

Undergraduate Thesis Prospectus

**Staunton Makerspace Communication Management System**

(technical research project in Computer Science)

**Activism and Social Media**

(STS 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 communication be improved?* Greater communication can often have detrimental affects, including cyberbullying. Smith et al. claim that cybervictims used the internet more than those who were not cybervictims (Smith, et al., 2008). However, according to Kaplan and Haenlein, social media can aid collaboration, create communities, and facilitate connections (Kaplan & Haenlein, 2010). The difference between negative and positive effects from communication is important to understand how to best communicate.

Furthermore, communication has been rising rapidly. According to Pew Research, social media usage has gone from 7% in 2005 to 65% in 2015 (Perrin, 2015). Internet usage has gone from 14% adoption rate to 87% adoption rate from 1995 to 2014 (Fox & Rainie, 2014). With more users comes a greater necessity to create positive difference.

## **Staunton Makerspace Communication Management System**

The Staunton Makerspace has a technologically diverse community of members. They have technologies including 3D printers, woodworking tools, and electronics stations, meaning enthusiasts and professionals are drawn to the Makerspace. Before this project, they contacted members using emails and a Slack channel. This is a slow operation, as they have to log into many different accounts. After logging in and sending a message, there is no guarantee that the members will view their messages. Many members do not check these methods, and the leadership wishes to create a better system to effectively communicate with all members of the Makerspace. This communication barrier lowers participation in the Makerspace and leaves many members uninformed, and our team has been tasked with removing this barrier by creating a uniform communication system for the Staunton Makerspace.

Since the Makerspace provides a physical location that members go to, we are developing a “smart bulletin board” that will automatically show members both general and user-specific information once they scan their RFID chips to enter into the facility. This solution will provide all members with a centralized location to view any messages they would have from leadership or other members. With the added benefit of having a physical location that all members use, all members of varying technical abilities and strengths will be able to view their own specific messages. This will help leadership and general members better share correspondence within the Makerspace community.

Our goals in this project are to develop a highly available, cloud-hosted web application for the Staunton Makerspace to enhance their communication abilities. In essence, our team desires to bring the notifications that need to be seen by each user directly to them, thereby reducing the amount of effort required to stay informed.

In order to ensure that our product meets our clients’ expectations, we worked directly with them to develop a list of important system requirements that our team will continue to work on. Our team has been given several minimum requirements which must be met by the end of this semester. These include allowing users to use our system to send messages to other individuals, the entire membership of the Makerspace, or members of specific guilds. We must also make a display mode that the Makerspace can use to show notifications to members as they enter the building via a key fob. This display mode will be used in a kiosk near the entrance, so notifications must be clearly visible and kept short. Our team also has desired requirements, which must be met by the end of next semester. The most significant of these is the task of displaying messages from all of the Makerspace’s preexisting

forms of communication, such as Slack and email, as additional notifications. Our system must also allow for users to create accounts and then subsequently log in to view personal messages without having to look at the kiosk display.

In addition, we have a set of optional requirements, and these requirements do not all have to be met by the end of the project. These include the ability for users to view information about their status in various guilds and current machine certifications, as well as giving users the ability to edit their guild membership. Another optional requirement is to be able to let users set notification preferences for the display mode. We may also add a praise board and a ticker for members arriving in the Makerspace.

### **Activism and Social Media**

*How do Black Lives Matter and Blue Lives Matter differ in their use of social media?* Black Lives Matter claim that they are “working for a world where Black lives are no longer systematically targeted for demise” (Black Lives Matter, 2019). Blue Lives Matter is a semi-organized countermovement to Black Lives Matter, claiming that their goal “is to honor and recognize the actions of law enforcement to strengthen the public support of an understandably naive society” (Blue Lives Matter, 2019). Understanding how these groups rose in the age of social media can help diagnose the shortcomings and benefits of each group’s strategies.

According to Kraut et al. in the earlier days of the internet, greater use “was associated with small, but statistically significant declines in social involvement” and “with increases in loneliness” (Kraut, et al., 1998), an effect still seen by researchers today. However, users are still attracted to these sites, according to Lin and Lu, because “the number of peers and perceived complementarity

effectively reinforce [social networking sites] usefulness and enjoyment” (Lin & Lu, 2011). This explains the draw to social media, but not specifically for activist groups.

Social media like Twitter can also be used for mobilization. Wasilewski et al. concluded that “using Twitter enhanced the overall reach of study-related tweets” and led to greater research recruitment (Wasilewski, et al., 2018). González-Bailón et al. claim that Twitter plays a major role in protests because it “combines the global reach of broadcasters with local, personalized relations” (González-Bailón, et al., 2011). This research tends to analyze mobilization as a result of the social media, not as a result of each group’s usage of social media, leaving questions on specific groups unanswered.

Black Lives Matter is an organized group, but not a homogeneous one. Analyzing the Twitter search term *Black Lives Matter* from October 23, 2019 to October 30, 2019 shows that most tweets are news, mild social commentary, or showing remorse. This includes Twitter user *@Blkandproud365*, stating “A Black mother is fighting for justice for her 8-year-old son after the child’s sexual assault case was dismissed without prejudice Friday” (*@Blkandproud365*, 2019). Some also post more aggressive social commentary, normally denouncing another group or idea, such as *@localmemethief* claiming that “if you got a problem with Black Lives Matter you f\*\*\*\*n racist, how you mad that we don’t want cops killing us” (*@localmemethief*, 2019). These can be seen as different ways of advancing the values of Black Lives Matter. The former will be considered *moderates* and the latter *extremists*. The moderates tend to advance awareness of the issues, while the extremists tend to promote taking action or inducing some sort of rage response.

Blue Lives Matter is a less organized group than Black Lives Matter with much of its following on Facebook. Comments on the *@bluematters* Facebook posts reveal that supporters share common characteristics with Black Lives Matter, with some simply supporting police and some showing harsher rhetoric. One post with a video of a man bear spraying an anti-Trump rally by *@bluematters* shows

this, with most commentators agreeing with Vicki Dick, who stated “He should not have done that. He was the one being aggressive and I disagree with aggression. Defend all you want” (Dick, 2019). However, commenters like Gloria Passenheim stated “Well, if they're determined to behave like animals, what other recourse is there” (Passenheim, 2019). These can be considered *blue moderates* and *blue extremists*, much like the labels for Black Lives Matter participants.

Black Lives Matter and Blue Lives Matter both have moderates, who advance their agenda by spreading awareness, and extremists, who advance their agenda by inciting action. An important distinction can be made, specifically with the Blue Lives Matter post, as many similar posts show support for political ideas in tandem with pro-police values, while Black Lives Matter focus on black lives or injustices. Blue Lives Matter promotes less of a values-based agenda, but more of an ideas-based agenda, causing significant differences in social media usage.

Outside of the two major groups, police officers often interact with both groups, but seem to side more with Blue Lives Matter moderates’ message of anti-violence. NYPD police commissioner James O’Neill made a statement announcing firing the officer who killed Eric Garner, claiming “There are absolutely no victors here today – not the Garner family, not the community at-large, and certainly not the courageous men and women of this police department” (O’Neill, 2019). This shows a middle ground between the two groups with a distinct bias towards self preservation. These voices, however, are rarely voiced on social media, but play a role in how both sides interact.

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