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Playful Civic Learning: Enabling Reflection and Lateral Trust in Game-based Public Participation

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Attempts to improve participation in civic life often focus on increasing the number of citizens engaged rather than improving the quality of engagement. As digital interventions flood the civic space, investigating the mediating interfaces that provide opportunities for deeper engagement becomes necessary. This article engages in design-based research that assesses the affordances and effects of one such platform: an interactive online game for local engagement called Community PlanIt (CPI). Drawing on an analysis of game mechanics, in-game actions, and interviews and focus groups with players, we ask if and how CPI can move citizen participation beyond isolated transactions. We draw two conclusions: CPI creates and strengthens trust among individuals and local community groups that is linked to confidence in the process of engaging, and it encourages interactive practices of engagement that we define as *civic learning*.

Keywords: civic media, civic engagement, trust, local government, serious games, urban planning, design-based research, action research

Participating in local life can be difficult. Voicing an opinion on a local ordinance; connecting with like-minded neighbors; learning about a planning project: government allows and sometimes encourages citizens to take these actions, but barriers remain high. Information is hard to obtain, meetings are difficult to attend, and, consequently, local networks are challenging to build. The problem is not lack of resources; each year, municipal governments and planning consultants in the United States devote significant energy and funds to "engaging the public." Despite these resources, engagement is too often conceived as simply making available opportunities for official transactions, such as town hall meetings or information sessions, rather than enabling citizen-to-citizen connections or meaningful feedback. In some cases, governments and organizations adopt new technologies to connect with their constituents. But

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these approaches tend to focus more on increasing transactions than on deepening civic engagement through prolonged interactions or learning.

This research examines how a digital game can mediate isolated acts of participation to produce deeper, more interactive forms of civic engagement. Beginning with the development and deployment of a tool to deepen this participation, we construct a theory of what we call *civic learning,* a form of engagement that combines participation with the act of reflection. Voting in an online poll about the future of the city might represent an act of civic participation, but civic learning happens when the participant tells a friend or neighbor about the poll, when participants write about it, argue about it, or debate it at a public gathering. Civic learning happens when participants trust that there is power in their opinion and that someone is paying attention. To highlight possibilities for this form of learning, we developed and implemented an interactive online game called Community PlanIt (CPI; http://communityplanit.org) that was designed to make local planning a context for civic learning.[1]

The project had two parallel goals: improving the planning process by providing a software solution to increase the number and diversity of participants in planning *and* understanding whether the scaffolding of an online game could provide citizens with a more meaningful and reflective form of civic engagement. Accordingly, we took an action research approach (Calhoun, 1993). Specific to the work of action research with new media, our goal was to leave the community with a tool and conceptual framework that would have lasting benefits once the specific intervention had ended (Hearn, Tacchi, Foth, & Lennie, 2009). Our approach was one of inductive theory building, where the concept of civic learning emerged over time and became a common framework through which to understand the process of a game-based civic engagement process.

This study examines the use of CPI in two unique contexts: in a district planning process in the Boston Public Schools (BPS) and as part of the master planning process in the city of Detroit. In each case, the game was supported and promoted by the local organization with assistance from us in the planning and facilitation. Our partners were aware that the game was part of a research study, but this had little effect on how they approached the challenges of service delivery. As a tool for recruiting people to local planning processes, in each case, the game exceeded the expectations of our partners. However, our research seeks to go beyond this initial threshold of success; we are interested in how an online game and corresponding social process can qualitatively change the nature of local engagement. We question how the introduction of a game-based tool into a planning process can augment the practice of giving feedback with exploration and reflection. In assessing the impact of CPI in Boston and Detroit, we conclude that a deeper form of engagement—what we describe as civic learning—occurs. The following sections draw on theories of civic engagement and learning to develop the concept of civic learning, and we use the cases of playing CPI in multiple cities to illustrate how this kind of learning plays out in practice.

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[1] Community PlanIt (2010–2013) was designed by the Engagement Lab at Emerson College with major support from the Knight Foundation.

Civic Learning in a Digital Landscape

Traditional ways of measuring civic engagement—even those that account for digital media—include assessing individuals' knowledge of political events or government practices (e.g., knowing the names of politicians or the branches of government) and the frequency with which they take political actions (e.g., attending a town hall meeting or donating money to a political or philanthropic cause) (Smith, Schlozman, Verba, & Brady, 2009; Verba, Schlozman, & Brady, 1995). With the proliferation of digital media in everyday life, actions such as signing electronic petitions, commenting on an online news story, or posting a political message in a social media platform make up a significant portion of contemporary measures of civic engagement (Chadwick, 2009; Gainous & Wagner, 2011; Zukin, Keeter, Andolina, Jenkins, & Delli Carpini, 2006). Despite the evolution of these measures, assessing engagement is still focused on measuring the amount and type of particular actions taken rather than the attitudes or consideration that accompany (or fail to accompany) such actions. Measuring levels of engagement through the amount of actions taken is a problem, because it necessarily conflates actions—such as voting in an election, donating money to a cause, or liking a candidate on Facebook—with broader concern or reflection surrounding those actions. Some, however, have criticized online actions such as signing petitions or sharing Facebook content, arguing that, although effortless acts of "clicktivism" may produce more clicks, they lack impact as well as reflection (Morozov, 2013; Shulman, 2009), especially in the form of gamification (Bogost, 2011). Still, that criticism is seldom leveled against more institutionally respected actions such as voting and has been countered by those trying to broaden the definition of "proper" civic or political action (Karpf, 2010a; Zukin et al., 2006). Although the move to include more actions as valid is productive for the discipline, what also can result is a slippery conflation of the act of participating—without regard for intent, reflection, depth of dedication, and so on—with the experience of engagement.

Even in cases where attitudes such as efficacy or connection to community are understood as a meaningful indicator of civic engagement, scholars often consider these attitudes separately from the actions that constitute participation. Although some debate exists concerning whether attitudes are the cause of participation or the result of it, this separation is maintained (Gastil & Xenos, 2010). Studies of social capital bring together action and attitudes such as trust and life satisfaction, but position these attitudes as, at their core, resources that support acts of participation such as attending a meeting or commenting on a website (Lin, 2008a). The depth and number of individuals' social ties (Burt, 2013; Granovetter, 1973; Putnam, 2000), as well as their network location (Lin, 2008b), are often the elements that make up these resources, and they are often positively associated with digital networking tools such as social networking sites (SNS) (Ellison, Lampe, Steinfield, & Vitak, 2010). In studies that have investigated the relationship between political participation and SNS and found a positive correlation (Gil de Zuñiga, Copeland, & Bimber, 2013; Gil de Zuñiga, Jung, & Valenzuela, 2012), social capital is seen as a precursor for rather than an outcome of acts of participation. However, little attention has been paid to the perceptions, attitudes, or dispositions that arise from and are in dialogue with participation. In separating (and often privileging) behaviors over the contexts and attitudes in which they occur, studies of civic engagement tend to focus exclusively on transactional behaviors that are short-lived and lack opportunity for critical reflection.

To move beyond this conflation of engagement with participation, we must consider and subsequently analyze deeper understandings of civic engagement that connect citizens' acts of participation to their political opinions, positions and policies, and communities. Dahlgren (2009) gets us close to this by characterizing civic actions as "interactive practices"—not isolated events, but those that "include how [mediated information] is received, discussed, made sense of, re-interpreted, circulated among, and utilized by publics" (p. 74). These interactive practices can both contextualize civic action and provide ways to deepen the actions taken. For example, when a person votes, she might have a larger sense of purpose and the impact of her action (the outcome of the election), but without interactive practices, the action will not necessarily result in deep consideration or high dedication. As Ethan Zuckerman (2013) has put it, these actions are thin, even if impactful. We argue that civic learning is equated with thick methods of engagement. It is not simply an effect of isolated interactions, but takes place within a specifically designed environment (digital or otherwise) that connects citizens to civic processes and affects their relationship to each other and/or to government. This, then, raises the question: How do we assess whether citizens' civic actions are accompanied by the processes of interpretation, reflection, or contextualization that are necessary to constitute civic learning, or a thicker form of engagement?

