

Undergraduate Thesis Prospectus

The Digital Experience: User Experience Design Best Practices

(technical research project in Systems Engineering)

Personalization and Privacy: Conflicting Views of
Targeted Digital Advertising

(sociotechnical research project)

by

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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.

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Technical advisor: Gregory Gerling, Department of Systems Engineering

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General Research Problem

How can the digital user experience be improved?

As digital technology usage increases, how can users be better served? In 2007, there were 1.2 billion Internet users worldwide; by 2017, the number of internet users rose to 4.2 billion (Abbosh & Bissell, 2019). Garrett (2011) found that providing a quality user experience is essential for businesses seeking to maintain a competitive advantage in the digital world. Despite its importance, user experience design is often neglected in the development process (Garrett, 2011). To improve user experience, developers must improve user interaction with a site and gain the user's trust (Usability, 2014). Data privacy concerns are the main source of consumers' distrust of companies in digital spaces. According to a Pew Research Center study, 79 percent of Americans are concerned about how their data is being used (Auxier et al., 2020). In an environment where digital interactions are common, how can businesses create an optimal digital experience for their customers?

The Digital Experience: User Experience Design Best Practices

How can the user interfaces of King's games be improved?

This project is a capstone and my advisor will be Professor Greg Gerling of the Systems Engineering Department. Also, I will be collaborating with the following 4th-year Systems Engineering students: Emma Peck, Erin Hopkins, Jackie Mazzeo, and Vinh Nguyen.

King is an interactive entertainment company that specializes in the creation of mobile games. Over the past eight years, King's mobile games have acquired 271 million active monthly users (King, 2020). In the 63.6 billion-dollar mobile gaming industry, the lifespan of a top 50 grossing game in the U.S. App store is 27.75 days (Gough, 2020). Accordingly, mobile

developers design games with short-term goals in mind. This short-term thinking created design inconsistencies across King's games. These inconsistencies lessen the user experience and create a slow and inefficient development process.

This project's goal is to eliminate design inconsistencies within King's games by proposing a design system that follows 'best user experience practice' and aids designers in redesigning their mobile gaming applications. A design system is a set of standards, principles, and documentation that guide the design of a company's product. King's current resources enable it to remove inconsistencies by asking designers to use their best judgement to redesign each screen within a game. This process is time consuming and will likely introduce additional inconsistencies into the design. To develop an improved design system and implementation process, my peers and I will interview King's designers to gain a better understanding of the company's needs. Also, we will study the design systems of other web applications and conduct A/B testing on our proposed design system.

The final deliverable will be a tool that will streamline the process of implementing a consistent design system. This tool will remove the inconsistencies within King's games, thus, improving the user experience and game development process. Our deliverable will help the company establish a consistent design system for future mobile applications as well.

Personalization vs. Privacy: Conflicting Views of Targeted Digital Advertising

How do proponents and opponents of targeted digital advertising advance their respective agendas

Why is targeted digital advertising controversial? How do proponents and opponents of this strategy promote their agendas? Targeted digital advertising utilizes consumer internet activity data to identify specific traits, interests, and preferences of a customer. Advertisers apply this information to present users with ads that align with users' apparent interests. As of 2017, targeted digital advertising made up the largest share of the advertising market, surpassing television and print ads (Plane et al., 2017). The advertising industry's transition to targeted strategies sparked a spirited debate over the social, economic, and ethical implications of this method (Marotta et al., 2017). Proponents of targeted advertising cite increased advertising efficiency as the reason for their advocacy (Chen & Stallaert, 2010). Consumer rights advocates argue that the collection of detailed behavioral data can constitute an invasion of consumer privacy (EFF, 2019). In an environment where parties have conflicting interests, how do proponents and opponents of this advertising method promote their agendas?

Researchers have investigated the methods proponents and opponents of targeted digital advertising use to advance their agendas. According to Maréchal (2020), opponents of this advertising method promote their interests by encouraging shareholders to hold large digital companies (i.e. Google) accountable for addressing the ethical impacts of their data collecting practices. Maréchal (2020) also concludes that establishing a federal privacy law is an effective method to regulate corporate use of consumer information. Todt (2019) suggests that by developing transparent data privacy policies, a company can use targeted digital advertising responsibly.

Advocates of targeted advertising include corporations with prominent e-commerce presences, corporations that specialize in internet applications, and companies engaged in the sale of consumer data.

Companies with prominent e-commerce presences, such as Amazon and Walmart, value targeted advertising's ability to "provide [the customer] with more useful and relevant ads" (Amazon, n.d.). These corporations cite consumer benefit as justification for their use of this advertising strategy. According to Walmart (2020), by using consumer data, the company can "provide the products and services [the consumer] needs and wants while giving [them] the very best shopping experience." In a statement about interest-based ads, Amazon (n.d.) specifies a use case in which the user benefits from targeted advertising: "if we know what ads you (the customer) are shown we can be careful not to show you the same ones repeatedly." In response to public skepticism of targeted advertising, e-commerce giants highlight their commitment to "building a relationship of trust with customers" (Walmart, 2020). To maintain this trust, they claim to provide "clear, prominent, and easily accessible" documentation on how they "collect, use, share, and above all protect personal information" (Walmart, 2020).

Corporations that specialize in internet applications typically have similar business interests. These corporations collect consumer data to "provide personalized services, including content and ads" (Google, 2020). Like their e-commerce counterparts, these businesses believe targeted advertising helps them better serve their customers. According to Facebook (2020), they utilize this advertising method because they are "passionate about creating engaging and customized experiences for people."

Companies that sell consumer data defend targeted advertising as the means by which they help clients "create online and offline marketing activities based on [the customer's]

interests” (Oracle, 2020). Acxiom (2020) states that when data is used properly, it benefits business and individuals. Major players in this participant group are “committed to the appropriate use of data” and are “working hard to create policies that protect individuals and allow for the responsible use of data by companies” (Acxiom, 2020).

Critics of targeted advertising content that it compromises consumer privacy. Digital privacy advocacy groups that “work to ensure that rights and freedoms are enhanced and protected as our use of technology grows” are concerned that new technologies such as targeted advertising “enable unparalleled invasions of privacy” (EFF, 2019; EFF, 2020). According to the Electronic Frontier Foundation (EFF, 2020), national and international laws have not caught up with the evolving need for privacy that accompanies new digital technologies. Accordingly, the Electronic Privacy Information Center (EPIC, n.d.) argues that “the Federal Trade Commission needs to address emerging privacy issues and to safeguard the privacy rights of consumers.”

Government agencies regulate data collection practices and enforce privacy standards (Lau, 2020). The Federal Trade Commission (2019), claims it is committed to “using every tool at [its] disposal to protect consumers’ privacy and personal information.” It uses “enforcement actions to stop law violations and require companies to take steps to remediate the unlawful behavior” (FTC, 2019).

While the agendas of proponent and opponent groups are clear, one question remains: how do they mobilize their values, beliefs, and perspectives to advance their agendas? Who do they solicit support from and how do they acquire it? What methods do they use to seek change?

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