Prospectus

PowerShare: An Application to Enable Direct Interaction Between Politicians and Constituencies

(Technical Report)

Communication in the Modern Era: Cutting through the Noise

(STS Research Paper)

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Introduction:

This paper will look into the ways that we use technology to facilitate communication between politicians and their constituents through the lens of the STS framework Social construction of technology. Social construction of technology (SCOT) is a theory which argues that technology is shaped by human actions and is a response to societal forces. SCOT is in direct contrast to technological determinism, which states that technology is the driving force in the way society is structured. The idea that technology shapes society makes sense on a shallow level, but SCOT argues that the topic is more nuanced, and that the technological determinism model is too simplistic. This paper will look into how citizens and their representatives communicate currently, determining the effectiveness of the current method. The issue is attempting to capture the conflicting desires, goals, and visions of thousands if not millions of constituents. One representative must then attempt to process all of this information, analyze it and form an opinion that is supposed to represent all of this conflicting information. This topic has been increasingly relevant as of late, but the problem of communication has always existed, it has just manifested itself in different ways. In the past, the speed of communication was a large limiting factor. If you were a United States senator working in Washington D.C in the early 1800s you were essentially disconnected from the community you supposedly represented. Travel would take days if not weeks, and you could only communicate through letters, and newspaper. This limited how informed the public and their representatives could be on each others' opinions and views, especially as the voices of the poor and illiterate were essentially lost. Events like town halls were limited to those who had the interest, time, and availability to spend hours discussing issues in their community. Furthermore, there were people who simply did not know how to get in touch with their representative. Today the problem is reversed,

where the amount of information we get has become completely over-saturated. We possess the ability to reach out through social media networks including Facebook and Twitter. With this resource comes additional problems as one must determine who to listen to, is the message genuine, and why has this specific voice reached me? Are the algorithms that spread messages through platforms like Twitter and Facebook getting the right people the right message or is there a bias in whose voice gets heard. There are many debates going on about how this issue should be handled. Twitter has recently announced that they will no longer allow political ads on their platform (Dorsey, 2019). Facebook continues to allow all political ads on its platform regardless of if that ad is true or not (Vaidhyanathan, 2019). There is little transparency in these systems, and many social and political factors are at play to make it difficult to trust some of the information that is being conveyed. In considering this problem, analysis will be done through the key components of SCOT: relevant social groups, interpretative flexibility, closure & stabilization, and wider context. (Klein & Kleinman, 2002).

Technical Project: Building a genuine community

Introduction:

Currently, there are a limited number of channels available through which elected officials and their constituents can communicate with each other. Some more informal ones include social media, such as Instagram, Facebook, or Twitter. However, since hundreds of users can comment on a post or tweet by an elected official, individual comments can easily go unnoticed; therefore, this is rarely an effective means for either group to engage in communication. More traditional ways of contacting

representatives include emails, phone calls, and town hall meetings. Emails and phone calls often are handled by a representative's staff, who may not always provide the most authentic response to the constituent. Town hall meetings, on the other hand, are a more reliable way for voters to directly communicate their needs to their representative face-to-face, but these events are not held frequently. In addition, town halls are limited by those who have the interest, time and availability to attend them.

The real-time nature of this solution points to a digital-focused path, but social media platforms, as explained earlier, are generally insufficient due to their lack of political specificity. One existing digital tool that is more politically focused is the digital application Countable (Countable.com, 2019), which allows users to "get clear, concise summaries of bills going through Congress, see what others think, then take action." To accomplish this, the application is divided into two feeds: an opinion feed, which consists of opinion pieces written by users, and a bill feed, which shows a dashboard of bills recently drafted by Congress. Both feeds implement a social network format, in which users can vote and comment on elements of each feed. Though promising, this application ultimately has several shortcomings. First, it does not provide a new channel by which representatives and constituents can communicate; constituents still would have to email or video message their representatives. Next, the social-network format of the site, which enables users to comment on each other's posts and opinions, may be irrelevant to a representative trying to find the most important goals to pursue for their community. As a result, this application does not satisfy necessary high-level requirements, as explained below.

