Open Data and Civic Apps: First-Generation Failures, Second-Generation Improvements

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1   Introduction

As the number of innovative mobile apps is increasing rapidly, governments try to influence the digital evolution of these products. For instance, they endeavor to use open data so that citizens benefit from its advantages, as well as to lower governmental costs through mobile app usage.

This concept has already started in 2009, when U.S. president Barack Obama signed the "Memorandum on Transparency and Open Government", which says that agencies have to provide open data to the public. Several contests took place which gave development agencies the possibility to announce their apps using open data. For instance, "FixMyStreet"[1] was created to collect information about road conditions; updates reach the government in a much faster way, and citizens only have to wait a tolerable amount of time for road repairs [2].

The structure of such contests, based on the "BigApps NYC 2015" app contest is outlined in section 2.

At first, one might think that this concept is flawless, but there exist problems concerning the implementation of such projects which are discussed in section 3.

Further improvement strategies which are provided in section 4 suggest a more optimistic outlook.

2   Participation At Civic App Contests

Before we discuss problems and possible improvement strategies of civic app contests in further sections, it may be useful to get a brief understanding of how participants are restricted in performing their implementations. Depending on the contest, rules are different, but we will especially examine the conditions of "BigApps NYC 2015"[2] contest.

There are five points which have to be fulfilled by any developer team:

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[1] https://www.fixmystreet.com/, accessed: May 22, 2016
[2] http://bigapps.nyc/p/terms-and-conditions/, accessed: May 22, 2016

- The contestants have the exclusive rights about their app, however they can invite a third party to assist them with the work. Important is that third parties neither have licenses nor rights of apps.

- Contestants should be inventive and their apps should be creative and innovative.

- Apps can be in English or any other language. If they use another language than English, they have to provide a translation of all texts.

- They have to fulfill all conditions, which are given by the sponsors of the event.

- Contestants have to be fair, they must not damage one's reputation or be disrespectful to public normals or conducts. It is forbidden to use vulgar words or pornography.

3   Problems In First Generation Development

At the beginning development agencies focused their attention on creating innovative civic apps to catch the attention of the audience. But since then, the interest of the developers taking part has decreased steadily. [2]

Before we can reflect about improving the participation scheme, we need to recapture problems which were observed in the first run.

3.1   Lack Of Benefits For Public And Government

Observations of first generation contests have shown that developers only used a few datasets to build their apps on. This produced the effect that not all categories were covered and many apps focused on solving the same problem. Betsy Scherzer, an organizer from the New York Big Apps Contest, described the reason as follows:

> "I think a lot of it depends on what developers are interested in and what seems useful. [...]" [2, page 83].

Solutions also failed to impact the public civilization, because developers often arrived with ready-made solutions. There weren't enough innovative products provided by the contests which had a significant profit for app users. [2]

3.2   Missing Inducement For Developers

Before starting the implementation of a new app product, extensive research is required. Also, the development itself forces agencies to invest time as well as human resources in order to stay a realistic competitor. However, the relationship between the time investment and cash prizes is too meager for most developers. Creating a solution for mobile usage also means to take into account sustainability and future outlook [2]. In our opinion, financial questions like: "Who will come up for further development, such as support, functional enhancement and bug fixes?" were not considered. This is because developers cannot only fix on cash prizes, they intend to get venture capital for their projects.

As contest organizers recognized developers' needs, they invited investors to further competitions. After that, one funding was given to a winner team, which influenced other developers to also bring in their ideas. However, this sponsoring was an exception. [2]

3.3 Governmental Failings

At the beginning, the government tried to arouse enthusiasm in agencies so that they would open their data to public. It was a slow and arduous process to provide data in useful formats, however. In 2007, rules of how open data should be provided, were written down. Three years later, those criteria were reinforced. [1]

In addition, communication between city operations and open data initiatives did also not work as expected. Developers had problems to directly cooperate with governmental departments.