The current study examines how an online social game can transform acts of participation into civic learning. Drawing on John Dewey's (1938) notion of experiential learning, we seek to understand how civic actions are translated into learning experiences. According to Dewey, experience is the basis of learning, but only when it occurs within a context where it can be reflected upon and processed. Dewey compares the learning process to the scientific method wherein hypotheses "must be continuously tested and revised" (p. 87). Moreover, learning requires a structure of interaction that facilitates learners' actions and directs them to a greater purpose. "A purpose is an end-view," Dewey writes. "It involves foresight of the consequences which will result from acting upon impulse" (p. 67). Civic learning is not something that can be measured through a specific set of knowledge outcomes, as is the case with many civic education initiatives (Kawashima-Ginsberg, 2012). Instead, it depends upon reflective capacity broadly speaking, and it takes place when citizens can reflect upon acts of participation and contextualize their actions to understand the end view of that moment of participation.

Games, in particular, can offer a productive context through which design spaces for civic learning emerge. Games, properly conceived, are clear feedback systems that prescribe certain kinds of player actions while accommodating changes in the system that emerge from play. Moreover, they provide players with opportunities to restructure interactions and relationships of power, providing opportunities that are qualitatively different from life outside of the game (Salen & Zimmerman, 2004). As structured systems, games motivate interaction with a set of rules that are, in most cases, transparent to the player through instructions or feedback. The focus on rules, exploration, and challenge can create a generalized understanding of systems that is uniquely suited to facilitating what Salen and Zimmerman (2004) call "meaningful play," where meaning "emerges from the relationship between player action and system outcome" (p. 34). In games, players are prompted to reflect on their actions as the system responds. Players are motivated to question what they did wrong or how they might accomplish something better. In sum, games can provide a sense of purpose through stated goals; they can enable reflection through a player's assessment of progress, and they can allow for playful exploration of content

within structured systems of interaction that are both stable and emergent (Frank, 2007; Ruiz, Stokes, & Watson, 2003; Swain, 2007). Thusly conceived, games are particularly suited to the production of civic learning environments.

In the case of planning projects specifically, the playful affordances of games have been well documented, from the federal government's model citizen program in the 1960s (Berkeley, 1974) to more recent efforts that experiment with game-based approaches to teaching about and participating in urban planning (Gordon & Manosevitch, 2010; Gordon, Schirra, & Hollander, 2011; Gordon & Schirra, 2012; Mallan, Foth, Greenaway, & Young, 2010). Our research encompasses the design of a planning game and inductively considers and provides an account of the characteristics of civic learning in this environment.

Game Design

CPI is a game platform that was designed for the general use case of the urban planning meeting. These are meetings, often prompted by federal or state mandate, that invite the public to provide feedback and ideas on planning scenarios at various stages, from visioning to capital improvements. These meetings are typically poorly attended and designed, with few clear methods for capturing ideas and fewer methods of cultivating learning and trust (Forester, 1999). It was this very general problem area that first motivated the design of a game as a potentially meaningful intervention.[2]

This study focuses on the two implementations of CPI: the first as part of a districtwide planning process in the Boston Public Schools and the second as part of a master planning process in the city of Detroit. In Boston, the accountability office in BPS wanted to consult the public on the development of a "school performance index," which would serve as a framework for the district to evaluate how individual schools perform across indicators such as attendance, achievement gaps, growth, and environment. BPS was interested in reaching out beyond its typical school activists who regularly participate in consultation processes to a new, larger group of parents, teachers, and students. In Detroit, the city was developing a master-planning document to guide development and services for the next 50 years. Spearheaded by a consortium of nonprofits called Detroit Works, the city engaged in an aggressive outreach strategy that involved traditional town hall meetings, talking to people on the streets, and the CPI game.

In each case, CPI was part of a larger planning process that had a structure of decision makers seeking consultation from the public on matters of policy. The game was adopted by the sponsoring organization in each city as a means of supplementing, not replacing, traditional meetings and outreach efforts. Game players were recruited by the organizations through traditional channels of meeting announcements, flyers, and word of mouth, in addition to new methods of social media and school outreach that were more specific to the game. The common goals of the games were twofold: to engage as many stakeholders as possible in providing meaningful input to decision makers and to provide opportunities for stakeholders to learn about the planning process through creation and sharing.

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[2] In early stages of development, CPI was tested in Lowell, Massachusetts, as part of a visioning process. Although the data obtained in that test are not part of the current study, the implementation served as a useful test case to iterate the platform.

CPI is a multiplayer, mission-based game that takes place over three to five weeks, wherein players compete for points and influence. A mission is a weeklong series of challenges that ask players to answer questions, contribute media, or solve problems according to their own views and as characters. Within these challenges, players are asked to participate in practices of deliberation: to give their opinion and interact with the opinions and positions of others. The game encourages such actions by awarding points and badges for game actions of commenting, liking ("disliking" or "downvoting" is not an option), and sharing (see Figures 1–3). Players do not need to take these actions to gain points, but they earn more points when they do so. Points function to rank players' performance in the game and also serve as a currency that can be spent on "planning values," which are big-picture concepts that frame the public discussion, such as walkability, or student attendance. The more points one accumulates, the louder his or her voice can be in defining the community's values, and competition is fostered through leader boards, badges, and weekly e-mails to players. At the end of the game, the distribution of points to planning values is meant to represent the community's general sentiment. Because players must complete the challenges before viewing other answers, they must engage in articulating a perspective or opinion in order to participate. Although all answers are visible after the week's mission is over, to engage in playing the game, one must participate in at least the opinion-giving side of deliberation. Crucially, the mechanics of the game were designed not only to foster deliberation but also with the goal of connecting citizens to one another. Players provide their first name and last initial, and "affiliate" with any groups with which they may be involved (players create these affiliations themselves and can make up original ones if they choose). Affiliations become a point of reference throughout the game that stimulates a meaningful dynamic between competition for individual points and rewards for cooperation with others who share an affiliation.

The two-game implementations took place nine months apart.[3] The Boston game included seven missions, each lasting 5 days, for a total of 35 days of game play, 451 registered players, and more than 4,600 comments. In Detroit, the game was composed of three missions, 7 days each, for a total of 21 days of game play, and resulted in 1,043 registered players with more than 8,400 comments. The data from the games were analyzed by planners, shared with all stakeholders, made widely available to players in visualizations and raw form, and incorporated into the plan presented to residents.[4] In both games, the demographic breakdown of players differed from that of traditional engagement practices, with 31% of players identifying as students (mostly high school age) in Boston. In Detroit, 74% of players were age 35 or younger. Participants in both games were evenly split along gender lines and were diverse in terms of race and socioeconomic background.[5]

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[3]There were minor changes in game mechanics and the user interface between the two implementations, but the changes were small enough that the two case studies still represent the same system.

[4] The Detroit Future City report was released in January 2013. The report mentioned the game 22 times and featured the results of a citywide survey administered by Detroit Works Project Long Term Planning that ranked CPI as the most "hopeful" engagement strategy. When asked to assess general feelings about the planning process on a scale between 1 and 5, 5 being hopeful and 1 being negative, CPI received a score of 4.6, well above any other tactic, with town hall meetings receiving only 3.76.

