Cloud-based Endpoint Management Solutions: A Software Engineering Internship Reflection

(Technical Paper)

The Dynamics of Constant Change in UX/UI

(STS Paper)

A Thesis Prospectus Submitted to the

Faculty of the School of Engineering and Applied Science

University of Virginia • Charlottesville, Virginia

In Partial Fulfillment of the Requirements of the Degree

Bachelor of Science, School of Engineering

Yesenia Andrade

Fall, 2023

On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

Yesenia Andrade

Briana Morrison, Department of Computer Science

Travis Elliott, Department of Engineering and Society

STS Paper

The Dynamics of Constant Change in UX/UI

Introduction

This paper will explore the reasons behind the evolution of User Experience (UX) and User Interface (UI) design, focusing on the implications of this evolution for older generations in the context of web development. This paper aims to answer the question: Why is UX/UI constantly changing, and how does this impact consumer behavior and economic initiatives?

The field of UX/UI design has experienced lots of change driven by technological advancements and changing user expectations. The rise of mobile devices in the 2000s introduced new difficulties and possibilities for UI/UX designers as technology advanced. Smartphone and tablet designers had to rethink how they handled layout and interaction design due to their tiny screens and touch-based interfaces (Hassini, 2023). It's important as consumers and users to understand why this change is necessary as it affects how we engage with technology.

That being said, consumer behavior is greatly influenced by UX/UI design. Older generations may have different preferences and needs from younger generations and understanding these distinctions is very important for businesses. Teenagers rely heavily on technology for social interaction, education, and entertainment. Their introduction to the world often already begins with digital platforms. Young children have more limited exposure to technology, using it primarily for education and games. Millennials have actively contributed to usability testing and psychological analysis, shaping the field of user experience design. Seniors are new to smartphones and tablets, but they're not as comfortable with technology than younger generations. Designing senior-friendly digital platforms requires consideration of usability, readability, and accessibility features. Meeting the needs of this demographic, who may be less tech-savvy is a very important aspect of UX/UI design (Desai, 2019).

1

Finally, investing in UX/UI design can have huge financial impact on organizations. These can lead to cutting costs over time by reducing the need for customer support and increasing customer retention. As a result, companies can have reduced costs because customers that are already satisfied don't need marketing campaigns to keep them. Prioritizing user satisfaction and convenience through UX/UI design can create a competitive advantage within the industry. This advantage allows organizations to distinguish themselves from competitors and stand out to consumers (Saify, 2023). My STS topic will focus on how UX/UI advancements impact not only users but on economic implications.

STS Framework

In order to get a better understanding of the topic, the social construction of technology (SCOT) framework will be used to frame our analysis. The SCOT theory refers to a theory that describes how a variety of social factors and forces shape technological development, technological change, and meanings associated with technology (Encyclopedia.com, 2023). Technology is shaped by society. The theory was first coined by Pinch and Bijker who proposed it as a method for analyzing the history of technologies. It was later that they then outlined four components to the social construction of technology: relevant social groups, interpretive flexibility, closure, and stabilization (Humphreys, 2005).

In our analysis the relevant social groups are the designers and developers, users from all ages and places, business, policymakers, etc. Anyone with or that interacts with any social platform or technology is part of our relevant social group who play crucial roles in shaping the technological factors and influencing consumer behavior and economic initiatives. That being said, cultural differences can also impact the way users perceive color and other imagery. For example, in

Western cultures, red is often associated with danger or warning, while in Eastern cultures, red is often associated with good luck and prosperity. However, UX designers in these cultures should be aware of these cultural associations and use color and imagery appropriately to avoid confusion or misinterpretation (Ajayi, 2023). This is something that needs to be taken into consideration when making UX/UI decisions as they are seen globally.

Interpretive flexibility is defined by artifacts being open to different interpretations by various social groups. Artifacts are conceived and understood to be different things to different groups (Encyclopedia.com, 2023). In our case, UX/UI design is interpreted by many different social groups. For example, to a business it's seen as a money maker, to a senior it can be seen as something too difficult to understand, and to children it can be seen as something exciting and new. All groups have different interpretations of what makes a good user experience, leading to why UX/UI has developed so much in the past few years. Universal design's one-size-fits-all approach has proven to ineffective, often excluding users it aims to include (Peter, 2021).

In addition to addressing relevant social groups, Pinch and Bijker say that closure and stabilization are important phases within technological innovation. Closure means everyone agrees that a problem is solved. Stabilization means people keep using the same words and ideas about something over time. Another problem exists where while straightforward navigation and adherence to usability best practices benefit all users, older adults may require additional guidance and simplified interface elements to engage confidently with technology (Polyuk, 2019). The field of UX/UI design is constantly evolving as designers, developers, and users negotiate design standards and best practices.

SCOT challenges technological determinism, meaning that technology is shaped by society rather than determining societal change. In the case of UX/UI design, societal values and user needs shape the direction of technological development.

Plan for the Thesis

In order to answer the questions at hand, further research needs to be conducted. I will conduct more readings to further understand the historical context and key reasons for change in UX/UI design. I will interview and survey to hear what preferences and behavior regarding digital artifacts are preferred by different social groups. This will further help me understand business strategies and economic initiatives related to UX/UI. I will also explore how older generations adapt to new technologies and how businesses respond to their needs.

By the end of this research, I aim to provide an understanding of why UX/UI is in a constant state of change by applying SCOT principles. This will inform web developers, businesses, and policymakers, facilitating more user-centered, inclusive, and economically sustainable digital experiences for all age groups.

References

Hassini, A. (2023, January 17). The evolution of UI/UX Design: A look back and a look ahead. Medium. https://bootcamp.uxdesign.cc/the-evolution-of-ui-ux-design-a-look-back-and-a-look-ahead-56b5abced825

Saify, H. (2023, April 17). Business impacts of UI design and UX Design. UXmatters. https://www.uxmatters.com/mt/archives/2023/04/business-impacts-of-ui-design-and-ux-design.php#:~:text=A%20well%2Ddesigned%20product%20or,any%20successful%20product%2Ddevelopment%20process.

Desai, R. (2019, April 22). UX design for different user generations. Medium. https://uxplanet.org/ux-design-for-different-user-generations-a1eac5b8e403

Encyclopedia.com. (2023, October 6). ." encyclopedia of science, technology, and ethics. encyclopedia.com. 18 Sep. 2023. Encyclopedia.com. https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/social-construction-technology

Humphreys, L. (2005). Reframing social groups, closure, and stabilization in the social construction of Technology. Social Epistemology, 19(2–3), 231–253. https://doi.org/10.1080/02691720500145449

Ajayi, T. (2023, January 21). The impact of cultural differences on UX design. Medium. https://bootcamp.uxdesign.cc/groupthe-impact-of-cultural-differences-on-ux-design-5d99a4d85e96

Peter, O. (2021, November 21). Accessibility 101: Designing for Everyone - Bootcamp. Medium; Bootcamp. https://bootcamp.uxdesign.cc/accessibility-101-designing-for-everyone-b99747fc7212

Polyuk, S. (2019). A guide to interface design for older adults. Toptal Design Blog. https://www.toptal.com/designers/ui/ui-design-for-older-adults

TECHNOLOGICAL DETERMINISM THEORY- Mass Communication Context. (n.d.). Www.uky.edu. https://www.uky.edu/~drlane/capstone/mass/determinism.htm

Social Construction of Technology - an overview | ScienceDirect Topics. (2015). Sciencedirect.com. https://www.sciencedirect.com/topics/social-sciences/social-construction-of-technology