

# Civic Hacking in Austin and the Creation of Engaged Citizens

Caroline Polk O'Meara

School of Information, The University of Texas at Austin

## Abstract

This paper will review the literature on civic hacking and survey individuals working on civic hacking projects in Austin, Texas. I will consider the role of hackathon culture and open government data in the rise of civic hacking and what kind of people participate in from civic hacking. One theme from the literature that I will explore is how civic hacking remakes cities' cultures. As civic hacking matures, one challenge is bringing together potential hackers, people with ideas about what to do with open government data, and the people who will be most helped by civic hacking projects. In my survey of civic hacking participants in Austin, I will look at professional and educational background, technological skills, hackathon experience, reasons for getting involved, prior civic engagement, and what kinds of civic problems participants want to solve. I will also tabulate general areas of focus for civic hacking in Austin as well as past and ongoing civic hacking projects.

**Keywords:** civic hacking, open government data, hackathon

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**Contact:** caroline.omeara@utexas.edu

## 1 Introduction

Civic hacking is a collaborative process between citizens and government that fosters the development of technological and design solutions to social problems, often through the creative use of open government data. Code for America, a non-profit formed in 2009 in the wake of the Global Economic Crisis, casts a wider net in their definition: "Civic hacking is using technology and design to make where we live better" (Levitas, 2013). To enable government to better support citizens, volunteers at hackathons offer creative solutions, often by deploying data that the government collects and provides. This is an example of what Irani (2015) calls the "entrepreneurial spirit," where work practices from software development establish themselves in the public sphere, enabling participants to imagine themselves as "entrepreneurial subjects." Civic hacking arose out of hackathons, intense events of one to three days where individuals come together in teams to solve technical challenges, sometimes culminating in judges awarding prizes to the solutions determined to best meet the hackathon's parameters (Lodato & DiSalvo, 2016). What distinguishes civic hackathons is the kinds of problems addressed: instead of designing the best new for-profit app, civic hackers set their sights on solving social problems.

In this paper, I review recent academic literature on civic hacking and place it in the context of the official Code for America brigade in Austin, Texas: "Open Austin." In their own words, the focus of Open Austin is "the needs of our own community ... we use design, technology, and open data to improve the quality of life in our city" ("Open Austin: About"). In March 2016, I attended and participated in two Open Austin events and communicated with Open Austin members in their open Slack channel<sup>1</sup> and GitHub repository.<sup>2</sup> I am in the process of completing and distributing a pilot survey to members of Open Austin, having worked with them in developing the questions. My research questions at this stage in the

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<sup>1</sup> <https://slack.open-austin.org>

<sup>2</sup> <https://github.com/open-austin>

process are:

1. What is the relationship between civic hackathons and civic hacking, and how has it changed over time?
2. How is open government data put to use in civic hacking? How is it put to use in Austin?
3. How has civic hacking in Austin affected participants?
4. What kind of civic hacking projects have been the most successful in Austin?
5. Who are civic hackers in Austin?
6. What are the benefits and drawbacks of civic hacking for Austin?

## 2 Methodology

For the literature review portion of this project, I used library resources to find recent academic publications on civic hacking and hackathons. At the beginning, I used a combination of library resources (Web of Science, ProQuest, ACM Digital Library) and Google Scholar to find resources, I also found articles by following the trail of citations included in articles as I was reading. The most productive search terms were “hackathons,” and “civic hack\*,” and I also found resources under “civic hackathon,” “civic hacking,” “open government data,” “open government,” and “entrepreneurialism.” My focus on the most recent academic work on civic hacking includes research into the maturing space of the hackathon—both civic and commercial.

In addition to the literature review, I also went to several Open Austin events and will soon distribute a survey to current members. I participated in the 2016 Code Across event on March 5, taking part in Design Thinking exercises and developing a plan for supporting bike safety in Austin. I also observed an hour of the Civic Hack Saturday on March 19. After the survey is complete, I will analyze and synthesize the results to answer my research questions about the specific kinds of projects individuals are conducting in Austin. I have chosen to limit my survey to participants in Open Austin, because they have existing infrastructure to support distribution. Using information available in Open Austin’s Github, Slack channels, and web site, I will also tabulate past and ongoing civic hacking projects to give the reader an idea of what kind of work civic hackers in Austin are engaged in.

