

Undergraduate Thesis Prospectus

Digital platform for improving democracy

(technical research project in Computer Science)

How Taiwan became a digital democracy pioneer

(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 communication best promote an inclusive civil society?

A healthy society depends upon communication, but communication channels can be abused. When they are, the communication threads that weave society together may unravel. Civil society consists of nongovernmental organizations, labor unions, advocacies, universities, and other organizations committed to components of public life. Civil society institutions work with citizens and policymakers to advance their respective ideals. These institutions often work in isolation, or in competition with each other. By working together cooperatively, however, they may better serve both their own interests and those of their constituencies. Such cooperation would require frequent and reliable communication, and means to prevent or correct miscommunication. In the Cambridge Analytica (CA) scandal, CA acquired the Facebook data of millions of users to create and sell psychological profiles of American voters to political campaigns. (Confessore, 2018) When the abuse was publicized, the CEO of Facebook strove to reassure the public: “We have a responsibility to protect your data, and if we can’t then we don’t deserve to serve you” (Wong, 2019). But Facebook had issued such assurances before, and their credibility has therefore been in doubt. Communication can foster social cooperation to mutual benefit, but only if such hazards are managed.

Digital platform for improving democracy

How can digital technology improve democracy within the US?

The software application under research will allow users and representatives to debate and engage in face-to-face discussions with stakeholders to foster consensus. The goal of the platform is to facilitate constructive conversation and consensus-building between diverse opinion groups to address the problem of division on social matters. The primary and secondary technical advisors are Nhat Nguyen, and Mark Sherriff, respectively. This capstone project is under the CS department, and will be working with Patrick Zoeller.

Currently, social media platforms such as Twitter and Facebook weaken core aspects of democracy and democratic representation. Although these platforms allow its stakeholders to communicate directly and share information, they have been subject to the spread of misinformation and disinformation with the intent of undermining people's trust in institutions. This spread of false information and loss of trust can manipulate people affectively causing people to question "whether democratic processes and institutions designed to empower citizens are working" (Anderson, 2020). Secondly, since these platforms are run by profit-driven companies, they were not designed to be "digital commons, and are not run for the sake of promoting social welfare or broad-based civic participation" (Anderson, 2020). Due to the negative impacts these disruptive digital platforms have had on social lives, some researchers have advised governments to adopt a precautionary and preemptive strategy, and a stewardship and "active surveillance" approach by government agencies to address the challenges and risks caused by digitalization. (Linkov, Trump, Poinatte-Jones, Florin, 2018)

To best promote democracy through a digital platform, the platform must not be profit-driven, and must control the amount of information a user can post. In constructing this platform, Python with the Django web framework, GitHub, and Amazon Elastic Beanstalk were used. To avoid toxic behavior on the platform such as negative commentary, and prevent disinformation,

participants will only be able to vote to agree, disagree, or pass on statements written by others that cover a specified issue. Then an algorithm will be used to sort these participants into opinion groups to identify what areas are people divided on, and where is there consensus. The goal will then be for this information to be summarized, and made available to relevant government agencies and the public. To assess the platform and its algorithm, small trials of at least fifty people will be needed. With this project, this will allow the process of obtaining information on a specified issue much easier such as identifying the facts of the matter, its stakeholders, and where the stakeholders stand on the issue.

How Taiwan became a digital democracy pioneer

How did social groups in Taiwan use digital technology to become one of the top digital democracy pioneers?

The catalyst for a digital democracy in Taiwan occurred in 2014, when the Sunflower student movement brought about a fundamental political shift. The student-organized movement protested against a trade agreement between Taiwan and China due to Taiwan's government handling the matter "in an authoritarian and undemocratic manner" (Wei-ting, 2009). Since then, several online platforms have emerged and have become integrated with the government. Citizens use them to participate in debates on social matters, and they have opened up robust communication between policymakers and citizens. Although digital activism can increase political participation thus stimulate movements, some researchers caution against the reliance on online platforms as it may contribute to political polarization, manipulation, and give rise to

individualized charismatic authority (Bail, Argyle, and Brown, 2018; Gustafsson and Weinryb, 2020).

