Democracy of Things (DoT) Vol. 2: An exploration of digital democracy & citizen engagement IS applications

Report on Non-Business IS Application
Computer Science 601: Survey of Computing and Information Systems (Rev 4)

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Abstract: Citizen engagement by digital means is rapidly becoming a civic norm. Digital democracy is ever more accessible these days by means of platforms that were once believed to be tech toys. Social media platforms today are becoming central tools for civic entities to communicate with citizens, mobile phone applications are providing citizens with direct access to civic services and reciprocally civic services are transparently hording data from engaged citizens to improve management of civic issues such as traffic and mobility and or gain citizen insight on issues such as budget management. This movement has created cause for and popularized crowdsourcing mechanisms such as Hackathons to engage citizens in the conceptualization and delivery of such solutions, all driven by a desire for more transparency, open government and practice of democracy that was once reserved for online social communities and or online games. This paper is the second volume in The Democracy of Things series, an attempt to better understand the evolution and progression of today's cybernetics in the context of everything digital.

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1 INTRODUCTION

It is no secret that digital and democracy are becoming synonymous. In this second volume (Vol 2) of a series on progressive cybernetics, or the "Democracy of Things (DoT)" (Yusufidis, 2017), the elements of a conceptualized ecosystem described within Vol 1 closest to the citizen are explored in more depth. What is the digital footprint over democracy these days? Where's digital and democracy at in the context of citizen engagement? Vol 1's eco-system describes a civic sector's point of view, building on the infrastructure changes, specifically smart cities and the Internet of Things (IoT), that are driving digital transformation of cities and specifically the citizen, rampantly. This paper aims to elaborate on the citizen's digital engagement tool kit in an effort to better understanding the current state of interactions between the citizen, infrastructure and administration.

2 Background and History

2.1 Key Concepts: Origins

Co-creation, participatory democracy and crowd sourcing has been around for a while. A simple and current example that most can relate to is Wikipedia. In an exhaustive report describing "Crowdsourcing for Democracy: A New Era in Policy Making," (Aitamurto, 2012), the relation of "Wikitype collaboration" is made in describing crowdsourcing origins, the description being "participants collaborate to achieve a goal, for instance, writing a piece of text. The flow-like process is open for anybody to participate in." [(Aitamurto, 2012), pg. 8-9]

2.2 Current Illustrations of Digital Democracy

2.2.1 Democracy in the context of Digital Humanities

It is important to explore democracy in its most fundamental form and how digital transformation is impacting its evolution, and not just in the civic sector. "The Digital Humanities and Democracy" (Hunter, 2015) article builds on a couple of case studies whose focus is the digitization of academic content, examples of leveraging digital technology to "democratize the humanities" [(Hunter, 2015), pg. 408] through IS applications that drive "openness, inclusiveness and collaboration." (Hunter, 2015), pg. 411]

Hunter's examples reinforce that digital democracy techniques, methods and tools are being applied commonly across many sectors, including academia.

While the cases are simplistic and focused, the findings are consistent with the more complex and in-depth research that is shaping progressive cybernetics and The Democracy of Things, specifically pointing out the importance of overcoming gaps such as accessibility to IS applications, which is still a fairly large problem that is being imminently addressed in the context of civic application, given the majority of smart city initiatives today are focused on building an inclusive infrastructure by way of significant investment in Wi-Fi infrastructure to provide Internet access; for example, the smart city initiative(s) in Montreal, Canada, described in its 2017 interim report highlight the "gradual deployment of free public WiFi and Ultra High-Speed Multiservice Network" [(Ville de Montreal, 2017), pg. 12-13]. Furthermore, Montreal as many other cities, are developing and deploying "Digital workshops and fab labs", commonly known as living labs, in central locations such as libraries to showcase and make accessible emerging technologies to all citizens interested in participating in the smart city revolution as engaged citizens [(Ville de Montreal, 2017), pg. 24].