## 3 Civic Hackathons in Academic Literature

Research on civic hacking often focuses on civic hackathons events (Irani, 2015; Gregg, 2015; Johnson & Robinson, 2014; and Lodato & DiSalvo, 2016), rather than the broader, participatory understanding of civic hacking that encompasses the work of Open Austin. Lodato and DiSalvo (2016) conducted two years of ethnographic work on what they call “issue-oriented hackathons,” attending and participating in events in New York City. While none of the events were government-sponsored, several of the projects considered open government data and social, rather than for-profit, goals. They focus on the structure of the events, and how it affords the development of relationships between participants who can be more interested in developing technical skills than addressing specific issues. Lodato and DiSalvo argue an issue-oriented hackathon is motivated by articulating an issue rather than resolving the conditions around the issue (p. 4) since the end results are prototypes that make an issue actionable but do not general become functional applications (p. 14). As Irani (2015) argues in her discussion of the creation of “entrepreneurial citizenship,” “[h]ackathons *sometimes* produce technologies, and they always, however, produce subjects” (p. 800). During the course of her field work in India, Irani participated in a civic hackathon that was part of a broader festival in Delhi (2015, p. 806). Her experience as a participant follows what Lodato and DiSalvo has observed, no working prototype was built, but lasting relationships and productive collaborations emerged (2015, p. 814). Instead of working prototypes, the hackathon offered the “pleasures of dreaming about possible futures” and the hope that small actions might have the power to enact change incommensurate with their size (2015, pp. 815-816). While several Open Austin

projects are now fully working applications, the production of ideas and civic engagement is also an important civic hacking deliverable.

In contrast to these stories of issue articulation and subject creation, Johnson and Robinson (2014) focus on the working mobile apps that emerge out of corporate-sponsored civic hackathons, including events with tens of thousands of dollars in prize money (p. 351). They consider whether supplying open government data to the apps that result from civic hacking “facilitate[s] the outsourcing of government technology/software procurement” (p. 352), especially in context with significant prize money. Open Austin actually emerged out of citizen dissatisfaction with the vendor chosen for a major City of Austin web design, a kind of protest against government procurement procedures (Dunbar, 2009). Since then, Open Austin has worked towards a sustained relationship with members of city staff, to create a civic hacking community in Austin that moves beyond prototyping.

Another area explored by researchers is the question of what participants in hackathons receive in exchange for their work, whether on prototyping or “shipped” applications. Johnson and Robinson (2014) express concern that civic hackathons might become “virtual sweatshops” and ask if “hackathon participants [are] fairly compensated for their software development efforts, and importantly, do they expect to be?” (p. 353) Their critique is aimed not just at the civic hackathon process, but also the deployment of open data more broadly as a tool of civic engagement, calling for the creation of a civic engagement protocol (pp. 354-355). Gregg (2015) shares this concern with the nature of the high-tech labor performed at hackathons, calling the events “a symptom of a broader transformation affecting career preparation and training as stable paths for recruitment give way to to the velocity of dynamic networks” (p. 184). Gregg recognizes the possibility for creating fulfilling work through civic engagement, but worries about individuals in the early stages of their careers being exploited (p. 185). [Placeholder for possible discussion of my conversations with Open Austin participants.] In contrast, Townsend (2013) celebrates how “smart cities” mean harnessing “technology to do more with less” (p. xiii). Since New York City can’t afford to improve its sewage system, Townsend celebrates civic hackers who created sensor that encourages people not to flush during storms (p. 139). While Townsend celebrates the ingenuity, I wonder whether the citizens of New York would rather have infrastructure improvements—and more than the ubiquitous wifi that allows sewage sensors to function during heavy rainfall.

[Placeholder in Outline: A paragraph or less discussing demographic data I receive from Open Austin and compare to assumptions about the relative youth of hackathon participants.]

