Defining Public Interest Technology: Key Questions to Consider

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Introduction

Technologists and policymakers have historically operated in somewhat disparate environments, but as technology continues to expand into everyday life, both parties have begun to recognize that breaking down the boundaries between the two areas may be a powerful way to support the public interest. The emergence of "public interest technology" seeks to fill that gap by funneling technologists into careers that serve the public interest [25, 15, 8]. This new field is quickly gaining traction across academic and civil society through emerging educational, governmental, nonprofit, and community-driven initiatives which train and employ interdisciplinary technologists [22, 9, 11, 1].

Although efforts to establish public interest technology have become more popular, the field is still in its infancy. Because of this, the field lacks shared language, goals, and has yet to resolve several important tensions about its strategies and approaches. In order to more clearly articulate how public interest technology is defined and what it encompasses, we must think critically about who should pioneer and support these efforts, what structures they should take, and how to best represent and serve the general public. This piece is not meant to prescribe recommendations for the future of public interest technology, but instead to highlight three relevant tensions to consider as the field continues to develop.

1. Interventionist/Piecemeal Approaches vs. Systematic Change

There are two common approaches to technologists who are interested in the public interest: Some efforts, such as the United States Digital Service and 18F, are focused on 'tour-of-duty' programs, which are term-limited fellowships that match civil servant technologists with federal agencies in order to provide new or improved digital services [7, 27]. Similar piecemeal solutions are

also common, including public-interest-themed hackathons, a pro-bono model where technologists donate time to a public interest project, or developing, contributing, and maintaining open source software that serves the public. Alternative approaches that others focus on helping develop a pipeline for long-term public interest technology careers. Numerous colleges and universities have recently united to launch the 'Public Interest Technology University Network' (PIT-UN): A novel initiative dedicated to educating emerging professionals trained at the intersection of technology and policy [9].

A fundamental tension exists when considering which approach is more effective in advancing the field of public interest tech: Is it better to allow technologists to incorporate public interest technology projects into their work by engaging in incremental models, or is it more worthwhile to invest in education and employment pathways that clearly establish a public interest career pipeline? Given funding and supply constraints, many advocate in favor of the tour of duty fellowship model that allows industry employees to take temporary civic leave [23, 24, 10]. Programs like these emphasize the importance of adopting technical best practices in government, such as user-led efforts, iterative methods, and data-driven decision-making. Although the tour of duty model allows technologists to support government services they might not ordinarily undertake, some doubt the effectiveness and overall sustainability of the method [23, 24]. Technology products and solutions are iterative and need constant maintenance, which may be an issue once the technology fellow finishes their program and returns to industry. This, combined with criticisms that technologists do not have proper training in law and policy, has led some to question the ways in which tour of duty services may result in solutions that are not well-tailored to the problem [28].

The emergence of 'public interest tech' as a term indicates a significant demand for long-term systematic changes that establish a clear public interest tech career pipeline. Unfortunately, there are a number of education and supply limitations that have made more coordinated long-term efforts difficult. Unlike the tour of duty model, educational programs aim to provide students with robust interdisciplinary skills as opposed to temporarily embedding technical professionals in potentially unfamiliar domains. Technologists are not commonly trained in law and policy, and supplemental education in these areas would help address criticisms around whether tour-of-duty technologists can provide appropriate public interest solutions. In addition to more comprehensive training, large-scale efforts like these require more funding that may not be necessary for short-

term solutions. Government agencies are generally unable to provide competitive salary and benefit packages to that of for-profit organizations. Subsequently, technologists with high-demand skills may be disincentivized to work for government organizations that are unable to offer competitive payment.

2. Public Interest Writ Large vs. Partisan Values

It may be difficult to agree on what efforts are considered to serve the public interest. Public interest technology may be defined in different ways – specifically, by raising questions about whether public interest technology means being associated with the government or whether it relates to a set of values. Nonpartisanship support may align with norms around civic participation, but many public interest technology projects inherently support certain principles. For example, some tour-of-duty projects support defense-oriented solutions, which may be considered controversial [2]. Other controversial political goals, such as immigration control, climate change, abortion access, and universal healthcare are only considered by some to serve public interest aims. It may therefore be worth asking whether the field can expect the emergence of partisan public interest technology organizations due to concerns around partisan interests.