2.2.2 Fostering Citizen Engagement and Participation

The European Union is considered a leader in the field of fostering digital democracy, already significantly investing in propagating the process of creating urban centres, its mission is transforming from one of establishing infrastructure to creating a balanced approach in developing "e-democracy" awareness, an attempt to shape industry wide awareness, shared objectives and common capabilities. The policy position "Citizen's participation in the digital age: e-democracy" by the EU Movement (European Movement International) is an example of such forward thinking as a combined message targeting both citizens and public service personnel alike. Not only does this policy movement, and propaganda, build on promoting closure of the "digital divide"[(European Movement International), pg. 3] by driving equality in internet access, it bridges the political and democratic participation age gap targeting youth in its message objectives. It also drives at ensuring full circle participation by directives such as addressing the gap of providing feedback on any citizen input, where "this element is often lacking and makes citizens become demotivated to continue using e-tools," [(European Movement International), pg. 4], clearly emphasizing the value of driving towards open data and accessibility as key e-democracy success factors. Furthermore, it recognizes that today's fake news threat is real by highlighting the risks that come with more open democratic processes and the need for them to be mitigated by adequate oversight, where "e-democracy tools should be equipped with a form of monitoring to counter the spread of disinformation on these platforms, and enable fact-based discussions" [(European Movement International), pg. 4]. Use of security measures and regulatory pillars such as the imminent EU General Data Protection Regulation (GDPR), touted as "the most important change in data privacy regulation in 20 years" (EUGDPR.org, 2018) will play a heavy hand in protecting the up and coming e-Citizen in the day and age of e-Democracy.

The idea of maintaining a feedback circle is beautifully emphasized inside the industry perspective on citizen engagement offered up by the sponsored paper from the "Government Technology" web site library, "Public CIO: Rethinking Citizen Engagement", where the values described above of improved openness, transparency and citizen trust describe the future of citizen engagement by way of storytelling, "a way to create a relation between people, the data and a process" [(Government Technology, 2016), pg. 25].

3 DISCUSSION

3.1 Information Systems Applications used for citizen engagement

The following discussion builds on the background and context provided by demonstrating applied examples of IS applications in the civic arena aligned with the major elements of the conceptual eco-system described in DoT Vol. 1 being "Citizen Services, Accelerator Services and Governance", that are "closest to the citizen" [(Yusufidis, 2017), pg13].

3.1.1 Citizen Services

In the sponsored paper from the "Government Technology" web site library, "Public CIO: Rethinking Citizen Engagement" [(Government Technology, 2016), pg13], IS applications leveraged for citizen engagement are categorized as:

- "**Networking Platforms & Social Media: (Facebook, Twitter, etc.)** For peer to peer interactions and transparency"[(Government Technology, 2016), pg13] as a form of crowdsourcing information where "communication is real-time, dynamic and multiway: the flow goes from citizens to institutions and back…the citizen becomes more active and moves from the spectator's seat onto the stage"[(Aitamurto, 2012), pg. 17]. Examples include:
    - *Seattle:* Building "an online repository of all [civic] conversations taking place…paying off in savings as the city reduces the need to rent public spaces for multiple meetings" [(Government Technology, 2016), pg. 21]
    - *Montreal:* "FAIRE MONTREAL is a collaborative platform for projects aimed at improving the city". "The [web] site includes recruitment initiatives, a calendar of events, a blog and a tool allowing visitors to follow the progress of each project" [(Ville de Montreal, 2017), pg. 24].
    - *Calgary:* "Participatory Budgeting was possible on social media like Facebook…Citizens were asked to share their opinion about the city services and requested to prioritize those via binary decision-making…two options…asked to choose which was more important." [(Aitamurto, 2012), pg. 23-24]
    - *Great-Britain:* "Sites where citizens can sign petitions electronically" [(Aitamurto, 2012), pg. 25]
- **"Mobile" Apps:** Leveraging the collective power of citizens cellular phones as engagement tools, "allowing citizens to engage while untethered" [(Government Technology, 2016), pg. 13]. Examples include:
    - *Montreal:* "Smart Parking – Real-Time Data Collection and Navigation Application…in ground sensors and real-time data guiding drivers to available spots" [(Ville de Montreal, 2017), pg. 19].
    - *Montreal:* "Waze navigation. A crowdsourcing application which sources data from citizens to improve traffic" [(Ville de Montreal, 2017), pg. 17]
    - *Montreal:* "Info-Neige Mtl. Provides real time information on snow removal activities throughout the city." [(Ville de Montreal, 2017), pg. 16]

3.1.2 Accelerator Services

A thriving component of accelerator services is the crowdsourcing of innovation, engaging the citizen and wisdom of crowds via hackathons organized by civic operated incubators. Citizens, developers and entrepreneurs alike converge over a short period of time, usually two or three days, to conceptualize and model IS applications, as described in section 3.1.1. Winning ideas, usually prototyped during the event, are then harvested and cultivated into practical applications by the sponsoring civic entity, usually followed by acceleration activities to deploy, market and share the outcomes with other civic entities whose needs and objectives are shared, effectively pooling resources and objectives between municipalities to accelerate identifying and deploying standardized and proven solutions. "As a result, they [citizens and developers] become part of the open data and open government ecosystem" [(Aitamurto, 2012), pg. 29].

