



## D4.4.71 - The App Quality Enhancement Process

|                                |   |
|--------------------------------|---|
| <b>Project Acronym</b>         | Open Cities                               |
| <b>Grant Agreement number:</b> | 270896                                    |
| <b>Project Title:</b>          | OPEN INNOVATION Mechanism in Smart Cities |

### D4.4.71 - The App Quality Enhancement Process

**Revision: v1.1**

**Authors:**

ANNA SFAIROPOULOU (DOTOPEN)

|  |  |   |
|--|--|---|
| Project co-funded by the European Commission within the ICT Policy Support Programme |  |   |
| Dissemination Level  |  |   |
| P  | Public   | X |
| C  | Confidential, only for members of the consortium and the Commission Services |   |

### Revision History

| Revision | Date      | Author            | Organisation | Description                                   |
|----------|-----------|-------------------|--------------|---|
| V1.0     | 13/5/2013 | Anna Sfairopoulou | DotOpen      | First draft of the document                   |
| V1.1     | 30/5/2013 | Anna Sfairopoulou | DotOpen      | Deliverable submitted for internal evaluation |
|          |           |                   |              |   |

**Statement of originality:**

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

TABLE OF CONTENTS

- 1. INTRODUCTION .....4**
- 2. THE APP QUALITY ENHANCEMENT PROCESS .....5**
  - 2.1 THE PROBLEM STATEMENTS ..... 5
  - CHOOSING THE RIGHT PROBLEMS ..... 5
  - 2.2 MENTORING ..... 7
  - 2.1.1 MENTORING PHASES ..... 9
  - 2.3 TEAM BUILDING ..... 11
  - 2.4 COMMUNITY AND INTERNAL COMMUNICATION TOOLS..... 12
  - 2.5 EARLY VALIDATION AND CORRECTIVE ACTIONS..... 10

## 1. INTRODUCTION

---

The second round of the Open Cities Challenges will be carried based on the results of the first year and trying to improve various aspects in order to achieve an equal or even bigger rate of successful apps. One of the main concerns during the first round of the App Challenge was the high number of non-relevant apps received (more than 50% of the apps were disqualified at the final evaluation for not considering the use of Open Data) and the low involvement and active implication of the partners in a day-to-day manner during the 5,5 months that the challenge was open. It has been also identified the need for more guidance and technical workshops relating the use of Open Data for developers, which was affronted in this initial stage by creating the first focused workshop on June 2012, during DevDay. Finally, the need of a set of concrete problem statements as opposed to the more generic “solving every day citizen needs” has been identified as beneficial for focusing the developers towards concrete solutions using open data.

In order to support and improve these points, the new App Challenge explained here is based in a new platform, provided by one of the project partners (dotopen), focused on the collaboration between developers and project partners and the constant guidance and mentorship during all the steps of the app building process, from the idea conception to the app submission. This way, the project partners expect to achieve more relevant apps solving the problems defined at the beginning of the competition and that evolve around the Tourism issues that big EU cities face. At the same time, this new challenge will provide the developers with sufficient tools and knowledge in order to get them more evolved in the use of Open Data and make the apps viable after the end of the challenge and the project.

For the planning and execution of these challenges many elements have been considered and elaborated jointly to maximise the synergies and results of the communications effort. The main common point between all the challenges will be the problem statements identified, the question or problem which the developers will be asked to solve, either through the creation of Apps (in this challenge) or through urban projects (in the Urban Lab challenge) or through ideas (in the Crowdsourcing challenge).

## 2. THE APP QUALITY ENHANCEMENT PROCESS

---

The new Open Data app challenge of Open Cities is based on the Hack-at-Home platform provided by dotopen. The technical aspects of this platform, as also the detailed timeline and comms planning of the new round of the challenge, can be found in the D4.4.42 – D6.6.52 deliverable. In this document we focus on the enhancements this new process offers and that can assure better apps in comparison with the traditional app challenges. These can be summarized at the following:

1. More focused and “app-ish” problem statements, outcome of a number of tailored brainstorming sessions with all involved sectors
2. Experts and partners implication as mentors
3. Early validation and corrective actions
4. Team building
5. Centralized and focused internal communications – creation of an engaged community around the challenge

In the following section we analyze each of these enhancements and how they are expected to affect the outcome of this challenge.