[5] In Detroit, players were 32.5% White, 30.7% Black or African American, 24.2% Hispanic; Asian, Native American, multiracial, and "other" populations were single percentages. Among Detroit players, 37.5%

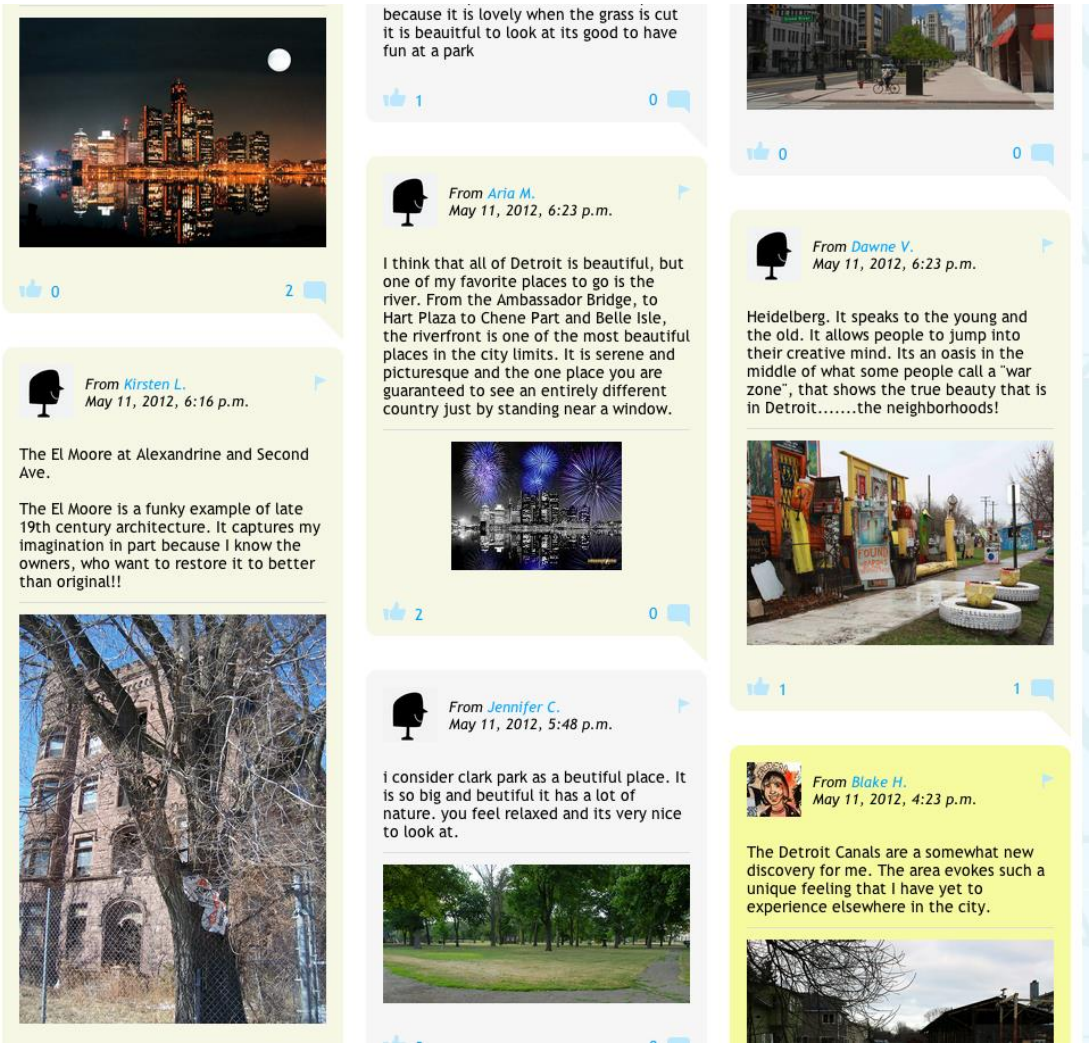


Figure 1. Challenge dialogue screen of CPI in Detroit.

earned less than $25,000 a year. In BPS, 44.2% of players were White, 24.9% were Black or African American, and 17.1% were Hispanic. Among BPS players, 33.8% earned less than $25,000 per year. Although these numbers do not directly reflect the local demographics (according to 2010 U.S. Census data, Detroit's population is 82.7% Black or African American, 10.6% White, and 3% other races; and Boston's population is 53.9% White, 24.4% Black or African American, 17.5% Hispanic or Latino, and 8.9% Asian), they do reflect significant input from often-underrepresented populations. A common criticism of digital interventions is that they fail to reach a diverse population, and this is not the case for these implementations of CPI. Additionally, adults under the age of 35 are less likely to participate in many types of engagement, including traditional outreach efforts by local governments (Zukin et al., 2006), yet they made up a majority of players in Detroit.