System Design:

A solution to this problem would need to achieve a set of high-level goals. First, voters need to communicate quickly and intuitively with their representative in a way that will ensure that their voice is heard. At the same time, elected officials need a way to easily determine the needs of the community in real time without becoming overwhelmed by a large volume of constituent feedback. To achieve this level of communication, simplicity is key. The solution would need to provide a direct interface for these two groups to exchange ideas effectively.

The design of the PowerShare app is focused on creating an intuitive, straightforward user experience. First, the user creates their account, specifying their name, address, and email address. Their information would then be cross-checked against voter registration records to ensure validity, and then sorted into their respective communities. For instance, a voter in Charlottesville, VA who creates an account would be placed into the Charlottesville city community and the VA-5 district community (among others). After logging in, the voter would be able to view and navigate to each community. Each community consists of a list of constituent-submitted goals which other constituents can vote for, as well as a function that allows users to create new goals. Representatives logging in to the application would be able to view all communities, as well as each individual goal. They would also be able to upload information to each goal (such as completion status and media/associated files) and comment on the goal's progress or any hurdles they may face in trying to accomplish that goal. By maintaining a real-time line of communication that is convenient for both constituents and their representatives, constituents can more easily judge how well their representative is meeting their needs.

System Requirements

Gathering system requirements is an essential part of any programming project. It allows the programming team to know exactly what they are building, and the customer to tell exactly what they expect from the product. Furthermore, each requirement is broken up into its own individual story, which allows individual members of a team to work on small parts and pieces that then go on to form a collective unified project. As the programming team does this they can keep track of their progress and make sure that they are meeting their deadlines.

Minimum

STORIES	**PTS.**
As a USER, I should be able to **submit a goal** to a community that I am part of such that any other member of the community can see it and vote on it after review.	8
As a USER, I should be able to **create a verified account** with my name, email, and physical address so that I can access the app.	8
As a USER, I should be able to **search goals** in my community so that I can find relevant goals to vote on.	5
As a USER, I should be able to **view goals** such that I can see a list of their authors, supporters, sub goals, approval status, completion status, media associated with goal.	5
As a USER, I should be able to **vote on one goal** in each community that I am part of	3
As a USER, I should be able to **receive notifications** on goals that I have voted for.	5
As a USER, I should be able to **view and edit my account settings**, so that I can manage things like login information, notifications, and other general settings.	8
As a USER, I should be able to **navigate between a home page and a community page, as well as a community page and a goal page**, with one action.	3
As a USER, I should be able to **view a dashboard** of all communities I am a member of, so that I can choose which community to view goals for.	2
As a USER, I should be able to **view contact information for both Powershare and my community representative** so that I can get in touch if needed.	2
As a USER, I should be **added to all relevant communities** after creating an account with my home address.	8
As a CUSTOMER, **I should be able to do everything a USER can**.	3

As a CUSTOMER of a specific community, I should be able to **respond to a goal with feedback**	5
As a CUSTOMER of a specific community, I should be able to **add sub-goals** to a goal	8
As a CUSTOMER, I should be able to **search goals in communities of which I am not a member**, by keyword.	5
As a CUSTOMER, I should be able to **upload media** to any goal in my community.	13
As a CUSTOMER, I should **receive notifications** (Android / iOS push notifications) for the following: A new user joins community, a new goal is created, a goal is edited, goal ranking changes, a completion date is approaching.	5
As a CUSTOMER, I should be able to **designate a goal as complete**.	3
As a USER, I should be **automatically assigned** to my relevant communities based on address upon account creation so that I can vote on the issues relevant to my communities.	8
As a USER, I should be able to login into my account.	8

Desired

STORIES	**PTS.**
As an ADMIN, I should be able to **approve membership** for members into the community (*Should this be automated through checking voter registration records*?)	13
As an ADMIN, I should be able to **view user statistics**.	13
As an ADMIN, I should be able to **search through a list of communities** by geographic location.	5
As an ADMIN, I should be able to **view a dashboard** which includes the above inbox and list of communities.	8