Partisanship must also be considered when thinking about how to structure public interest technology education programs. Certain issues, such as public safety and health, may be considered less contentious than discussing issues of equity and discrimination. Some argue that universities are inherently political institutions by existing at the intersection of “social, cultural, and economic pressures" [30]. In this context, it may be worth considering whether certain educational institutions will provide different education curricula based on the institution’s partisan culture.

3. Corporate Leadership vs. Community Approaches

It may be useful to expand the scope of what is traditionally thought of as a public interest technologist and to consider what responsibilities industry, nonprofit, and community-driven organizations can or should take to support technologies that serve the public interest. Corporations have been encouraged to adopt a number of possible approaches to demonstrate commitment to civic responsibilities. One way this might be accomplished is by “leveraging

corporate civic voice", which refers to the efforts a company makes to raise awareness about public interests and encourage civic engagement [17]. For example, a number of tech companies responded to the COVID-19 outbreak by deploying policy updates and public statements which routed users to government websites that provided additional information and resources [17, 14]. These proposed efforts suggest that empowering corporate employees to engage in opportunities like civic leave helps demonstrate the company's value to the public interest. Some related suggestions include providing PTO for Election Day, engaging in civic volunteering, and conducting an internal listening tour to investigate how employees seek to support civic engagement [17]. Companies like Google, Microsoft, and Facebook have all created civic and ethical oversight bodies that claim to place a high value on the importance of investing in corporate civic responsibility [13, 26, 29, 5]. But placing the responsibility of civic tech efforts on industry technology companies has been criticized as enabling corporate "ethics-washing" in that it may incentivize companies to demonstrate a superficial commitment to civic responsibility in order to avoid public scrutiny and maintain autonomy [20].

Fundamental to the development of public interest technology are the initial grassroots, advocacy, and community organizations that independently organized to create awareness of the need for technology solutions that served the public. Nonprofit research groups, like Upturn and the AI Now Institute, house or collaborate with academics to advocate for public wellness concerns, including disinformation, citizen privacy, work and labor, digital education, and others [3, 12]. These advocacy efforts do not generally encounter the same critiques around conflict of interest, however, reliance on these organizations creates a disproportionate burden on community and nonprofit organizations to be responsible for the development of the public interest technology field. These organizations are generally less well-resourced and do not have the corporate scale of visibility, and it may be the case that expecting the general public to primarily undertake ethical issues of public interest technology excuses companies from holding themselves accountable for civic responsibilities.

The role of academia is perhaps most influential in establishing clear pathways to public interest careers. In addition to initiatives like PIT-UN, a number of scholarship, research, and recruiting programs have been developed to help integrate next-generation technologists into public service positions. For example, the Berkman Klein Center for Internet and Society at Harvard is a

pioneering research center that provides free online lectures, discussions, and events that help unite interdisciplinary participants across law and technology [4]. Research and discussions that arise from academic centers and programs like these are often used by policymakers to support proposed legislation [18, 21]. Some funding initiatives seek to improve diverse public interest technologists by targeting minority students. One example is CyberCorps, a program that partners with select universities to provide National Science Foundation and Department of Homeland Security funding to higher-education minority students that have valuable skills for information assurance [19]. Because early exposure to government careers can help to cultivate initial interest, the NSA has also developed the Stokes Educational Scholarship Program, a high school scholarship opportunity targeted toward minority students studying computer science, computer/electrical engineering, or Chinese or Russian languages [6]. Efforts like these enable collaboration between technologists and government and policymakers, provide new approaches to experiential learning, support cross-disciplinary careers, and promote career pathways through financial aid [16].

The recent popularization of public interest technology raises critical tensions to consider when developing the newly-established field. The ease of piecemeal solutions versus the sustainability of systemic reform presents a tradeoff: Is the aim of public interest technology to temporarily apply technologists' skills to policy and regulatory projects, or should priority be given towards steering students in technical fields toward long-term careers in public service and providing them with the necessary training to succeed in these roles? What issues should we consider as serving the public interest? Who is responsible for pioneering measures that endorse a commitment to civically engaged technologies? Because the scope of public interest technology is expansive, it may not require definitive stances around how to navigate relevant tensions. Instead, concerns around goals and approaches can help to consider how to define commitment to public interest tech despite the fact that the term has multiple meanings.

