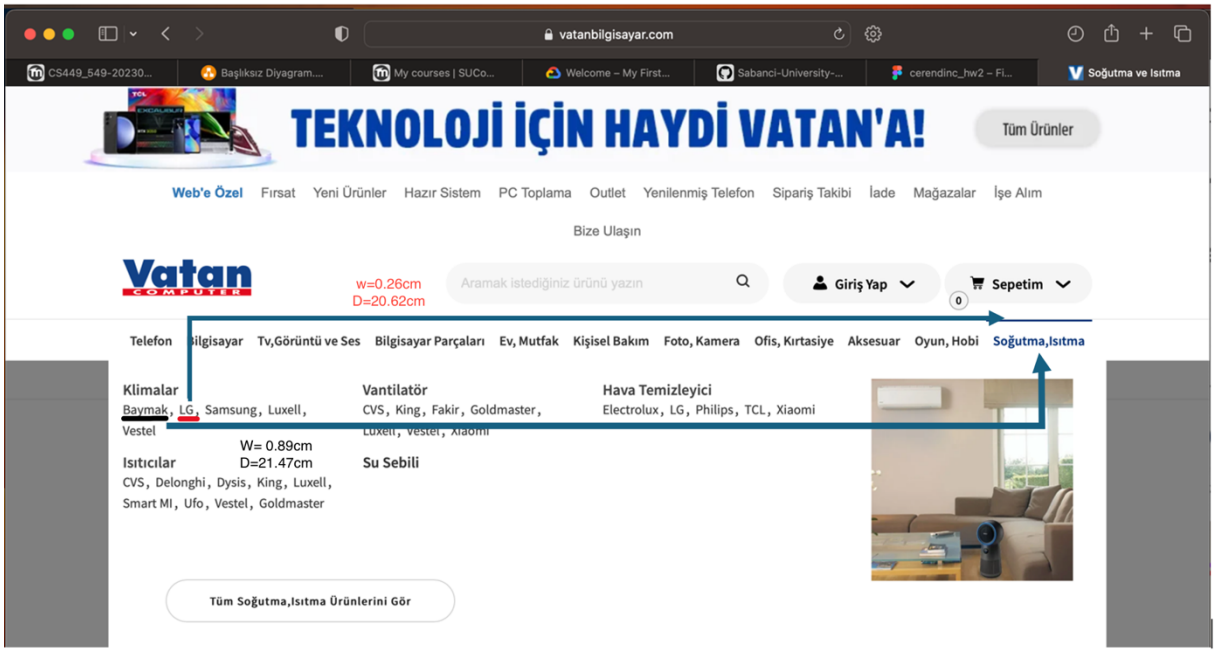
Introduction

The website of well-known electronics merchant Vatan Computer is an essential conduit for consumer interaction. Fitts' Law is a foundational idea in the field of human-computer interaction that directs the ergonomics of interface design. According to this law, the size and distance of the object from the user determine how long it takes to travel toward it. Just as a closer target facilitates faster engagement, a larger target shortens the selection time (Fitts, 1954). Fitts also presented a mathematical method for estimating the complexity of point-and-click activities based on the separation between the target's width (W) and center (D), where W is referred to as "noise" and D as the "signal."

It is evident by looking at the Vatan Computer website that Fitts' Law concepts might be used to improve the interface's design, particularly in the navigation bar. To illustrate this concept, two items from the navigation bar—"Baymak" and "LG"—have been chosen.

Analysis with Fitts' Law

The Baymak and LG links in the navigation bar are the subject of the analysis. These targets have widths of 0.89 cm and 0.26 cm, respectively, with distances from the cursor of 21.47 cm and 20.62 cm, with the cursor beginning on the 'Heating & Cooling' section. High Difficulty Indexes result from such measurements; Baymak's is 5.59 and LG's is 7.3. The following formula is used to determine the calculations:



ID = log2((2 * D)/W)

For Baymak: ID = log2((2 * 21.47)/0.89) ≈ 5.59

For LG: ID = log2((2 * 20.62)/0.26) ≈ 7.3

These values are indicators of an interface requiring substantial improvement to conform to effective HCI design standards.

Proposed Solution

Redesigning the navigation bar is the suggested remedy, as seen in this updated Figma mock-up. The target links are closer together when the image is moved to the left, and their width is improved when the text is larger. The following modifications result in new Difficulty Indexes:

For Baymak: ID = log2((2 * 15.77)/1.32) ≈ 4.57
For LG: ID = log2((2 * 14.57)/0.44) ≈ 6.04

The decline in the Difficulty Indexes is indicative of a design with improved usability and interaction speed, directly benefiting from the principles of Fitts' Law.

Conclusion

Fitts' Law applied to the Vatan Computer website demonstrates how interface design has the power to greatly improve user interaction. Web interfaces can be made more effective and user-friendly by taking into account Fitts' mathematical relationship between distance, width, and time to target.

References

Fitts, P. M. (1954). The information capacity of the human motor system in controlling the amplitude of movement. *Journal of Experimental Psychology, 47*(6), 381–391.
Yablonski, J. (2020). *Laws of UX*. O'Reilly Media, Inc.

Figma Link:
https://www.figma.com/file/ueXUCPGj07ANyycTjLCqIB/Untitled?type=design&node-id=0%3A1&mode=design&t=5W4a7Euy5CNGFppA-1