Code for America and Open Austin—not initially affiliated—were both founded in 2009 during a period of fiscal austerity and reduced government spending. For Gregg (2015), civic hackathons must be understood as a post-recession phenomenon, one with limitations. While civic hacking might lessen the effect of government spending cuts, it also allows participants to ignore the possibility of any broader political forces at work (p. 191). Her recommended solution to both the problem of free labor and the limitations of hackers’ civic focus is to model civic hacking after pro bono work (p. 193). Graff’s recommendation of the pro bono model comes from Kennedy (2013), who praises what she calls “the rise of amateur economies” for expanding participation in all kinds of cultural production (p. 243). Kennedy considers the ways in which “spec work competitions”—a broader category than the hackathon—can lead to a sense of professional devaluation (p. 243). The problem of spec work, she argues, should be situated within the broader context of modern creative industries, including low pay, uncompensated portfolio creation, and crowdsourcing design (p. 245). In this context, Veeckman and van der Graaf (2015) propose an alternative they call the “living lab,” a version of a public-private partnership, featuring city representatives, local service providers, educational institutions, and local residents all in partnership. They conducted a study in four European cities engaged in process of creating open government data (Research Approach section). Veeckman and van der Graaf (2015) found that civic hacking, even

following the living lab model, can exclude even as it includes citizens, leaving them with a feeling of empowerment (Conclusion section).

The final ingredients in civic hacking is, most often, access to open government data. The push for access to open government data is a world-wide phenomenon (Davies & Bawa, 2012) and part of a broader global initiative for transparency in government (Janssen, 2012). The United States, along with Brazil, Indonesia, Mexico, Norway, Philippines, South Africa, and the United Kingdom, was one of the eight “founding governments” of the Open Government Partnership (OGP) (“Open Government Partnership: About”). Freely available government data can be part of open government, and Geiger and Lucke (2012) name access to data as one of the requirements for the realization of open government (p. 265). Open government includes “transparency, participation, and collaboration of the state,” and within that paradigm information and communication technologies, including technology that use open government data, should be understood as a tool, not the goal itself (Geiger and Lucke, 2012, p. 265-266). As Janssen (2012) cautions, one should not collapse open government data and what she calls the right to information movement, because the former is largely technology-driven and the later is largely rights-based. Janssen (2012) makes the distinction between availability of data, and achieving the goal of truly accessible data, as many citizens lack the necessary skills to interpret the data.

In other words, open government data is an essential part of many civic hacking initiatives, but open government data does not necessarily mean open government just as civic hacking initiatives have no inherent link to open government. Writing four years ago, Janssen argues “it will be highly unlikely that the benefits of [open government data] for transparency, accountability and public participation will actually materialize” (2012). However, many civic hacking groups are currently experimenting with ways to make data accessible. For example the Durham, NC Code for American brigade has created a visualization of data on bicycle accidents in the city as a way to prioritize improvements to bicycle infrastructure.<sup>3</sup> Geiger and Lucke (2012) propose the concept of *linked* open government data, defined as “all stored data of the public sector connected by the World Wide Web which could be made accessible in public interest without any restrictions for usage and distribution” (p. 269). This to me sounds like a possible civic hacking initiative, something a national organization like Code for America could undertake, perhaps with the help of archivists and others who could bring powerful metadata tools to the project.

[Additional paragraph bringing together open government data and civic hacking in literature? I want more on open government data, but struggling to fully relate it.]

## 4 Open Austin

Open Austin has roots in a 2009, citizen-led initiative to redesign the City of Austin website (Dunbar 2009) and continues to advocate for open data, open government, and supporting civic software developers. In 2016, the organization hosts three monthly events, an Open Government and Civic Tech Meetup, a Civic Hack Night, and a Civic Hack Saturday. In addition, they are the sponsors for the Austin-area Code Across and ATX Hack for Change events. They have a close relationship with Kerry O’Connor, the City of Austin’s Chief Innovation Officer, and have collaborated with her in developing priority areas for research and development (see Figure 1). Participants generate ideas at meetings, including the annual Code Across workshop, and in online conversations in both Slack and GitHub where there is a dedicated section called “Open Austin Project Ideas” (see Figure 2). Sometimes a new user proposes an idea related to something that has been examined before and one of the members of Open Austin leadership points them in the direction of more information.

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<sup>3</sup> <http://bikesafetee.herokuapp.com>

Arts & Culture	Children & Youth
Economic Development	Education
Environment	Food/Hunger
Health	Housing
Mobility/Transportation	Neighborhoods
Open Government	Public Safety
Sustainability	

Figure 1. Open Austin Priority Areas (M. Clarke, personal communication, March 19).