### 2.1 THE PROBLEM STATEMENTS

---

#### Choosing the right problems

Choosing the right problems may seem like a trivial task but it is actually essential for the execution and success of an app challenge. Usually, problems are initially set by an organization, institution or company, trying to address the needs that these have by using a bottom-up, Open Innovation process. For developers to participate in this process they must feel motivated by the problem description, feel there is a real challenge behind them, a gap or service missing, that could potentially create a successful business case for them. Thus the problems chosen for the call must not be too simple or trivial. At the same time though, the problems must be broken down in concrete pieces of a bigger problem. Saying for example that we search apps that can help manage tourism in the cities can be too broad and generic, too big to be solved by a single app.

For this reason we have tried to choose a problem that presents real interest for both developers and the cities, and the tourism sector was decided as one of the common areas of interest from all participating

cities. Tourism sector is one of the sectors with more potential for development and increase in the mobile economy, with global visitors expected to arrive to 1500 millions in 2015, 90% of which will be using their smartphones while travelling. In this sense, mobile apps could suppose an important consumer market for users browsing maps, information on their destination, searching for local products and experiences or services. Already from the last years Open Cities App challenge, we have seen that more than 65% of the received apps were focused on tourism and transportation services.

From the cities point of view, this becomes a very relevant area for user innovation as large tourism flows arriving at the big EU cities each day can be difficult to manage while trying to affect at a minimum level the urban life of the inhabitants of this city.

In order to better define the problems and break them down into smaller, more focused and “app-ish” pieces, a number of brainstorming sessions have been arranged in coordination with Barcelona Activa, Barcelona city hall representatives, representatives from the tourism department and project partners (dotopen and ESADE). After evaluating the results of these sessions, we have come up with the following problem statements:

1. **Connecting tourists with locals:** The best part of the experience of visiting a new place, is the cultural exchange between the visitor and the local culture. And who can best show you local culture than the locals themselves? This type of cultural exchange can benefit both parties as they can learn from each other, connect through their cultural differences, exchange language, swap information about history or gastronomy, and experience the real city from a local point of view. Many visitors seek this type of connection with the locals; lets help them find new ways of doing that! Examples used for inspiration:
  - a. get to know the lesser-known parts of the city.
  - b. language, history and cultural exchange.
  - c. dine with locals.
  - d. join locals in their fun daily activities (join a family with kids to play in the park etc.).
2. **Personalize the visitor’s experience:** Every visitor is unique. They have very different profiles, interests, reasons to visit and each one has their own needs. Personalizing the experience of their visit is a key aspect for making their stay in the city pleasant and successful, which will ensure they become the best city promoter after their stay ends. Examples used for inspiration:
  - a. The city for foodies, joggers, designers, families with 3 kids.
  - b. The city in 24hrs, 2 days, 3 weeks in...
  - c. Find experiences “off the beaten path”.
  - d. Trip documenting, real-time personalized travel journal.
3. **Optimizing the time for touristic visits while minimizing the impact for locals:** Tired of the long queues at the main touristic attractions? How can we help minimize the time spent waiting to see a


city's beauties rather than actually seeing them? Can we help to distribute better the large tourist flows around the city and unjam its hot spots by offering alternatives? Examples used for inspiration:


- a. avoid queues.
  - b. help deal with tourist bus flow (parking, moving around...).
  - c. de-centralize tourist flows, offer alternatives to other city neighborhoods.
4. **Help tourist better get around in the city:** New to the city? OK, having a map of the metro and a ticket can get you practically anywhere but is that the best way to see a city? Learn how to use public transport or other alternatives (i.e. by bike or on foot) to move around and get the most out of the city you're visiting. Examples used for inspiration:
- a. Plan your day of visits with public transport /on foot.
  - b. Bike lanes, routes, tips...
  - c. Where/how to ditch your car/motorhome/bus and use public transport

These problems are illustrated clearly in the Briefing section of the hack-at-home platform and are open to discussion among the participants. They also count with a dedicated forum section where mentors can answer questions related to the focus we use.

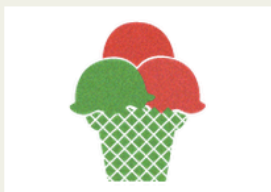
## Briefing

*Big problems need small solutions - and lots of them!*







**1. Connect locals and tourists**  
The best part of the experience of visiting a new place, is the cultural exchange between the visitor and the local culture....  
[Read More »](#)



**2. Personalize the Visitor's Experience**  
Each visitor is unique, they have very different profiles, interests, purpose of visit and do not have the same needs....  
[Read More »](#)



**3. Optimizing the time for touristic visits while minimizing the impact for locals**  
Tired of the long queues on the main touristic attractions of the cities you visit? How can we minimize the time spent on those? ...  
[Read More »](#)