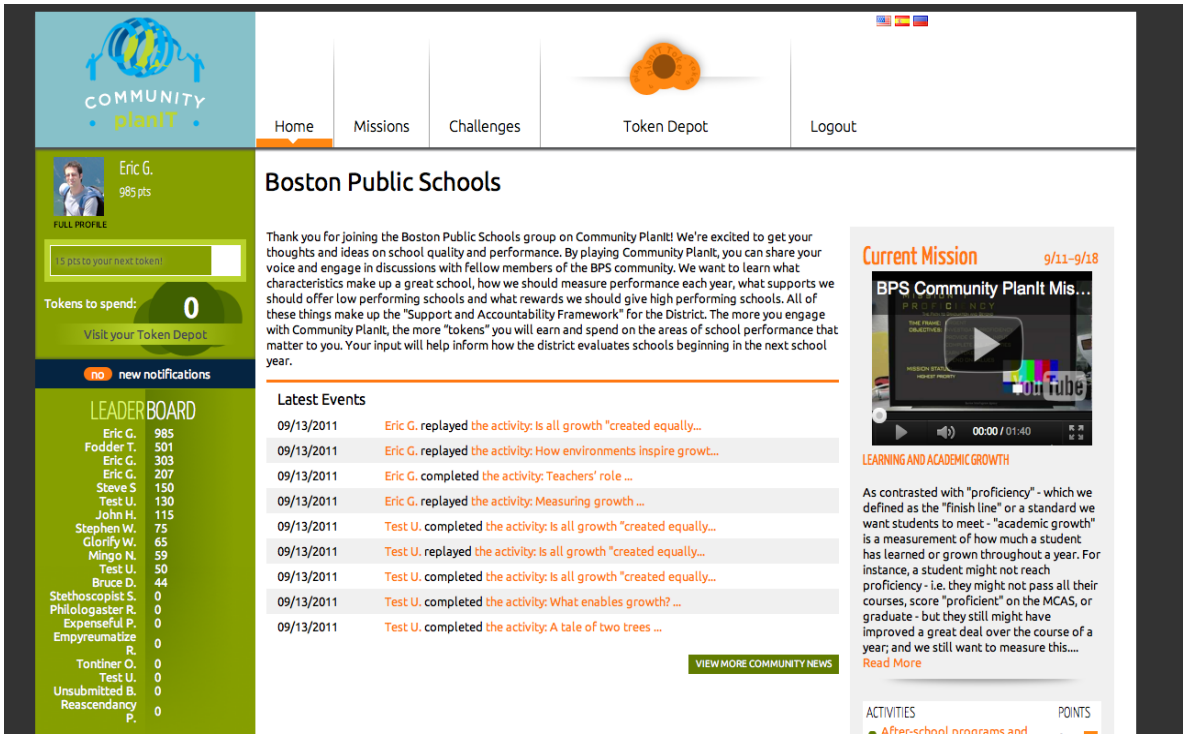
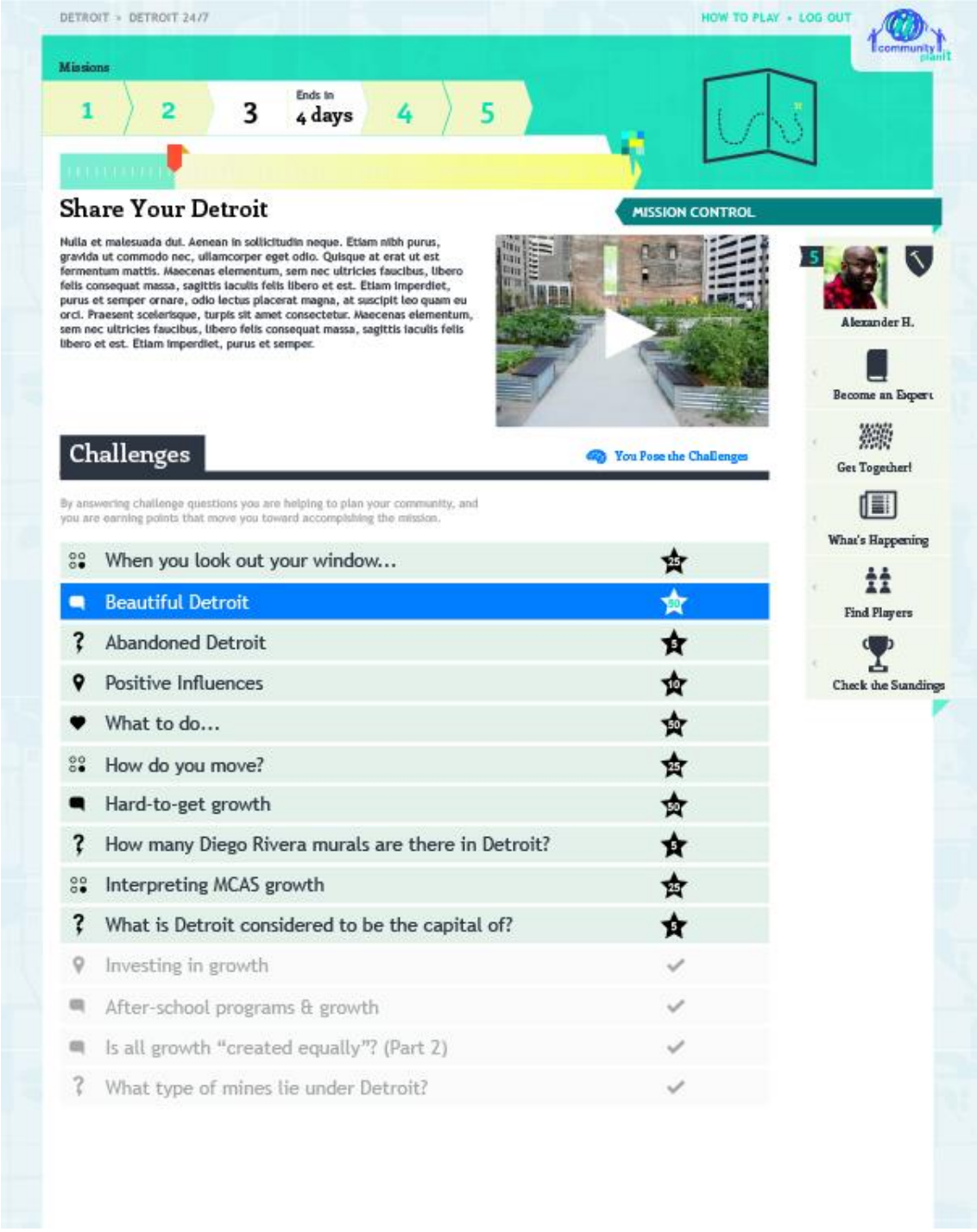


Figure 2. Home screen of CPI in Boston.


DETROIT » DETROIT 24/7
HOW TO PLAY • LOG OUT
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Missions
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Share Your Detroit
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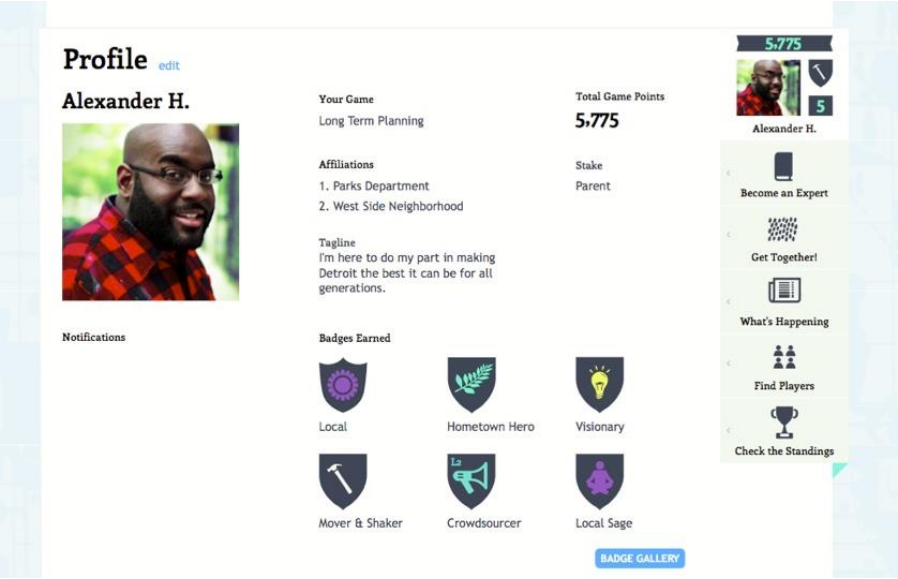
Nulla et malesuada dui. Aenean in sollicitudin neque. Etiam nibh purus, gravida ut commodo nec, ullamcorper eget odio. Quisque at erat ut est fermentum mattis. Maecenas elementum, sem nec ultricies faucibus, libero felis consequat massa, sagittis iaculis felis libero et est. Etiam imperdiet, purus et semper ornare, odio lectus placerat magna, at suscipit leo quam eu orci. Praesent scelerisque, turpis sit amet consectetur. Maecenas elementum, sem nec ultricies faucibus, libero felis consequat massa, sagittis iaculis felis libero et est. Etiam imperdiet, purus et semper.
5
Alexander H.
Become an Expert
Get Together!
What's Happening
Find Players
Check the Standings
Challenges
You Pose the Challenges
By answering challenge questions you are helping to plan your community, and you are earning points that move you toward accomplishing the mission.
When you look out your window...
Beautiful Detroit
Abandoned Detroit
Positive Influences
What to do...
How do you move?
Hard-to-get growth
How many Diego Rivera murals are there in Detroit?
Interpreting MCAS growth
What is Detroit considered to be the capital of?
Investing in growth
After-school programs & growth
Is all growth "created equally"? (Part 2)
What type of mines lie under Detroit?



Figures 3a & b. Points system for answering questions and badges earned during game play. Players earned badges for taking actions such as commenting, receiving likes, or being social. The Crowdsourcer badge required players to create a get-together (in game discussion) with 10 players total; the Local Sage badge required answering trivia questions correctly.