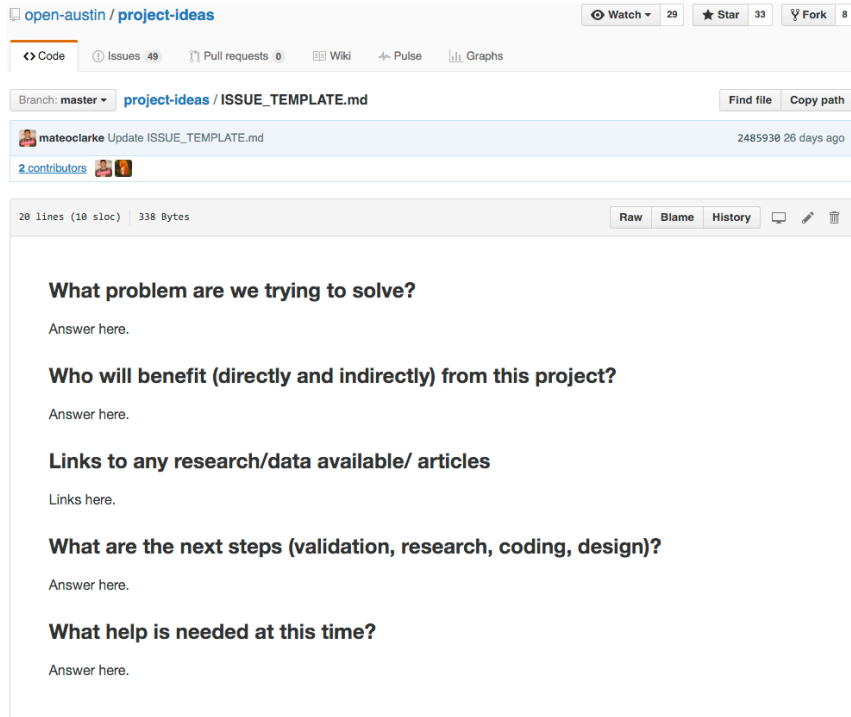


Figure 2. Open Austin issue template as found on GitHub<sup>4</sup>

<sup>4</sup> [https://github.com/open-austin/project-ideas/blob/32126bf8a015d1de72ea96eda0cacf298a0bff45/ISSUE\\_TEMPLATE.md](https://github.com/open-austin/project-ideas/blob/32126bf8a015d1de72ea96eda0cacf298a0bff45/ISSUE_TEMPLATE.md)

Code Across Austin is an annual event bringing together individuals with technical expertise and members of the community who have ideas about improving local government (broadly defined). Led by Open Austin Brigade Captain Mateo Clarke and Marketing Lead Victoria O’Dell, the event included members of the national Code for American organization and opened with a keynote address from Kerry O’Connor. What followed was a very structured series of Design Thinking exercises, starting with big policy ideas (for example: Health and Human Services, Culture, Transportation) and then narrowing down to specific projects with well-defined goals. I participated first in the Health and Human Services team and then chose to work on a bike safety application. My bike safety team included an ER physician learning to code in his spare time, a UX Designer from IBM, the technical subcommittee chair of the City of Austin Pedestrian Advisory Council, and myself. The guidance we received from O’Dell and Clarke helped us leave that day with a set of concise and doable action points. If we can keep working on our project, we have made some progress, the next step will be to find programmers who want to help us hack a bike safety solution at the June 3<sup>rd</sup> ATX Hack for Change event.

[Paragraph summarizing the findings of my survey]

Age range in survey and among participants at Code Across versus the Hackathons

“low hanging fruit” of research on app contests from Johnson and Robinson page 355]

[Paragraph about what projects Open Austin has done, and a graphic representation in a figure.]

## 5 From Hackathon to a Civic Platform

Academic critiques of civic hacking focus on the civic hackathon, and its limitations, including who participates, what is created, and how government is effected (Gregg 2015, Irani 2015, Johnson and Robinson 2014, & Lodato and DiSalvo 2016). As Gregg (2015) asks, “should those who can afford to give away labor really be setting the priorities for civic infrastructure”? Despite connotation of length found in the name, hackathons are short affairs, spanning at most a long three-day weekend. However, effecting positive change at the level of even the smallest local government takes time. As a participant in a civic hacking event in Delhi, Irani (2015) learned that “the event could not accommodate those for whom it claimed to care,” suggesting that the creators needed to create both space and time to work with those outside the “information economy middle classes” (p. 818). Fortunately, in 2016, civic hacking is not confined to hackathons, participants can use asynchronous tools like Slack to coordinate projects beyond the scope of a weekend event. [Placeholder, might look at research into “radical colocation.”]

