Considering Recycle Process of Discontinued Civic Tech Projects

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ABSTRACT

Not a few civic tech projects frequently stops after the final presentation of competitions or hackathons because project members feel an end of the season and a sense of accomplishment. There are several factors of discontinuance of the projects: lack of an obvious vision for social implementation, unreasonable/unsustainable effort for prototyping before deadline, departure of project members, and pivoting members' interests. Then, how can we utilize the outcomes of such discontinued civic tech projects? This paper introduces some cases of discontinued civic tech projects and ones of recycling such projects. Moreover, requirements and a process to recycle incomplete ideas or prototypes is considered. This paper concludes that the recycle process of civic tech projects can be regarded as a cycle for nurturing communities and consensus to address same social issues.

CCS CONCEPTS

• **Human-centered computing** → **Collaborative and social computing**.

KEYWORDS

Civic tech, Project recycle, Consensus-building

1 INTRODUCTION

At the beginning of civic tech projects, prototyping are frequently voluntary and gratuitous because light and unverified ideas or hypotheses are generally core seeds of the projects. For example, many ideas on civic tech have been born from annual competitions or hackathons. In Japan, there are several competitions relevant to civic tech, e.g., Urban Data Challenge [13], Challenge!! Open Governance [2], Linked Open Data Challenge [7], and Civic Tech Track of Heroes League [5]. Many ideas and prototypes have been submitted to these competitions every year. This paper focuses on such voluntary and gratuitous projects on civic tech.

Even if a project receives an award in some competition, the project frequently stops after the final presentation of such competitive event because project members feel an end of the season and a sense of accomplishment. Final ceremony gives an illusion that the objective has been achieved.

Needless to say, awards and final presentation events are important because they provide incentives for civic tech players. If members of the project share obvious vision to solve the social issues that their prototype deal with, the project will continue regardless of whether it wins an award or not. However, not a few projects discontinue after the competitive event without an obvious vision for social implementation.

This paper assumes that it is inevitable that a certain percentage of voluntary and gratuitous projects on civic tech will stop after the finish of competition or hackathon. It can be regarded as a proper survival of the fittest process. Also, many civic tech players have sacrificed their personal lives to implement their prototypes during the event. Such an unreasonable effort is not sustainable without sharing obvious vision. Civic tech projects as leisure or hobby for the members are especially fragile against the change of motivation.

Then, how can we utilize the outcomes of such discontinued civic tech projects for addressing social issues? It is a waste to leave them unused if their ideas or prototypes have outstanding points. In this paper, I introduce some cases of discontinued civic tech projects and ones of recycling such projects. Moreover, I also consider requirements and a process to recycle outcomes of discontinued projects.

2 CASES AND FACTORS OF PROJECT DISCONTINUATION

Since 2013, I have been a core member of Code for Nagoya [3], a civic tech organization of Nagoya city in Japan. I aimed to manage civic tech projects as an informatics research through collaborating with Code for Nagoya because I am also a professor at Department of Computer Science, Nagoya Institute of Technology. Since 2018, I am also a SIG Chair of the Special Interest Group on Crowd Co-creative Intelligence (SIG-CCI) [11, 23] established in the Japanese Society for Artificial Intelligence (JSAI). The main focuses of SIG-CCI have been actual instances, support systems, and process models of crowd co-creation and consensus-building like civic tech.

Here I introduce my cases of discontinued civic tech projects and consider the factors of discontinuation.

GoalShare [24–26] and MissionForest [27]. These web applications developed from 2014 to 2018 had aimed to structuring goals and missions for addressing social issues and openly publish the structure as linked open data. We had planned to utilize them for supporting continuous collaboration in civic tech projects. Our dataset of public goals and subgoals won the 2nd Prize of Dataset Track of LOD

Challenge Japan 2013 [19]. These projects are, however, currently suspended due to the graduation of assigned students and the pivot of our research plan. Although MissionForest was implemented on Ruby on Rails, the lack of compatibility with linked open data and reduced maintainability of the source code were also factor of the project's discontinuation.

Barrier-Free Map of Underground Mall at Nagoya Station. In 2014, Code for Nagoya held a mapping-party and hackathon on barrier-free POI information in the underground mall at Nagoya Station. [14, 25]. After this project created open data of POI information in the underground mall at Nagoya Station, the mall was renovated. This project however could not modify the map and POI data due to graduation of the assigned student and the end of a research fund.

GraphTsukler [21]. From 2017 to 2018, we had developed GraphTsukler, a web application for supporting social study class in elementary school by visualizing RESAS data [10], that was open data published by Japanese government. Although this project became a finalist of the third RESAS Application Contest [1], there was a problem with the design of user interface. Although there was a team to continue this project when the firstly assigned student graduated, the each team member was busy due to different tasks or projects. Thus, the development of GraphTsukler was suspended.

Analysis of Volunteer Recruitment Dataset [16]. This project was firstly motivated by data providing from Boramimiyori Johokyoku, a non-profit organization dealing with volunteer matching website. We explored potential application using the 12 years volunteer recruitment data and found several possibilities. However, the project discontinued because the assigned researcher changed the job. The collaboration with Boramimiyori Johokyoku pivoted to development of a system for supporting needy.