Participant groups include those who defend and advocate the use of the net as a tool for democracy, and those who view digital democracy as a threat to their organization. G0v (“gov zero”), a decentralized civic tech community, develops opensource projects that give “citizens easy access to vital information and power to shape the civil society” (Kao, 2012). They have created projects such as the Legislator Voting Guide and Government Budget Visualization to inform citizens about legislators, and supervise government spending, respectively. On vTaiwan citizens and policymakers can inclusively discuss proposed laws online, “to engage in rational discussion on national issues” (Kao, 2011). Participants in these fora value transparency and consensus. To promote both, they follow a four-stage, sequential process: proposal, opinion, reflection and legislation (Kao, 2011). Once participant groups select an issue and vote on it, an online deliberation between the agencies and the groups follows. This deliberation is livestreamed with a chatroom to further extend participation and maximize transparency. After this stage, the government either enacts a bill to address the issue, or explains why no legislation is being enacted on the issue. A major contributor to digital democracy is Audrey Tang, a government minister and software developer, who helped raise the transparency of government by assisting in the development of projects where she “welcomes everyone’s input” (Jennings, 2017).

Digital platforms have shifted political balances of power. For example, by using such platforms, Taiwanese citizens compelled Uber to accept regulation it has successfully resisted in other markets (King, 2019). When Uber initially arrived in 2013, Uber refused to follow Taiwan’s taxi laws and continued to operate as a technology company, without insurance or

professional driver's licenses. To negate Uber's advantage, vTaiwan hosted an open and online deliberation between several government agencies that included the ministries of Transportation and Communications, Economic Affairs, and Finance. Other major participants included the Association of Taxi Drivers in Taipei, and Taiwan Taxi, the country's foremost taxi fleet. Although Uber argued that it was not a taxi company, the process compelled it to work directly with taxi companies and to comply with taxi regulations (Fulco, 2020). Another internet platform operator that was pressured to comply with Taiwan's regulations was Airbnb. By offering unlicensed and inexpensive accommodations to tourists, such as illegal hotels and short-stay rentals, the company avoided liability and taxes. Airbnb emailed all its members, urging them to engage vTaiwan online to represent their side of the argument. When vTaiwan asked Tang to subject Airbnb to regulation, she replied: "Airbnb is done. The cofounder flew in and agreed with everything ... What they didn't expect was that only about one third of their members are happy with them" (Bartlett, 2016).

Despite such successes, some caution against cyber-utopianism. Prominent among these skeptics is Evgeny Morozov. Morozov warns that "the internet can empower groups whose aims are in fact antithetical to democracy" (Derbyshire, 2011), including malicious hackers, cyberterrorists, and foreign governments that seek to leak information and spread propaganda or disinformation. By promoting greater reliance on online communications, digital democracy may also expose more people to more data collection, for example by Google and Facebook. Some government agencies have cooperated with technology companies engaged in data collection, compromising privacy (Morozov, 2020). For example, Morozov cautions that once mobile payments replace cash transactions with Google and Facebook as intermediaries, "the data collected by these companies will be indispensable to tax collectors" (Morozov, 2020).

Researchers have found that digital platforms such as social media sites increase political polarization. For example, Bail (2018) surveyed a large sample of Democrats and Republicans who visit Twitter on their exposure to opposing political ideologies, and found that polarization among them had increased. The platforms reinforce ideological commitments, exacerbating polarization by stimulating confirmation bias (Wason, 1960). Gustafsson (2020) warns that digital enthusiasm can promote contention in civil society, and may even threaten bureaucratic structures. National governments have proved they can and sometimes will spread disinformation for geopolitical purposes. Their success may “spark other countries to spend greatly on copying and refining” such techniques (Anderson, 2020). Suwana (2020), however, argues that digital media is vital to combat misinformation, such as fake news or hoaxes, and to reinforce political participation.

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