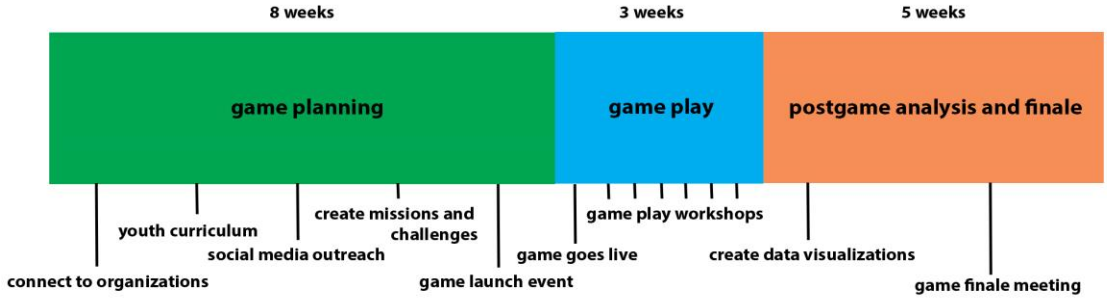


Figure 4. Diagram of game process from planning to player debriefing.

Each implementation of CPI involves community outreach and content creation prior to game play and is followed by a face-to-face community meeting that also serves as the game finale (see Figure 3 for time line). There, players and nonplayers are invited to debrief on game results and plan for next steps. Debriefing is a demonstrated mechanism of enforcing reflection into a game experience (Crookall, 2010; Lederman, 1992). Although it was not intended to replace the need for reflection within the game, the game finale meeting (which attracted about 10% of the players in addition to people who never played the game but were interested in the process) serves an important rhetorical function to integrate reflection into the overall game experience (see Figure 4).

Figure 5. Game finale meeting at the Central branch of the Detroit Public Library.

Methods

Both of the case studies were conducted in partnership with local organizations (Boston Public Schools and Detroit Works). Although they independently agreed to be part of a research study, their primary motivation was to collaborate on engaging citizens in their local planning process. Thus, we adopted an action research approach that attempts to balance the needs of our community partners with the needs of our research questions. Fortunately, any tensions arising from these dual needs were minimal and, in fact, were generative. With each implementation of the game, we focused on how CPI can foster civic learning through reflection, dedication, intent, wider consideration, and so on in civic life. More than a methodology, the design, implementation, and research are all part of "an overarching process for managing inquiry" (Hearn et al., 2009, p. 1) that amounts to more than the variety of qualitative methods of assessment we employ. Unlike much design-based research, our study examined the implementation of an experimental prototype project "in the wild" (Chamberlain, Crabtree, Rodden, Jones, & Rogers, 2012).

As research occurred in the wild, no additional directions beyond a how-to for general play and explanation of how to earn badges were provided to players.

In both cases, CPI was used to facilitate public outreach in a citywide planning process. The people who played the games did not seek to participate in a research study, but instead sought to consult on decisions about school policy or a master plan. When a player would first come to the site, the terms of service to which they had to agree to proceed stated that, in addition to facilitating a public process, game data would be used for academic research on civic participation. But players did not see research as the reason or motivation for their participation. As creators of CPI, we needed to bracket our research goals to the more pressing goal of partners, which was to create a meaningful online consultation process. As such, we characterize this study as action research and subscribe to the values of codesign with our partner communities. Although this approach complicates the research context because of the need for the researcher to actively intervene in a process, it importantly enables more intimate access to facilitators and increased trust in the research process than would a traditional case study approach (Allen & Foth, 2011).

Although case studies have limitations of being ungeneralizable and potentially biased due to context or limited sets of participants, they are also productive ways to explore emergent theories (Karpf, 2010b), and they provide important insight into contexts of civic interventions and the messy ways tools impact civic life. This approach is beneficial because of not only its ability to produce immediate real-world results within academic research but its sensitivity to the social and creative contexts of digital innovation that profoundly impact the use of any tool (Hearn et al., 2009).[6] It results in an inductive, grounded theory approach to investigating broad questions regarding civic learning, beginning with the research question: What, if any, elements of civic learning do we see stemming from players' engagement with CPI?

Our investigation answers this question by examining players' experiences of game play after the act of playing, and uses multiple qualitative methods to do so: player interviews, focus groups, and observations of in-person game meetings. Although in-game data are available that shed light on the type of deliberation that occurred, the focus of this article is on the possibilities for deep engagement that may accompany such deliberative interaction rather than the interactions themselves. Ten semistructured interviews were conducted with adult players in Boston in November 2011, and 17 semistructured interviews were conducted with adult players in Detroit during May and June 2012. Interviews averaged just over 35 minutes each, and participants were 70% and 75% women, respectively. Interview subjects were not limited to top players; they were distributed from the bottom third to the top third. Additionally, two focus groups were conducted in Detroit with youth—one with about 20 middle school students and one with about 30 high school students—all of whom were active players in the game. In Boston, in lieu of formal focus groups, we observed a core group of six high school students contribute to making content, promoting the game, and playing the game over the course of 12 weeks. This involved meeting informally with the students a few times a week in an after-school program where they discussed and planned for

[6] For an example of a technological system deployed in a community development process, see Hirsch and Liu (2004).

the game and interacted with other students to promote the game.[7] The students in Detroit and Boston were selected to participate in the study by their teachers, who were instructed to select students with a range of investments in the game. In both cities, adult participants self-selected to take part in interviews, but we went to lengths to solicit participants from a range of playing levels (as measured by how many points they earned during the game), and succeeded in accessing more than just the top, most dedicated players. The analysis of the data took place immediately after each individual game implementation and again as we considered both implementations together. We used the qualitative analysis software Dedoose (Sociocultural Research Consultants, n.d.) to code the interviews to facilitate thematic analysis across cases.

In the next section, we discuss the ways in which CPI productively impacted civic learning. We focus on the unique affordances of the system and corresponding process (understanding that it took place within a larger civic context) and tease out the correlation between civic learning and game-based public participation. The themes presented emerged from the whole body of interviews, because no salient qualitative differences emerged among groups based on gender or player statistics.

Findings: Building Civic Learning

Civic learning is a practice in which citizens actively consider their stance on civic issues and their relationships to other citizens or governing institutions. Its development can be measured in many ways, from how people reflect on their actions, opinions, or community to how dedicated they are to civic participation. Through our inductive analysis, we found two such elements for which the game process was clearly productive: developing alternative avenues for trust in civic processes and fostering recognition of alternative perspectives through reflection. Although additional mechanisms of civic learning may be at work, or may be problematically lacking, by constraining this study to the aforementioned elements, we engage in developing theory around game-based systems and reflective learning in civic life. In doing so, we hope to demonstrate that civic learning—as a process that simultaneously focuses on acts of participation as well as the construction of dispositions of engagement—is both a possible outcome of game-based systems and an outcome that is deserving of measurement on a wider scale. In the discussion section, we explore the implications of these elements as well as the implications of what we did not observe.

Reflection Through Game Play

At its core, learning is a reflection and recognition of people's relationship to individuals and groups around them (Raphael, Bachen, & Hernandez-Ramos, 2012). Likewise, civic learning happens when the civic actor has the opportunity to reflect upon how his or her actions affect or are affected by

[7] A PBS film crew was following the implementation of CPI in Boston as part of a documentary on digital learning called *Is School Enough?* The filmmakers were specifically interested in the role of the students at English High School that contributed to the design and production of the game's content. The presence of the cameras likely had some effect on how the kids behaved, but it quickly became part of the project for them. We feel that this had a minor impact on our larger conclusions about civic learning.

social ties. In CPI, players not only reflect on their own opinions about civic issues but focus on the connections between themselves and other individuals and groups within a defined community. The recognition of individuals and publics that carry alternative perspectives on civic issues creates the necessary conditions for reflecting on such alternative perspectives.

