

Undergraduate Thesis Prospectus

**Application of In-Vehicle Location Data from Crash Sites to Crash
Prevention**

(technical research project in Computer Science)

Social Media Detox Movements in the United States

(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

How can we reduce car crashes from distracted driving?

Application of In-Vehicle Location Data from Crash Sites to Crash Prevention

How may a state department of motor vehicles apply in-vehicle location data from crash sites to identify dangerous road conditions?

Crash data from the past 15 years will be compiled and the coordinates of each incident will be run through an algorithm to give each radius of 5 miles of road danger score awarded by an algorithm. These results will be utilized to create a probabilistic model for these particular areas. The models will be used to predict areas of the road that need priority for fixing. These results would be utilized by professionals to any poorly designed roads, or prioritize repair for roads with more crashes. Currently, this project is purely hypothetical, as I don't have a research problem for Computer Science until next semester. There is not any faculty involved with this venture, nor any concrete goals.

Social Media Detox Movements in the United States

In the US, how have innovations such as media "detox" retreats responded to demand from people who regard their social media consumption as excessive?

In recent years, there have been many different methods and creations due to an increase in people's awareness of their social media habits from researchers showing negative social effects on people, specifically adolescents (Savci, 2017). This increased awareness has led to

many companies and individuals to capitalize on this want to decrease their screen time, but how are they doing it?

Two participant groups exist within those that want to decrease their internet usage. One group uses non-electronic means to reduce their usage, such as retreats (2023) and quitting cold-turkey (Varona, 2021). Among those companies holding “detox” retreats is one called Digital Detox. It holds a camp-like experience that allows one to, “Embark on a journey from 1 to 3 nights, away from the go-go-go of everyday life”, allowing one to “[experience] a new perspective on relationships with technology and social media”(DigitalDetox, 2023). The companies holding these retreats also advertised community with those away from devices. Within VacayYou’s retreats they have meals “served in a communal setting whether it’s in one of the dining rooms or the outdoor garden cafe. Mealtimes are also used as an opportunity to discuss and educate guests on the tools for maintaining the healthy habits learned from their stay”(Miraval Arizona Resort & Spa 2023).

Those that have quit cold-turkey didn’t necessarily quit out right. They needed to justify what they’ve been missing from excessive smartphone use. They have noticed “sitting in boredom is a precursor for higher levels of creative inspiration” or instituted a phone-free Saturday(2019). Most that have undergone this method needed to look deeper into their behavioral patterns and recognize why they reach for a phone.

The other group are those that utilize electronic means to decrease screen time, like computer applications (Agarwal, 2021). Participants include software developers that create the screen-time applications (2023). Companies, like BreakFree, advertise to their user base to ,“Take Control of Social Media. Take Control Of Your Life”(2023). They utilize this regaining-of-power imagery to relate to potential users' recognition of being ‘under the spell’ of

their devices. Other companies connect emotionally with potential users by describing priorities they might have in their life: “Ask yourself when was the last time you spent time thinking about what you would like to do with your life, in the future, and if you are prioritizing the ones you love over your phone”(App). Companies, like Flipd, create features within their application to motivate people to continue on their good habits. Users have said that Flipd is, “thoughtfully designed ... [and] uses positive reinforcement [among] other motivating cues to make you feel good about your progress”(2023). Flipd also stops the timer it holds within the app when you move to another app or close Flipd. It's described as, “[introducing] friction and mindfulness to an otherwise mindless and friction-free reflex”(Gonzalez, 2018). The reflex is turning to one's phone in a state of boredom.

Researchers have delved into the effects social media has had on several subsections of the populations. Watson, Polsek, and Giordano (2020) found that adolescents that were addicted to social media showed many negative symptoms, such as depression, anxiety, and low self-esteem. Savci (2017) agrees on the same proposition, but expands upon it. The researcher showed that the increased use of the internet leads to a “progression in introverted personality traits” (Savci, 2017) that lead to the negative symptoms caused by social media use. Researchers also looked into the effectiveness of a social media detox. Koury et. al found that the university students that underwent the experiment craved their phone similar to an addict. They also found that almost all the participants returned to the same amount of usage from before the experiment. On the flipside, Schmuck found that students that regularly utilize detox apps, “[seem] to be successful. ... In this context, the overall high number of young adults who used digital detox

apps points toward a responsible and reflective use among young adults overall, which can be considered positive”(Schmuck, 2020). Sutton made very similar finds, but when looking into the detox camps in California. Sutton found the groups at these camps “fostered a sense of belonging and acceptance, and some remarked that they might use Facebook more often after attending camp than they had done before”(Sutton, 2020). After the camp, they utilized their social media as a means of connection rather than boredom. Similar to those who quit cold-turkey, they solidified and defined the relationship they wanted with technology. At the camp they heavily focused on neuroscience: “The use of neuroscience heavily implied a need for conscious self-control to overcome one’s neurotransmitters being tricked, while explaining one’s weakness in using social media ‘too much’”(Sutton, 2020).

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