In some cases, companies wanted to have specific products which were denied by agencies because it is prohibited by the procurement legislation. According to Betsy Scherzer:

> "[...] it would be like procuring something for free."[2, page 85]

Developers wished good marketing to integrate their new apps into public service. Although the government could also have a considerable use of well-growing digital products, they failed to excite the public to use those apps. [2]

3.4 Global Discrepancy

Initial contests transpired not only problems regarding budget and interest conflicts between cities and agencies, they have also demonstrated the differences in collaboration and control between those parties. Differences are given on the one hand in geographical location, on the other hand there are disagreements depending on the demographic or economic situation. Some countries claim that the most difficult problem is the management, some describe it as searching for people who are responsible inside the cities and others, like Helsinki, do only approve funding to public companies. Above discrepancies made common ground hard to find. [3]

4 Improvement Strategies

Agencies learned from the past mistakes and tried to fix some failures they made. Coming up with a great idea is hard for most developers. Commissioning of more externals like citizens, government employees, academic institutes and non-profit organizations to answer the questions about public needs is one way to eliminate a developer's doubt. Further improvements strategies of the second generation contests are listed in this chapter and belong all to the same reference [2].

4.1 Teaching Developers

Two strategies were defined to show developers which products could be successful when using open data in the market.

4.1.1 Working With Departments

Developers are confronted with real problems they have to solve. Contests provide "need-statements" for some specific problems, which have to be solved using open data. Developers get all information about their assignments and can start the implementation.

4.1.2 Working With Intermediaries

"Code for America"[3] is an organization collaborating with governments and has collected a lot of experience in picking developers from different countries to report about civic problems. Code for America has personnel in different industry which gives developers the opportunity to talk with people who need a solution. So they can fully understand their problems.

4.2 Global Needs

Some failures in planing and maintaining apps were made in the past. Agencies focused on failures like an unsatisfactory degree of market capture. A lot of common civic apps actually do not fully use the whole market because they were only made for a specific city. They did not see the effort in sharing their solutions and codes to make expanding beyond borders possible. Another failure which is still present are wrong assignments of some companies and cities. Some improvements to fix those failures are listed as follows:

- Civic Commons is a market to do code-sharing of civic apps with goal to motivate the reuse of apps. This idea should improve value capture for developers and, because of the mutual usage of open data services, provide a cheaper possibility for cities, in comparison to independent development. For instance, "FixMyStreet" was made for UK. They recognized that their product could also be used in other cities. As a result, they implemented it as an easy adaptable platform. With a yearly fee and a build up charge FixMyStreet is configurable for any city.

- Common Formats
  It took the government a long time to provide information in a common and usable format. Google tried to standardize formats but the problems are still not solved completely. One of the biggest problems is that format adjustment is expensive and coordination between two parties.

  > "Data standardization requires coordination and procedural changes that are both technical and political" [2, page 89].

5 Conclusion

Open data and civic apps found a lot of approval by developers. Nevertheless, some mistakes were made in the first generation of open data development. The contests did not give developers the chance to get into big businesses, although developers brought clear intentions.

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[3]https://www.codeforamerica.org, accessed: May 22, 2016

Agencies, developers and government learned from previous failures and tried to solve them over the years. Although issues like the missing sponsors and lack of benefit for both developers and government were cleared, one of the main problems, namely the ignorance against the global sharing which would be a great benefit for cities and developers, is still not solved.

References

[1] Bastiaan van Loenen Frederika Welle Donker and Arnold K. Bregt. Open data and beyond. *International Journal of Geo-Information*, 48(5):2, April 2016.

[2] Jonathan Wareham Melissa Lee, Esteve Almirall. Open data and civic apps: First-generation failures, second-generation improvements. *Communications Of The ACM*, 59(1):82–89, January 2016.

[3] Esteve Almirall Jonathan Wareham Tuba Bakici. The role of public open innovation intermediaries in local government and the public sector. *Technology Analysis Strategic Management*, 25(3):321–322, February 2013.