Being Aware of Self and Others

The player's goal in the game is to accumulate points that can be directed to "community values"; the goal of the game system is to facilitate deliberative dialogue with people who share interest in the planning process. To play the game, players respond to what are called "challenges," question types including multiple choice, interactive maps, and image or video submissions. Only after they have submitted their response do all other player responses appear on an overview screen. According to players, this process of withholding others' answers was very helpful in encouraging reflection on their own perspectives and those of others. A Detroit player who founded a local civic organization reported that, more than points, her desire to see other responses fueled her participation: "Honestly, it was curiosity—to see everyone's view of things because they had these different situations and stuff" (D12).[8] Revealing other comments only after players gave their own answer motivated the practice of answering each question and provoked more reflection about answers. "I think it forced you to really think about what you wanted to say in order to see other people's opinions," said a teacher who played (BPS7). Another player with a child in a BPS school had this to say:

> I really like that you can't see other people's answers until you answer. You know, I really think that was great because too often [in other online systems] you could read everyone else's answers and then you could answer, but it wouldn't be what you really first thought . . . and it sometimes has made me think, "oh, gosh, that's true." [It made] me think about that in a new way. (BPS5)

Although the game has no way to force players to reflect on or analyze their perspectives, these game mechanics enable and encourage such behavior. One player described the importance of youth engaging in potentially reflective practices as follows: "Even though they may have just gave a pretty quick answer you hope that just the fact that they are on there and they are reading this stuff maybe something will catch hold" (D1).

Beyond reflecting on one's own position, the process of revealing other players' answers led many to reflect on positions they had not previously considered and recognize validity in opposing viewpoints. A player who lives outside Detroit's city limits but has attended the city's planning meetings, said:

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[8] As we cite interviews, we use labels for participants. D signifies players from Detroit, and BPS signifies players from Boston. Numbers signify the order in which players were interviewed. All youth quotes come from focus groups or observations. For youth references, we refer to them as such, but make no specific notation beyond the city.

> Whenever I found out that I was like the minority . . . it just made me think of why do people think the other idea is better. I started to think maybe sometimes you have misconceptions and maybe the other suggestions or the other answers were better than the one I thought was good. (D9)

A teacher playing agreed, saying, "It opened my mind to other ideas" (BPS7); a planner said, "it helped me to understand where some folks' thinking was on certain things. . . . It helps you remember that, hey—that's where people are" (D7).

Rather than rely on players to engage in discussions, additional features were built into the game to encourage reciprocal communication. In addition to rewarding answers and comments with points, CPI follows now-standard protocols for online social networks; players can comment on and "like" the responses of others. E-mail notifications alert players when this happens, encouraging those who were not originally inclined to search out others' ideas to return to the game and engage in the deliberative process. A parent who was new to engaging directly with the district described taking advantage of this function: "Occasionally I read other comments. Mainly if someone commented, liked my comment, or something, then I would go back and kind of see what people were saying" (BPS2). To encourage player exchange, popular interactions (determined by likes and replies) turned a bright yellow on the challenge overview screen to draw players' attention and emphasize the importance of in-game discussion.[9] Many players reported being affected by these features. A community organizer described her realization that points were given for the specific act of commenting and how that motivated her to interact with others: "I would have been commenting all along if I had known that you could earn extra points that way" (D9). Additionally, she was very clear that points encouraged her to reflect on the content. "[They] encouraged me to go back and look at other people's responses and make what I thought were kind of engaged questions and answers to what people had said." In total, players in both games provided 3,088 responses to other players' initial answers and "liked" comments and responses 3,517 times, demonstrating that interaction in the game was not merely about putting one's own ideas forward, but also involved reflecting on others' contributions.

The reciprocal communication enabled and fostered by the game was specifically highlighted by players as an improvement on traditional modes of engagement. In some cases, the effects of these acts of reflection seemed to stick with players. Interviews were conducted relatively soon after game play, but players still reported that in-game reflection from previous weeks had them debating issues. "I put my comment and someone disagreed with it," describes one player. "It made me really think, 'Wait. Maybe they are right.' Even now I don't really know who's right, but I feel like it made me really think about what I thought prior" (BPS9). By engaging with others' ideas, players participated within a context of social interaction. This deviates from an individualistic mode of interaction that many democratic forums embody and moves toward both a communitarian and deliberative mode of engaging (Freelon, 2010).

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[9] In future iterations of the game, many interface choices have been made to amplify this, such as highlighting in bright colors comments that were recently replied to or the site of much interaction and setting up a space to aggregate these discussions called The Buzz. Additionally, there is a specific place where people can go to advocate for and debate causes at any time called The Soapbox.

Being Aware of Publics

Beyond simply enabling and encouraging reflection at the interpersonal level, CPI creates spaces in which groups can reflect on their collective impact, responsibilities, and relationships, and players can understand their relationships to multiple imagined publics (Litt, 2012). This reflection is highlighted in players' ability to form groups within the system. One of the features of CPI is the ability to form affiliations. These are groups bound by an interest or connection to organizations, locations, causes, and other real-life affinities, such as schools, neighborhoods, churches, and nonprofits; in Boston, there were 120 and in Detroit, 304. By highlighting the shared interests and connections among players, affiliations display the variety of interest groups and coalitions in the community and draw attention to the diversity of perspectives among publics. Differences in perspectives across publics are especially important to draw out, because they would often otherwise be completely unknown.

In addition to enabling deliberation among relevant publics, CPI illuminates relationships that often go unnoticed or ignored in everyday civic life. For instance, the ability for players to imagine intergenerational publics—spaces where youth and adults discuss civic issues—was a key affordance of CPI. Although the age diversity of players was real (in Boston, 31% of players were 18 and younger, and in Detroit, 43% were 18 and younger), direct interactions between groups were light, and direct interaction between youth and adults rarely occurred outside a school assignment. Still, it was clear that imagined publics were uniquely powerful in constructing individual player attitudes and strategies. Because it is unusual to include youth in a planning process, their absence is not typically noted. When participating, however, their collective presence was valued because of the way it changed the quality of overall discussion. According to a frequent attendee of city meetings:

> I think there were kids in eighth grade doing this. I think like, oh my god, even kids can be involved. I do think kids have to be involved because they're the next generation. . . . We're just ignoring them all the time. Some [of their ideas] are probably better than a grown-up person could have. (D9)

Players from both Boston and Detroit similarly stated that one reason their answers were better was that they were more truthful.

> One of the questions was why do students miss school, and one of the students wrote drugs, falling in with the wrong crowd—we all want our kids to be in the right crowd, whatever, but she wrote drugs, friends, and so on, and I'm like, wow. (BPS3)

Another player said, "They sound so fresh, so honest, so unbiased" (D9). In addition to youth's specific input, their participation in the game became a symbol of hope that forced adults to reflect on their own thoughts. This reflection did not require any direct interaction between the groups; adults reflected on their own responses in light of the symbolic block of youth players.

Youth also acknowledged the benefit of participating in intergenerational publics. First and foremost, they tended to characterize the adult public as "official" or "real" and therefore credible. When

one middle school teacher in Detroit assigned the game as homework for all three weeks of the game, both the students and the teacher spoke about the benefits of being in the space together. The teacher described how much she learned about her students by following their responses in the game; and the students, although less interested in learning about their teacher, reported that having their teacher participate in a school assignment made it seem very real to them and forced them to consider how their answers contributed to a larger out-of-school process.

The creation of multiple, simultaneous publics is a clear affordance of the CPI game environment. In addition to being integral to establishing productive relationships in which to build and place trust, it was also an important component of players' ability to reflect on their own participatory acts. By providing a platform that youth found appealing and that adults were willing to explore, CPI created a common ground that enforced reflection and awareness of unique subject positions essential to civic learning.