Open data is a critical requirement for the successful ideation and implementation of such solutions and effectively is the participatory democracy and open government keystone that drives citizen engagement and innovation. [(Ville de Montreal, 2017), pg. 7-8]

It is important to note here that as implied in a paper, "Empowering Citizens with Open Data by Urban Hackathons" (Concillo G., 2017), The Internet of Things (IoT), the underlying infrastructure of smart city solutions, is driving the automated creation of data with the multitude of tech (mobile phones) and sensors gathering data, the creation and collection of data is not just something that will happen today and stop tomorrow, it will continue for the foreseeable future; citizen engagement solutions thrive on and depend on (open) data, both for successful creation and application of solutions. More importantly, we're learning how to make that data, or transform the (open) data into meaningful information; actually, this is the real phase we're at right now, we're still learning, we're focused on flowing from why we're doing it, into the how and what we're doing with the data. That being said, while citizens are part of producing this data with their everyday actions (direct and indirect), we're still restricted and constrained from truly accessing it. Open data reform policies are rampant to address this issue, especially in the wake of a 2009 Obama administration directive to make all government data "open by default, except for personal information or related to national security" [(Concillo G., 2017), pg. 126], which is consistent with the way many cities are now approaching data, including Montreal as referenced above.

3.1.3 Governance

Open data reform and policies that are essential for citizen engagement in the context of digital democracy implies the need for augmented Governance or at the very least orchestration of data. As describe in, "Public CIO: Rethinking Citizen Engagement" [(Government Technology, 2016), pg. 13], CRM (Client Relationship Management) tooling is being leveraged by civic entities to manage interactions and specifically the feedback loop. Data analytics is also becoming realized as a need, where civic entities are seeking to evaluate and adopt the tools and systems that will empower them to manage and make sense of the open data paradigm, or more specifically, turn data into meaningful and usable information.

4 CONCLUSION

There is no shortage on information or research on the topic of democratic participation and digital engagement. Popularization of the movement is becoming evident via a multitude of awareness campaigns and propaganda to drive citizen engagement by use of a diverse set of IS applications, including applications of social media platforms and or applications specifically design for civic purpose. Furthermore, data has become a central figure in this domain, with a recursive/circular effect, where data is central in both conceptualizing and developing these solutions as much as the solutions are geared to iteratively and continuously create data. As the digital divide that has kept many far from accessing and employing such solutions comes to closure, the focus is shifting on an abundance of data being more accessible and meaningful to both civic entities and citizens, a defining moment in the evolution of open government and the Democracy of Things.

Works Cited

Aitamurto, T. (2012). *Crowdsourcing for Democracy: A New Era in Policy-Making.* Stanford, California: Parliament of Finland: Publication of the Committee for the Future.

Concillo G., M. F. (2017). Empowering Citizens with Open Data by Urban Hackathons. *2017 Conference for E-Democracy and Open Government (CeDEM)* (pp. 125-134). Milan (Italy), Aalborg (Denmark): Krems.

EUGDPR.org. (2018, 01 16). *EUDPR.org Home Page.* Retrieved 01 16, 2018, from The EU General Data Protection Regulation (GDPR): https://www.eugdpr.org

European Movement International. (n.d.). *European Movement International: Policies.* Retrieved 01 16, 2018, from European Movement International: http://europeanmovement.eu/citizens-participation-in-the-digital-age-e-democracy/

Government Technology. (2016, 01 01). *Public CIO: Special Report: Rethinking Citizen Engagement: Q1 2016.* Retrieved 01 18, 2018, from Government Technology: http://www.govtech.com/library/papers/Rethinking-Citizen-Engagement-8917.html

Hunter, A. (2015). The Digital Humanities and Democracy. *Canadian Journal of Communication, 40*, 407-423.

Ville de Montreal. (2017, 02 01). *Midterm Report: Smart City.* Ville de Montreal, Ville Intelligente / Smart City. Montreal: Ville de Montreal. Retrieved 01 17, 2018, from Ville Intelligente: http://villeintelligente.montreal.ca/en/midterm-report

Yusufidis, M. (2017). *Democracy of Things (DoT) Vol. 1: A progressive cyberntics eco-system and interaction model concept.* Athabasca University, Computer Sciences. Richmond Hill: Athabasca University.