My four cases above had common factors of discontinuance, i.e., graduation of assigned students and pivoting the research direction. Although these factors depends on my particular situation that I have managed the civic tech projects as academic research, they can be generalized to departure of project members and pivoting members' interests.

3 RECYCLE CASES OF DISCONTINUED PROJECT

There were recycled civic tech projects after they were once suspended.

SUGOI SAIGAI KUNREN (Amazing Disaster Drill) DECO: Disaster Evacuation COaching [12]. Haruyuki Seki, a founder of Code for Japan and a core member of this project, wrote as follows [8]:

> As part of "Code for Japan" activities, I participated in Nagoya venue of "Race for Resilience," a hackathon on disaster prevention and mitigation. The "SUGOI HINAN KUNREN (Amazing Evacuation Drill)" application that we developed at that time and won first place was adopted for this program, and we decided to modify and improve it for this program as "SUGOI SAIGAI KUNREN (Amazing Disaster Drill) DECO".

Actually, I was a member of the "SUGOI HINAN KUNREN (Amazing Evacuation Drill)" prototyping team at the Nagoya venue of Race for Resilience held in Feb, 2014. After the hackathon, the team was disbanded and the idea was recycled as "DECO". Although "DECO" is currently also discontinued, I regard this as a case of recycled project after the finish of hackathon.

Idea workshop on "Disaster prevention x Play x Children" [17]. In 2023, this idea workshop is organized by Code for Nagoya and a hackathon as the next event will be held. These events are originally inspired from "TOCHI Scouter (Land Scouter)," [20] a web application developed by Hajime Miyauchi, a core member of Code for Nagoya, from 2016 to 2017. TOCHI Scouter visualizes the land's strength against various disasters with metaphor of a fictional device appeared in Dragon Ball, a Japanese comic. The coming hackathon will recycle the playful inspiration of the TOCHI Scouter as a reference.

There should be many discontinued projects that can be recycled like the cases above in the civic tech sectors. In the following section, I consider how to recycle the past discontinued civic tech projects.

4 REQUIREMENTS FOR RECYCLING DISCONTINUED PROJECTS AND ITS PROCESS

There are following requirements to recycle the discontinued civic tech project.

Members' time, vision, motivation, and passion to continue the project. . Most recycled projects are rebooted by the original leader or members. However, the motivation and passion of members sometimes decrease even if addressing the social issue dealt with the project is still important for the members. It is needed to ensure continuous opportunities for sharing the vision and motivation and vision.

Platform for gathering and sharing worth civic tech projects. . If all members cannot continue a project but it is socially worth to be continued, societies need to share and review the value of the ideas or prototypes of past projects. There have been websites or databases for recording the ideas or prototypes, e.g. in Japan, Knowledge Connector [6] and Protopedia [9]. Also, GitHub [4] can be such a platform. Although a function to find important and worth projects is also required, implementing such function is not easy.

Communities and Platform for sharing awareness of social issues. . To reorganize a once suspended project, it is required to build a small consensus on the necessity to restart the project among the new members. To ensure various resources to continue the project, the project needs to increase supporters and sympathisers, e.g., a crowdfunding function is also required. That is to say, a platform and communities for sharing social issues and for building continuous consensus are required to continue civic tech projects.

Then, how can we recycle discontinued projects? I assume the following process for recycling civic tech projects.

(1) **Releasing own project when the project will stop**. When project members predict to lost their motivation and time to continue it, they are desired to openly publish the outcomes of their own project. If we enclose all rights to outcomes of our own discontinued projects, the outcomes will not be utilized. For example, publishing the source code as open source software on GitHub is one of the well-known solutions. Moreover, the project outcomes are desired to be registered to a platform for gathering and sharing recyclable civic tech projects. The cases of failure are also desired to be registered as useful knowledge with some incentive.

(2) **Rediscovering the recyclable civic tech project**. The discontinued project worth to be continued is desired to be rediscovered by other civic tech players. For example, the idea of discontinued projects can be referenced from idea workshops or hackathons. To do this, the key idea of the discontinued project should be clearly explained in the published documents. If the prototype is open source, the source code can also be forked by other civic tech players. The discontinued project should be respectfully cited from the new project recycling it. Moreover, it is desired to ensure small honorable rewards of the members of recycled project.

(3) **Nurturing civic tech communities and their consensus to address the target social issue**. The worth ideas for solving social issues are desired to be dealt with as socially shared resources. However, it is sometimes difficult to share such ideas because there are interests at stake, or because they cannot agree with each other. Therefore, we need a better consensus-building process for sharing and recycling good solutions for social issues.

If we can nurture such communities and consensus-building process, there will be more social issues addressed by the civic tech solutions.

5 CONCLUSION AND FUTURE PERSPECTIVE

I introduced my cases of discontinued civic tech projects and discussed how can we recycle discontinued projects. The project recycle process can be regarded as a process to nurture communities and consensus. To realize this plan, we need more discussion on rights and interests of members of discontinued projects.

As a future perspective, I am planning to develop a consensus-building platform that enables such a project recycle process. This plan should also be based on the recycle of past projects such as GoalShare [24–26], MissionForest [27], and existing platforms [4, 6, 9]. Furthermore, our recent researches about consensus-building [15, 18, 22, 28] can also be recycled for this future plan.

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