Developing Lateral Trust

Interfacing with government requires some level of trust that participation will not go completely ignored or that extrainstitutional mechanisms of participation can be productive. But it does not hinge entirely on vertical trust in institutions that public polls most often track or on which research concerning political participation often focuses.[10] Instead, we focus on *lateral trust*, which, similar to social trust or social capital, is formed through reciprocal relationships with individuals and local community groups and can help to legitimize civic processes.[11] Studies have revealed social trust as positively correlated with civic participation and demonstrated its importance in online interactions within social networks (Ellison et al., 2010; Gil de Zuñiga et al., 2012; Zhang, Johnson, Seltzer, & Bichard, 2010). In these findings, the exchange of information within and the connection provided by online social networks positively impact trust. Building on this work, we explore how a more interactive civic process impacts not only how much individuals trust others who play but how players trust others to support and attend to one another or be active collaborators. Thus, lateral trust should be understood as trusting in others for particular purposes, such as providing productive input or taking future action.

A common critique of online participatory planning tools is that they merely provide planners with more opinions to ignore (Peng, 2001). In both Detroit and Boston, players exhibited considerable distrust

[10] Fundamentally, institutional trust is seen as a necessary component of a functioning and legitimate democracy (Donovan & Bowler, 2004; Dryzek, 1994; Habermas, 1975; Nye, Zelikow, & King, 1997; Putnam, 2000) and has repeatedly been shown to be in decline (Kohut, Doherty, Dimock, & Keeter, 2010).

[11] Our view of lateral or social trust is similar to Putnam's (2000) understanding of trust as part of the "virtuous circle" of social capital that is positively associated with civic engagement and hinges on trust of others in the community, not just those in power. Additionally, it is tied to Bourdieu's (1986) emphasis on power and relationships that improve efficacy.

in the institutions sponsoring the games. Few people trusted the Boston Public Schools or the city of Detroit to take action once the process concluded. However, through playing the game, players developed lateral trust relationships, found substantive benefit from the creation of new potential audiences for civic concerns, and argued that the relationships among citizens within game play led to better input on issues and greater possibilities for future action. So, although CPI requires that players have a certain amount of trust in institutions and decision makers to consider their input, we found that this expectation was mediated by the mechanics of the game. Lateral trust, as it occurs here, is thus tied not only to trust in being heard but trust in the quality of what is said and its utility for specific group goals.

Trust in Citizens as Audience

Although players expressed a desire to be heard by those in government and subsequent skepticism of this happening, they simultaneously expressed hopefulness that change was possible because they felt heard by other citizens. Thus, despite an intense (and often warranted) skepticism of government, players expressed trust in other players and local organizations to get things done. The players we interviewed reported that they started playing because they were referred by a trusted organization (community group, church, school, etc.), rarely because of the large-scale decision-making institution (city government or school district). In fact, many voiced frustration with what they saw as an institutional failure to properly provide information and press coverage for the game. Explaining what he saw as the usual problem in Detroit, a planner who works for a government agency said:

> There's a deep history that goes back decades in the city of Detroit, particularly with community planning issues of people being told this is what it's going to be or having a community planning input session as just a formality because the law says we have to take community input. So we'll write people's input down on a piece of paper and then put it on a shelf somewhere. (D6)

Still, he enjoyed CPI because it provided an alternative to the typical planning process, which concluded with a report sitting on a shelf. A player who works and volunteers in Detroit said, "I felt like at least I know this isn't going down like an empty well; somebody is reading it" (D1). Additionally, many reported that they continued playing because of the access to others' ideas or satisfaction of having other players acknowledge their ideas. Because of a general skepticism of civic institutions' ability to directly apply CPI's feedback to policy decisions (Gupta, Bouvier, & Gordon, 2012), the audience for the engagement process was not the "official listener," but a distributed network of players with shared interest. One player living in Detroit said she played because "somebody's reading these posts and possibly getting some ideas" (D11). The interpersonal connections, even without any direct communication, generated a human context to which people could relate. This happened through simple mechanisms such as avatar pictures. "There is one guy," remembered a player who lives outside the city but works within it, "I liked how he was introspective talking about the way things were when he was growing up and I appreciated that. I can't remember his name. I see his face as clear as day; he had a blue shirt on" (D1). These interpersonal relationships were memorable for players and were often invoked as the reason CPI produced better connection among citizens than traditional public engagement processes. Describing how there was "no comparison" between CPI and traditional town hall meetings, a BPS parent who often went to meetings

held by the district explained, "[CPI] was very interactive. They were searching for information. They were trying to learn about what your thoughts were. . . . Whereas, most events that I've been to are like, you don't have a chance to be heard" (BPS6).

These trust relationships established in the game are predicated on the game's ability to provide a meaningful answer to the question of who's listening. No longer limited to the traditional parameters of a public participation process, wherein decision makers are the only audience of relevance, CPI involves a listening public that tends to be other players or player groups. In CPI, players exhibited trust in many of these alternative audiences. One of the unique affordances of online social networking is that it enables the creation of multiple publics (boyd, 2008). In CPI, players had a very diverse sense of publics, encompassing strangers and acquaintances, decision makers and friends. The ability for players to understand their actions within the game as being "listened to" by various publics seemed to reinforce a sense of trust in the system and its outcomes. For example, youth players in Detroit and Boston spoke about the presence of adults as a legitimizing factor in the process. Even though they tended not to interact directly with adult players, youth knew adults were there and often performed for that public. It made them feel as though they were participating in a "real civic process." "It felt like we were doing something real," said a 16-year-old player in Boston. Likewise, because there were so many youth players in both games, adult players tended to perform for them. One BPS player described watching her grammar because she wanted to model behavior for youth. Adult players rarely interacted directly with the youth, but youth presence created a sense of purpose that went beyond official listening. Although every player surely did not experience these feelings of trust, it emerged as a consistent theme in the interviews we conducted and demonstrates the importance of attending to the role of lateral trust moving forward.

Trust in Citizens to Produce Better Data

Not only did the game itself ask and collect people's responses on a scale that is not generally reached in community meetings, but it produced the types of interactions that were more deliberative, feedback that was seen as more productive, and was viewed as seeding relationships for future advocacy. Explaining the value of an extended conversation she had with another player, one player who had been active in her child's school's parent council asserted, "it's the back and forth that you don't get in a town hall meeting" (BPS3). Another player described CPI as a "vehicle for interacting with each other" (BPS8). With experience working with BPS via a nonprofit organization, he voiced a lack of trust in institutions alongside his trust that CPI led to better answers: "I don't know whether they'll see the creative nature of some of the questions and their potential answers or not." The answers generated were seen as especially productive, because they provided a record of public opinion that was clear and identifiable. One player discussed her hope that her own community organization would make productive use of the data:

> This is something that you're able to take as hard proof of the opinions of the people who are in the city and share it with people in positions of power. . . . That kind of thing can come out of this data gathering. (D11)

In addition to viewing the answers and subsequent data as a valuable component of playing CPI, many players constructed and trusted in an audience of potential collaborators. They hoped the in-game relationships forged between individuals and among communities would benefit future civic efforts. A self-proclaimed lifelong Detroit resident who played the game hoped to use the final, in-person game event to meet other community members who could become civic collaborators: "I'm hoping to link and get with other people actually tomorrow. . . . It's going to take organizations and groups to come together and unite to make the positive change in Detroit" (D1). Echoing the hope that CPI would be a catalyst for community collaboration, a player whose job focuses on redeveloping Detroit explained, "we get to know each other online and then branch out, then maybe that can help move some of that dialogue for how we get those lifestyle options in those neighborhoods" (D4). A player who had much experience working with education in the nonprofit sector described a surprising realization of shared goals:

> What came out of it was that the school, a lot of the administration, teachers and so forth, and the students realized they were all on the same page. Rather than turning their back to it, they became much more united against that kind of behavior in and around the school. (BPS 8)

The in-game data also held the possibility of being used by community groups themselves. Discussing the importance of groups, a BPS parent noted the ability for students and parents to intersect, and this allowed groups to ask, "Do we have a consensus? Do the [opinions] meet anywhere? If so, can we get together on those areas and work together to figure them out? Yes" (BPS6). In these cases, players went beyond seeing lateral relationships as beneficial and began to recognize the possibilities for action with the collaboratively produced data.