References

[1] 18F. https://18f.gsa.gov/.
[2] 18F launches new portfolio to target defense and intelligence agencies. https://www.nextgov.com/emerging-tech/2019/12/18f-launches-new-portfolio-target-defense-and

intelligence-agencies/161853/.
[3] AI Now Institute. https://ainowinstitute.org/.
[4] Berkman Klein Center. https://cyber.harvard.edu/.
[5] Google: Our Principles. https://ai.google/principles/.
[6] National Security Agency: Students and Internships.
https://www.intelligencecareers.gov/nsa/students-and-internships.
[7] Presidential Innovation Fellows. https://presidentialinnovationfellows.gov/.
[8] Public Interest Technology. http://newamerica.org/pit/.
[9] The Public Interest Technology University Network (PIT-UN). https://www.pit-un.uw.edu/.
[10] Scaling Civic Tech: How can we harness technology to promote civic engagement and more responsive government? https://www.knightfoundation.org/features/civictechbiz/.
[11] United States Digital Service. https://usds.gov/.
[12] Upturn: Towards Justice in Technology. https://upturn.org/.
[13] About Microsoft's Civic Technology Engagement Group.
https://blogs.microsoft.com/newyork/2015/01/01/about-microsofts-civic-technology-engagement-group/, 2015.
[14] Platforms' Responses to Covid-19 Mis- and Disinformation.
https://www.disinfo.eu/resources/covid-19/platforms-responses-to-covid-19-mis-and-disinformation/, 2020.
[15] Michael Brennan. Public Interest Tech: A Growing Field You Should Know, 2018.
[16] Paul Cairney and Kathryn Oliver. How should academics engage in policymaking to achieve impact? *Political Studies Review*, 18(2):228–244, 2020.
[17] Clarice Chan. Corporate civic responsibility: A new paradigm for companies to advance public interest technology, 2020.
[18] Alan Davidson, Maria White, Alex Fiorille, Alex Hart, Emma Coleman, and Sean Mickens. Building the Future: Educating tomorrow's leaders in an era of rapid technological change, 2018.
[19] Audley Genus and Andy Stirling. Collingridge and the dilemma of control: Towards responsible and accountable innovation. *Research Policy*, 47(1):61–69, 2018.
[20] Ben Green. The contestation of tech ethics: A sociotechnical approach to technology ethics in practice. *Journal of Social Computing*, 2(3):209–225, 2021.
[21] Alexandra Hohenlohe. In show of progress, two pit professionals asked to testify before congress, 2021.

[22] Mike Marcotte and Mark Meyer. Building capacities within a government agency to build and support a new case management system: part 2, 2021.
[23] Andrew May and Tracy Ross. The Design of Civic Technology: Factors that Influence Public Participation and Impact. *Ergonomics*, 61(2):214–225, 2018.
[24] Laurenellen McCann. Building Technology with, Not for communities: An engagement guide for civic tech. *Medium.com*, March, 30, 2015.
[25] Tara Dawson McGuinness and Hana Schank. *Power to the Public: The Promise of Public Interest Technology*. Princeton University Press, 2021.
[26] Jordan Novet. Facebook forms a special ethics team to prevent bias in its A.I. software. https://www.cnbc.com/2018/05/03/facebook-ethics-team-prevents-bias-in-ai-software.html.
[27] Bruce Schneier. Technologists vs. Policy Makers. *IEEE Security & Privacy*, 18(01):72–71, 2020.
[28] Eric Stribling. How engineers think and implications for public interest technology. *IEEE Technology and Society Magazine*, 40(3):37–41, 2021.
[29] Kent Walker. Google AI Principles Updates, Six Months In. https://blog.google/technology/ai/google-ai-principles-updates-six-months/, 2018.
[30] L Weimer and T Nokkala. *Universities as Political Institutions: Higher Education Institutions in the Middle of Academic Economic and Social Pressures*, 12, 2020.

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