In Austin, Open Austin and the city’s innovation office work together to shape some of the group’s hacking priorities. Several members of Open Austin leadership, including Clarke and delivery lead Luqmaan Dawoodjee are in active communication with members outside the frame of the hackathon and meetup events. They meet people where they are, and support the development of new projects. [Placeholder for more information from survey.]

My experience with Open Austin so far confirms some of the material in the academic critiques of civic hackathons: many participants are there in large part because of an interest in skill development, there can be tension due to the nature of highly-skilled volunteer work, and many projects get stuck in the prototype phase. However, their model of sustained community interaction, in part supported by Code for America, addresses many of the reactions against civic hackathons (Badger 2013). [Placeholder for more transition to conclusion.]

## 6 Conclusion

Today, civic hacking offer participants the opportunity to dream about and sometimes create a better future, right where they live (Irani 2015, p. 805). While civic hackers might not succeed in reshaping city government (Baraniuk 2013), they can improve upon city governance while bringing in new voices into the process.

Paragraph connecting Open Austin and the concerns expressed in the literature review

Paragraph(s) discussing my research question

1. Paragraph for questions that focus on civic hacking generally
2. Paragraph for questions that focus on Open Austin specifically

Ideas for further research

“This is what I did” paragraph.

## 7 Appendix

### 7.1 Evaluation

So far, meeting participants in Open Austin and reading more in the civic hacking-related literature has given me a broad understanding of civic hacking in the United States. The literature has led me to consider hackathons in greater depth than I originally planned, and to think about how civic hacking in Austin has grown beyond the constraints of hackathon events. In particular, I am interested in how the model that Open Austin follows of regular meetings, close city collaboration, and lots of ongoing communication via Slack and GitHub might address some of the more pointed critiques of civic hacking. My research questions are not quite as specific as I would like them to be, but as I bring together the two sections of my research (literature review and Open Austin) I expect them to be refined. In the literature review, I don't feel as grounded in the literature around open government data as I do in the literature about civic hacking. I plan on going deeper into that literature to get a better sense of what is at stake. The material available, and the constraints of a one-semester course, has limited both the breadth and depth of my literature review, but I think that Open Austin is doing something different. There is a small possibility that this will lead to an original research paper outside the context of the class, so I have decided not to try and run a large survey. Instead, I am running a pilot survey and hope to get 8-10 responses.

### 7.2 Milestones

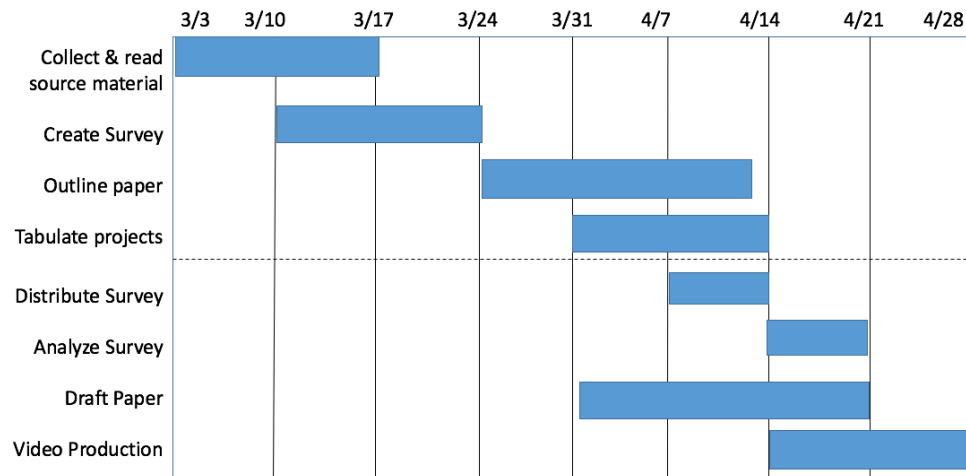


Figure 3. Updated Gantt chart featuring all paper-related milestones for the semester.

### 7.3 Risks

I have successfully located a robust selection of literature for this paper, and attended several Open Austin meetings. So far everyone has been great! My concern right now is about getting responses to my survey during the end of the semester even with the reduced goal of the pilot survey.



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