Conclusion

As government agencies and community organizations attempt to leverage digital media to enhance civic engagement, solutions that qualitatively improve the form of engagement are vital. Media that encourage practices of civic learning rather than isolated moments of transaction ensure that citizens reflect on their role within a community and hold potential for ongoing civic action. CPI is one such tool. It provides a civic interface that leverages game mechanics to encourage deliberation and debate and emphasizes simultaneous online and off-line processes. This study demonstrates that CPI encourages reflective attitudes and mediates relationships of trust that are needed for functional and continued civic engagement.

CPI's ability to foster alternative avenues of trust does more than simply contribute to methods of increasing the kind of social trust that has been correlated to improvements in institutional trust and political participation (Newton & Norris, 1999). In the face of trends pointing to diminished levels of democracy (Skocpol, 2003), it represents "new models of association building, blending the best of the old and the new civic America" (p. 265). These associations simultaneously provide a context within which citizens believe in the importance of their actions and create associations among individuals and between publics that have the potential for future productive use.

Moreover, CPI demonstrates that a well-designed game can not only encourage people to reflect on specific policy or planning decisions but reflect on the role they and other members of a community play within the overall civic process. CPI enabled players to understand the civic process as greater than individual community meetings or one-off acts of participation. As Ian Bogost (2010) claims, games cultivate a kind of procedural literacy in players that make them aware of systems and how they can act within them. Accordingly, an active volunteer who lives outside of Detroit described how CPI expanded her view of what engagement meant: "I learned to build a city is not just building with material things—buildings and houses with a place that has no life. But building a city is building the citizens, the people—that's even more important than anything else" (p. D9). The game mechanics of CPI are designed to encourage the acts of discussion—both feedback and response to others—that connect citizens, expose them to a variety of ideas that come from peer groups rather than institutions of authority, and encourage them to reflect on their own perspectives. The fact that comments were rewarded and a leaderboard was present, that there were "like" buttons (rather than "dislike" buttons), and that questions were often framed positively were all choices made to facilitate more positive and deliberative engagement, with the hope that it would lead to the kind of civic learning outcomes described here. These mechanics were thus deliberately included features of the system rather than exogenous variables that impacted our results, and should signal that platforms that encourage positive interactions among citizens can be more productive for citizens and for planning agencies than a neutral, open space for discussion, or one where unilateral feedback rather than multivalent citizen-to-citizen interaction is encouraged.

In celebrating lateral trust as a method of validating citizens' civic action and a potential stopgap against those who would otherwise grow apathetic, we implicitly argue that some level of skepticism in government can be productive. Indeed, we see such an attitude as necessary—especially in contexts where histories of a failure to engage communities, key stakeholders, or the public at large exist. Still, there are perils of these alternative avenues. In civic innovation research, the focus on efficiency and simultaneous rhetoric condemning bureaucratic impediments to direct citizen action have garnered criticism as being problematically neoliberal and antigovernmental in nature (Morozov, 2013). This critique warns that, rather than articulating ways to reposition relationships between citizens and government, many interventions simply seek to circumvent government—and therefore place the burden of action in the hands of citizens. We see lateral trust not as a replacement for but as a supplement to institutional trust—especially in cases where governments need to bolster their own trustworthiness. Future work exploring the connections between lateral trust and institutional trust can draw out these relationships and their respective roles within a well-functioning representative democracy.

This research, because it is exploratory and design-based, has limitations. Although the specific nature of the game platform is not generalizable to all other digital media tools, we want to highlight the specific affordances that the game demonstrated across two distinct case studies and point to the importance of civic learning in the design of future civic processes. The CPI platform brings the potential benefits of multiple, overlapping, or collapsed publics (Marwick & boyd, 2010) into a more structured conversation. Moreover, although it allows for many of the same deliberative elements as Facebook, for example, CPI's specific game mechanics and articulated narrative clearly motivate player reflection on individual and collective actions taken within the system. More research is needed to understand the social benefits of these actions. Additionally, we focused on players' own discussions of their experience to better

understand what kind of deeper engagement or civic learning that a space like CPI offers. Although in-game data concerning players' deliberative actions within this space are a subject of our ongoing research, the particulars of what deliberation looks like are a slightly different question that can draw on our present discussion of civic learning in future research.

A limitation of any qualitative research that relies on interviews is the self-selection bias. It is possible that those who elected to participate in our study are already more engaged. We tried to reduce the impact of this bias by sampling from various player point levels. Although we achieved diversity in that regard, self-selection resulted in an interview population in which 73% identified as women, even though the entire player population was near evenly split between men and women. We are aware of the possible impact of this self-selection—young women have been shown to engage differently; they demonstrate greater focus on volunteering as civic action and less focus on electoral politics (Jenkins, 2005). In general, they tend to be more civically engaged (Burns, Schlozman, & Verba, 2001). In our study, however, men and women did not seem to provide qualitatively different accounts of engagement or reflection, though these differences ought to be investigated deductively in future research.

Another factor to consider is the selection of the case studies. The cities of Boston and Detroit have unique histories and particular political contexts of public engagement. In Detroit, the municipal government has a history of failing to properly engage citizens in a meaningful way. In Boston, the Boston Public Schools have gained the community's ire for complicated school choice and busing programs. In both cases, the agencies were embarking on well-publicized efforts to engage citizens, and while citizens in both cases were perhaps more skeptical of local government than in many cities, they were also eager to participate. In some ways, the very fact that many people saw CPI as a positive interaction with the government reflects success. Although the success of an engagement process is often measured according to traditional, institutional outcomes such as trust in government or amount of citizen feedback present in planning documents, this article argues that outcomes related to civic learning are important measures of success as well. Since this game has now been played in more than 10 cities, a broader and more deductive examination of its effects on institutional democratic outcomes as well as on civic learning is a space for future research.

Another limitation of the current study is the time frame. Investigation into whether civic learning can cause long-term change to people's civic dispositions is a priority. Our findings indicate positive short-term results, but further research is needed to understand the long-term effects of digital interventions on civic life more generally. For example: Do those who exhibit civic learning show signs of increased efficacy? Greater interest in civic issues over time? Increases in additional forms of engagement in local or national politics? Moreover, because the aspects of civic learning that are the focus of this article were inductively defined in relationship to game play in general, it is necessary to more systematically isolate the specific mechanics that led to these results. Although interview subjects pointed to influential mechanics, a deductive approach that directly asks which game elements had what effect will move the fields of game studies and civic technology forward. Finally, it is desirable to empirically test the relationship between occurrences of civic learning and traditional methods of participation.

Still, we see our work as theory building in two important ways: (1) providing a strong concept of civic learning as an outcome that goes beyond traditional definitions of participation and engagement, and (2) providing insight into the relationship between an online social game as mediator of a civic process and the creation of lateral, social trust among players. Additionally, we see this inductive research into civic learning as a necessary step to expanding research in civic engagement. By highlighting these spaces of reflective civic learning, we hope to encourage those designing civic tools to employ mechanics that cultivate civic learning and urge those researching in the space of political communication and civic media to test forms of engagement that are deeper than the standard transactive models of participation.

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