

APPS FOR EUROPE

turning data into business



**Working towards
*an open data value
ecosystem in Europe***

July 2015

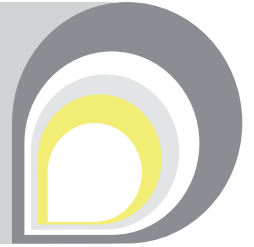
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Introduction

Ivonne Jansen-Dings



Over the past two and a half years, Apps for Europe - turning Data into Business has become a thematic network of competition and hackathon organizers, using open data as a key resource to stimulate participants to create social and economic value and support them in their efforts to create a sustainable business as a result. The network unites partners that have substantial experience in organizing local, national, and EU-wide competitions that deliver data, act as intermediaries, engage communities, and/or support businesses.

Apps for Europe is led by Waag Society, an independent Media Lab based in Amsterdam, focusing on creative technology for societal change. Waag Society has an extensive track record in the field of open data. It is one of the pioneers on the subject in the Netherlands and Europe as it has hosted numerous open data competitions. Waag Society runs Code for NL, the local chapter of Code for Europe, a network of civic innovators helping governments with open source and open data development. And it developed the CitySDK platform, creating an open source, real-time, linked open data API, supporting EU wide deployment of harmonized city data.

This document, Working towards an open data value ecosystem in Europe, contains articles from numerous partners in the network, sharing their latest insights into the development of the open data economy in

Europe. The last two years have seen much activity in the field of open data. Many public institutions and organizations have opened their data sources in various forms, and many developers have started to work on them—sometimes aided by local and national open data challenges and other incentives.

Through the development of the Business Lounge concept in Apps for Europe, we enable local competition organizers to increase the business knowledge and potential for success of participants in open data competitions. It supports their efforts to set up businesses that utilize open data as a resource, and gives them access to a network funders and incubators to increase their chances for sustainable ventures.

Apps for Europe aims to bring the International Business Lounge to one of the major cities in Europe again in 2016—bringing an international community of open data developers, startups, entrepreneurs, contest organizers, and investors together. The International Business Lounge is a showcase for the best new initiatives that are emerging in Europe and are looking to reach new cities, countries, and citizens. So keep a lookout for us—we might see each other soon.

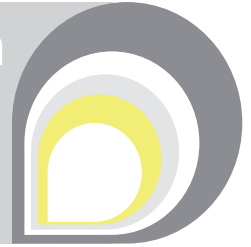


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Development of the hackathon scene in Europe

From hackspaces to commercial techspaces

Pieter-Jan Pauwels, Pieter Colpaert & Erik Mannens



The concept of open-to-all hackathons has changed immensely during the Apps for Europe project period from 2013 to 2015. What started as a way to engage Open Source/Data hackers, became a method to make citizens aware of the opportunities that Open Data bring. And more importantly, provide the stepping stones for entrepreneurial citizen-developers to test their idea within a small group of peers and potential partners before taking it to the next step.

Below are some of the trends we have been noticing as active Open Data hackathon organisers the last few years.

Open Data as the glue of today's hackathons

In the beginning of this decade, there was a strong shift from hackathons in dark, code-focused hackspaces to hackathons organised by governments or theme-centric organisations as a way to promote their open data. Less focus on the technical completion, but more focus on the idea, innovativeness, and business model of the idea. It gives governments a way to create awareness around their available Open Data and show support to citizen developers that use local Open Data. Not just on a technical level, but also on a structural level.

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Even today, hackathons are like a box of chocolates, you never know what you're going to get.”

From one time fees to structural support

Early hackathon awards were mainly quick cash infusions: create the best pitch or application of the day and receive a certain amount of money. That way, organisers were hoping that the winning participants would use the money to continue their work on the project. But in reality this showed that this money was used for other purposes (such as buying laptops, mobile phones or other gadgets). That's why modern hackathons provide more structural support to winning teams. For example, by linking winners back to expert coaches, courses and workshops, offering trials in incubators or giving them a first chance to pitch in front of a VC. All of this to ensure that teams continue working on their application and providing more long term support rather than letting them go after a one-time incentive.

From playthings to serious businesses

Even today, hackathons are like a box of chocolates, you never know what you're going to get. Neither can you control the direction of the results, as it would diminish the quality of the creative hackathon process. Every hackathon can result in a bunch of playthings, from *Pokemon election games* and Tweeting houses to *websites* that tell you how much room you save for books in your holiday suitcase if you bring less underwear or t-shirts.

