Undergraduate Thesis Prospectus

Design of an Event Clock for Easy Information Access in Shared Spaces

(technical research project in Computer Engineering)

Disclosures and Deception: How Advertisers Work Around Governmental Regulation

(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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General Research Problem

What methods have been developed to concisely convey information to wide audiences?

In the modern world, information is readily available in often overwhelming quantities (Andrejevic 2013). With this surplus comes great conflict for one's attention on a daily basis. Those who wish to disperse information must therefore do so in concise ways that stand out. This poses a challenge, as in a diverse society the opinions and views of everyday individuals become increasingly varied. Information that is concise and eye catching to one person may be confusing and opaque to another (White 2010). In this landscape, what methods have been developed for grabbing attention, and how is it kept while still conveying information to a wide audience?

Design of an Event Clock for Easy Information Access in Shared Spaces

How can displays be networked to allow for the editing of information remotely?

My capstone project is the design and creation of an event clock for shared spaces which displays currently occurring events in the space. The events are programmed remotely over a local wireless network. My technical advisor, Dr. Henry Powell of the Electrical and Computer Engineering department, and I are working alongside Neil Dolan and Tahsin Kazi. Such a device would make the usage of shared spaces much more efficient, with users able to determine if they are in the right location swiftly and without needing check an online portal. It would also reduce confusion by indicating if people are in the right location for a class, help session, or meeting.

The clock should convey information concisely, be updatable through a web interface, and to be self-contained, not relying on an external server or management tool. Other constraints

include the use of industry standard connectors and assembly techniques, creating a design that could enter mass production with few modifications. The device must be complete and working, rather than a prototype. The project will add as many features as reasonable within a cost-conscious design, improving on existing software solutions by displaying information in the location itself rather than a webpage. The brand-new Raspberry Pi Pico W microcontroller will run the event clock, using the MicroPython programming language to control the display and web interface (Raspberry Pi Ltd 2022).

When completed, the event clock will be a self-contained device capable of hosting a web interface that can create events, then display them at a given time on a LED matrix display. It will run off of wall power, connect to existing wireless networks, and use a Raspberry Pi Pico W microcontroller.

Disclosures and Deception: How Advertisers Work Around Governmental Regulation

In the U.S., how do advertisers pursue their goals despite regulation?

Advertising has had a presence in American society since its founding. With the creation of the Federal Trade Commission in 1914, the regulation of advertisements has an equally storied history (O'Barr 2005). Starting with broad powers to regulate provably false claims, the powers of the federal government to regulate advertising standards have generally strengthened over time. In addition, the advertising industry created its own self-regulatory body in 1971 to work alongside federal legislation (Dickson 2002). Despite this, advertisers' influence on consumers' spending decisions has grown (Torres-Romay 2022). Despite stronger regulatory standards and self-regulation, how have advertisers made more influential advertisements?

Existing literature on U.S advertising touches on its increased relevance in recent years. Marketing Professor Bobby Calder discusses the application of broader media engagement techniques in advertising and the shift to marketing a vessel for creating experiences, rather than to solely bring awareness to a product (Calder & Malthouse 2012). Much has also been written about the rise of targeted advertising, the process by which ads are shown to people based on interests, demographics, and search history (Speicher et al. 2018). However, the focus is often on discrimination and privacy concerns, rather than legality of targeted advertising. This leads an opening for further research, focusing on lack of regulation for modern advertising techniques.

Participants regarding advertising and regulation include multiple classes of industry workers: advertisers who work to determine more effective methods for advertising within existing regulations, lobbyists who work to reduce governmental regulations regarding advertising, and members of the advertising industry's self-regulatory organizations, who work to limit reign in advertising internally to avoid governmental intervention (Deloitte 2022; AAF 2018; BBB 2022). Participants also include consumer advocacies who seek to decrease the impact of advertising through lobbying federal agencies and awareness (Chester 2022). One of these participant groups is the American Association of Advertising Agencies (4A'), an advertising trade organization founded to "promote, advance, and defend the interests of our member agencies, employees and the advertising and marketing industries overall" (4A' 2022). 4A's operates in the pro-advertising lobbyists participant group, promoting a reduction in advertising regulation and a shift to full self-regulation, rather than both governmental and self-regulation.

Groups fulfilling a similar role to 4A's include the American Advertising Federation (AAF) and the Association of National Advertisers (ANA), acting as lobbying groups for

companies and advertising firms. These groups share similar goals to 4A's, with the ANA seeking to "[provide] the advertising community with a voice before Congress, state legislatures, Federal regulatory agencies, and the courts" and the AAF "protect[ing] and promot[ing] the well being of advertising" (ANA 2022; AAF 2022a). These similar goals result in the 3 organizations often lobbying together to reduce governmental regulation and for changes that serve to benefit the advertising industry, such as during a federal attempt to strengthen tobacco marketing regulations (Neadel 2009).

These separate organizations are able to effectively collaborate when lobbying due to their minimal overlap in regards to self-presentation. AAF focuses on consumer outreach, championing social causes through events such as the Mosaic Awards, for advertisements that support the BIPOC, LGBTQIA+, and Disability communities (AAF 2022b). In doing this, the AAF paints itself, and by extension the companies and industry it represents, as a socially responsible industry, thus reducing the perceived need for governmental regulation. Similarly, 4A's works to improve its public appearance through monetary assistance programs such as the 4A's Foundation, providing scholarships and schooling to underprivileged individuals pursuing work in advertising. These grants and scholarships are viewed as a social good, and improve the image of 4A's, and through them the advertising industry as a whole. Contrasting 4A's and AAF, ANA is largely industry focused, utilizing its association with 4A's and AAF to improve consumer views, rather than having programs dedicated to image building. This lack of overlap ensures that these organizations do not compete for mindshare and instead promote a united front, strengthening arguments and improving reputation through association.

Industry self-regulatory organizations, such as the Better Business Bureau's National Advertising Review Board (NARB), similarly promote the idea that governmental regulation is

limited in utility. Unlike industry lobbying groups, NARB supports the existence of advertising regulation, but views it as a last resort, preferring to promote voluntary compliance with industry defined standards and a high level of transparency (BBB 2022). This focus on transparency is their primary method of appeal, as they seek to build trust with the general public and "ensure consumers receive truthful and accurate advertising" (BBB 2022). By pushing advertisers for compliance, publishing instances of rule breaking, and recording examples of false advertising, NARB seeks to establish itself as the authority on advertising standards, superseding governmental regulatory bodies and only relying on them in extreme cases.

Consumer advocacies wield less industry influence than pro-industry groups, and rely primarily on petitioning and consumer outreach to promote their views. A recent example comes from advocacy Accountable Tech, which petitioned the federal trade commission for "Rulemaking to Prohibit Surveillance Advertising," (software that views user data to further tailor advertisements) (FTC 2021). Arguing for increased consumer protections and increased disclosure in line with E.U. advertising regulations, this petition received backlash in the form of a lobbying campaign from the Interactive Advertising Bureau (IAB), a similar trade organization to 4A's, the ANA, and the AAF (Fang 2022). In response, Accountable Tech has focused on raising awareness regarding lobbying campaign, pointing out hypocrisy in the messaging of the IAB, and the disconnect between their public statements and lobbying efforts. In doing this, they hope to further their cause by painting their opposition as untrustworthy.

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