**4. How to best get around as a tourist**  
New to the city? Ok, having a map of the metro and a ticket can get you anywhere but is this the best way to see a city?...  
[Read More »](#)

Figure 1: Problem statements in the briefing section

## 2.2 MENTORING

Once the user is registered, he can have access to all the phases of the mentoring process in order to build, improve and submit an app. For this, the platform needs the constant participation and support of a number of experts in the different areas of the app creation process, what we call The Mentors. These mentors are either partners, which are already implicated on the Open Cities project and especially in WP4 or WP6, or experts who have been proposed by the partners based on their profile and expertise. They are willing to share their knowledge in their area of expertise: design, app platforms, marketing and monetization of apps, open data sources, mashups, tourism sector data and its needs etc. They guide the participants through the whole 4-month process in order to create better apps, which will comply with the objectives of the App Challenge (enhance the use of Open Data and solve EU citizens' and cities' problems related to Tourism).

**Our mentors**

**Experts on app ecosystems**

**Natasja Fortuin**  
Natasja Fortuin is an experienced and passionate e-marketer and has been involved in multiple and various internet initi...

**Marc Cardenete Suriol**  
Marc has been working since 2007 in Tempos 21, collaborating in the development of mobile applications and services for ...

**Anna Sfairopoulou**  
Part of the Apporicus team, Anna can help you with any question regarding the hack-at-home process and apps ecosystems...

**Experts on Open Data**

**Isabel Brouwer**  
Isabel Brouwer is Policy Advisor on Innovation at the department of Economic Affairs for the province of Noord-Holland a...

**Evanela Lapi**  
Currently, she is leading the Open Data work package and Open Data platform development team within the EU Open Cities p...

**Marc Cardenete Suriol**  
Marc has been working since 2007 in Tempos 21, collaborating in the development of mobile applications and services for ...

**Iván Fernandez Moreno**  
Iván is a Web Developer specialist in Front-End and WebApps. You may contact Iván if you find any difficulty in the dev...

**Jens Klessmann**  
Jens Klessmann has received his M.Sc. (Dipl.Ing.) at TU Dortmund. He works as a researcher since 2006 with focus on elec...

**Sergi Martínez Lopez**  
Android Development Team Lead at Tempos 21 (Atos Mobility division) and co-founder of Catroid, the Catalonian Android C...

Figure 2: Some of our mentors

Each mentor has his own mentor profile and he is assigned a number of teams, which he is asked to follow their progress and assist when needed until the challenge is over. At this stage of the competition we are counting with 3 mentors on app ecosystems, 7 mentors that are experts on Open Data or Open Sensor



Networks and also have knowledge of app building and open innovation processes and 2 mentors from the Tourism sector working at the equivalent department of the cities of Amsterdam and Barcelona. As mentors, they obtain various benefits such as:

- being part of a global initiative
- networking with other experts in their area in other cities, creating synergies and ideas exchange between the cities
- getting visibility as experts in their areas
- work with and support app makers from around the world and be part of the ecosystem created

## Mentoring phases

Mentors are asked to support the participating app makers, helping them to turn their ideas into great apps. During their participation they are involved in the following tasks:

**1. Idea Feedback (2 weeks)** - Giving feedback on app IDEAS (maximum of 10 ideas assigned per mentor). We ask participants to submit their ideas and description of the planned app before starting to code. In this stage we evaluate if these ideas are relevant for the sector and the problems that we try to solve. Mentors should send a first evaluation and some guiding notes to the teams to get them started and on the correct track. "Idea mentors" are more relevant for this stage (the sector experts)

**2. Project proposal Feedback (2 weeks)** - Giving feedback on the project proposal (maximum of 10 apps per mentor). We ask participants to submit more information on their planned app, like sketches and drawings regarding UX, a simple work plan for the following months, some business of communication ideas for the promotion of their app and technical info (platform they will use, their experience on this platform etc.). Mentors should comment on this initial project proposal phase and make some suggestions and corrections when needed. "Technical mentors" are more relevant for this stage (Open Data or App ecosystem experts)

**3. Hack Support (7-8 weeks)** - Participating in private troubleshooting Q&A sessions with participants (max. a couple of hours per week if necessary). While coding, the participants may have questions regarding the problem areas, the technical part of their solution, our Open Data platforms and data access or UX. This is where mentors should guide them into bringing their initial ideas into successful apps. Various channels will be available for this communication through the platform, like discussion in post comments/mail/skype/forums...