Optional

STORIES	**PTS.**
As a USER, I should be able to log out from inactivity after 15 minutes to increase security.	5
As a USER, I should be able to follow goals that I have neither voted for nor created.	8
As a USER, I should have the option to be sent push notifications about followed goals.	3

As a USER, I should have the option to be sent notifications by email and/or SMS.	5
As a CUSTOMER, I should have the option to tag/label goals by category/topic and search for them by the label.	8
As a USER, I should be able to sign into the app with my fingerprint/faceID.	8

STS Framework: Social construction of technology

Social Construction of Technology originates from an article titled "The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other." by Trevor Pinch and Wiebe Bijker (Klein & Kleinman, 2002). The essence of the theory is that technology is shaped by society. Thus, watching as our current society and government attempt to create a platform for political discourse provides an excellent case study to analyze the ideas of Social construction of technology. There are four key tenets of SCOT as outlined in the introduction: relevant social groups, interpretative flexibility, closure & stabilization, and wider context.

Interpretive flexibility is the idea "that technology design is an open process that can produce different outcomes depending on the social circumstances of development." (Klein & Kleinman, 2002) In the context of this analysis we see these different outcomes through the difference in policy between Facebook and Twitter on the subject of political ads. Misinformation is a factor that is damaging the connection between politicians and their representatives. Facebook and Twitter each have their own interpretation of the correct response to misinformation campaigns on their platform which has been informed by a variety of social factors. This includes how each company interprets the idea of free speech, how much value they place on this idea, and also how much money they make off of political advertising. Economic analysis shows that Facebook receives much more

money from political ads than Twitter (Ivanova 2019). However Twitter is still walking away from millions of dollars. Perhaps these decisions were made by Twitter in an attempt to gain positive PR at the expense of Facebook. Through these decisions we see how society continues to influence technology.

The second component of SCOT, the relevant social group, states that "all members of a certain social group share the same set of meanings, attached to a specific artifact" (Pinch & Bijker, 1984). There are a variety of relevant groups in this case: the user, the developers of the product, the advertisers, the government. Each group is attempting to get something different out of the product. The user wants a place to communicate their ideas. The developer wants to make money of their product as they are forced to weigh the value of ad money over the damage to their brands. The advertisers want to limit the rules as much as possible so that they have as much freedom as possible. The government is supposedly attempting to find a balance of regulation that keeps the freedoms of democracy in check. We are currently witnessing the various social groups argue and debate until a consensus is reached on the common artifact, in this case the social networks that facilitate political discourse.

Closure and Stabilization is the process in which "a multigroup design process can experience controversies when different interpretations lead to conflicting images of an artifact." (Klein & Kleinman, 2002) Using the Facebook and Twitter example again we see how two companies have conflicting policies. How the government does or does not choose to regulate this area will likely shape the consensus eventually.

Finally the fourth tenant of SCOT is wider context. Through this we can examine the various factors that are driving this debate. There is a strong partisan divide, where we see Democrats

attacking Trump for posting ads with false information on websites such as Facebook (Stewart, 2019). We must also consider the relationships between the various groups and on they attempt to influence each other. Developers making money, might attempt to work with advertisers to keep the regulations lax. Politicians who benefit from false advertising might also work with advertisers to attempt to subvert regulation.

Plan for the thesis:

Some things to consider include how effective these implementations are, are they really doing their job properly? Are they merely placing people in an echo chamber where they hear the things they want to hear? Are the algorithms biased in some way to silence/elevate certain voices? Do we consider these tools under the full scope of free speech or is there a moral imperative to limit toxic and hateful ideas. Do we exempt people in power from the rules we place (i.e. calls for Trump to be banned from twitter for hate speech vs the impact of censoring the President of the United States from his people). How do we limit insincere voices from unduly influencing these avenues of communication?

References:

Below are all the references I have used in my prospectus. Because the content of this topic is ongoing a lot of the sources will have to be from news articles and government hearings, such as Mark Zuckerburg's, CEO of Facebook, hearing.

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