**3.1) Mid Check Point (2 days)** - Evaluating the progress of the ongoing projects at mid-term (after one month of coding)

**3.2) Demo day (1 day)** - Evaluating and validating the submitted demos (two weeks before the end of the challenge, participants will submit demo videos or a URL for downloading and testing the app). Final feedback comments will be then provided.

**4. App validation (3 days)** - Validating the submitted apps. This step will be done internally by the Project Partners and a panel of judges but mentors may be asked to also help us by giving an evaluation on the final apps.

## 2.3 EARLY VALIDATION AND CORRECTIVE ACTIONS

---

One of the concerns regarding the previous process for an app challenge, was that mentors, partners and organizers do not get to see, evaluate or interfere with the app until it is finalized and submitted for the competition at the end of the call for apps. We have found that more than 50% of the submitted apps in the first round of the challenges were not clearly focused either on the urban problems we were trying to solve or on the Open Data usage, an important rule of the competition.

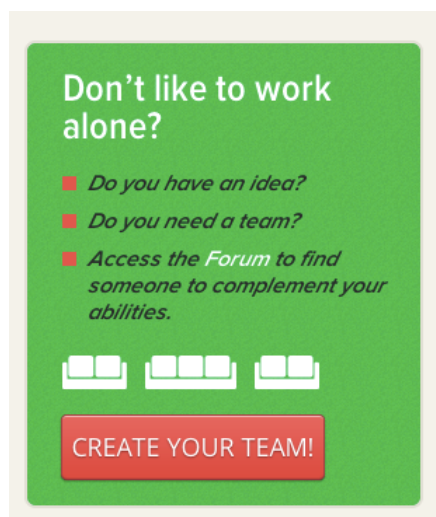
To avoid this, the new process includes various steps (as described in the previous section) that start from the idea, the very initial app conception, to coding, demo presentation and final app submission, and with a constant evaluation provided in each of those stages. This gives the chance to the mentors and project partners to obtain a first overview, right from the beginning, of the trends and topics that the developers are working on. It will also allow for corrective actions at an early stage in case there are proposed apps that do not comply with the rules and problem statements of the competition (for example they have not thought of using Open Data or do not focus correctly on one of the 4t problem of Tourism management on the cities). Then, the mentors will give their feedback to the developers often and as the app building progresses, allowing them to adjust these apps and improve them in order to be able to adapt better to the objectives and rules and participate on the following stages of the competition. They can for example suggest which other similar apps exist, how the app could be adapted to use Open Data, how the focus or user interface can improve.

As a result, better quality and more focused apps are expected at the end of the call.

## 2.4 TEAM BUILDING

---

From our experience in app challenges, we have found that apps are not usually built by one person alone, but from small teams of 3-4 people: a couple of programmers and techies for developing the actual app, a UX designer for creating the user interface, a bizdev and/or an expert in communications and social media management for the promotion of the app and assurance of the viability and the business model behind it. Through the app quality enhancement process we try to give the opportunity for people to form teams ad-hoc, depending on their needs and what is missing from their expertise. For this reason, the new hack-at-home based app challenge, does not start with asking for the finished app directly but for ideas for apps. Ideas can come from anyone, you do not need to know how to build an app in order to think of a great idea of an app that as a user you may find that it is missing. After the ideas are submitted, people can start searching for other fellows that will help bring these ideas into life. Through the dedicated forum in the same platform, where all subscribed users have access and can post their requests, we can help the connection be made.



Other forums may exist on the web, where you can post an announcement for a designer or developer, but in this case, this forum is focused on the concrete competition, on like-minded people interested in the

concrete area of the problems and already involved somehow with the objectives of the challenges. It thus makes easier the team creation among the community built.

## 2.5 COMMUNITY CREATION AND INTERNAL COMMUNICATION TOOLS

---

Through the newly created platform a number of additional tools for community creation and internal communications are provided:

- Forums, where developers can share their experiences, interact, collaborate, ask questions to the mentors etc
- Resources section, where helpful resources are posted by the mentors regarding all aspects of the app creation process (technology, marketing, design, use of open data, sector information related to the problem statements etc)
- Direct communication with the mentors/experts through private messages
- One-to-one sessions with the mentors through Skype or Google Hangouts
- A weekly newsletter with all the updates and news of the hack-at-home process arriving to all the subscribed users

These tools help create a dedicated community that is focused on the objectives of the app challenge during the period that this lasts and in the longer end an app ecosystem around the defined problem statements.