Luckily, next to all the fun and games, we tend to see real social and economic value in the created concepts. For example, successful Belgian startups such as *Data.be* and *Carambla* show great promise in the upcoming Startup scene, using Open Data as a way to strengthen their digital application.

Not just Open Data driven

What we definitely noticed with 'hackathon generated startups' is that Open Data is rarely embedded in the core of their business model, but does enable the product or service to have a relevant advantage over the current competition—and sometimes it even enables the creation of something totally new. This is because the generated application or software is driven by a specific problem in which the data might provide part of the solution—regardless of what Open Data it uses. Other reasons for not using Open Data as the core of a product or service are the quantitative lack of Open data, lack of interoperability between datasets and the low general awareness around certain open datasets.

Create more than apps with Open Data

Another insight is that more than just Open Data apps come out of these hackathons or events that use Open Data. Participants go way beyond apps. During Apps for Europe, we saw Open Source products with SLA companies revolving around them (like *We Open Data*); we saw marketplaces for algorithms using open data like *Cloud 'n Sci*; and even hardware/software projects like *Mnemosyne*, showing there is great potential in various use cases. Taking into account that Open Data can be used in more than one digital format might enable more sustainable use cases to emerge over time.

Hackathon 2.0: Building a business framework

This diversity in output, convergence from playthings to potential products, shows that hackathons need to have a more business oriented focus. Something we have been pushing with Apps for Europe since day one. By focusing on the business driven output, providing resources for the creative process, and having

business coaches next to the technical coaches on site, participants can really think beyond what they can make and think about what the market needs.

Transition to a holistic approach

As time goes by we will see new hackathon formats, focused on the challenges they want to address, with a more holistic approach to guiding participants.

This approach can range from organising data dives



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before the hackathon so participants know what data are available and what challenges await them, or better, on site support and training for participants during a hackathon, to having better guidance after the hackathons for winners to shape and work out their idea before they go to market. Moving from one-time events to a structured process.

This will greatly enhance the output generated by the participants.



Meeting Remco Dolman CEO & Founder Spotzi - "Open data: the core of our business"

Remco Dolman CEO & Founder Spotzi

In what ways is open data being used to add value to your company, Spotzi?

"We mostly use open data combined with data that we collect through Web Crawler but we also use location-based data from Twitter. Then, we combine the data and sell it for different purposes. For example, when we sell data to marketing companies, we create profiles of people living in particular regions and outline how the companies can best reach their target groups. For insurance companies, we provide things like flood data, so that the companies can determine where and which projects they can insure. This is the core of our business."

What changed after participating in the Business Lounge?

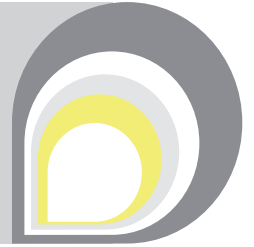
"In 2013, we participated in 'Hack the Overheid, Amsterdam.' There, we had a proposal to develop an app that displays advertisements using location-based data in different neighbourhoods. The feedback

we received was very valuable. There were similar concepts being launched at the time, and it is very difficult to find participating local businesses—something that normally takes a lot of time and effort.

Back then, the team was made up of only three employees. Now, we've grown to eight employees. Our client base has grown exponentially in the past two years. At this moment, we have around 40 to 50 business clients. We've also expanded to other countries, and now have a second office in Canada for the Northern American market. As it stands, we will soon have a platform consisting of 1,000 data sets from which we can easily derive analytics and create visualizations."

Open data business models

Elena Simperl & Yunjia Li



The idea of Open Data is offering great potential opportunities for new business models. While Open Data provides the raw data materials for many businesses, companies involved in the life cycle using Open Data need to be educated and supported on creating successful business model around Open Data in order that a virtuous circle of Open Data economy could be setup in a wider range.

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In a broader sense, Open Data has both technical & non-technical meanings.”

Similar to the processing of raw material in another other industries, businesses in Open Data must add value to it and resell it in a higher price, which creates the margin for the business. In order to generate such value, companies need investment to find, extract, clean, and integrate datasets before they yield value, when they could be sold to organisations for cost saving, decision making, or better management of customer relationship. This value capture process is actually the life cycle of Open Data from data generation and publication to data consumption. Based on the previous studies on open data business models [1,2,3,4], we can summarise the monetise services that could build upon Open Data into the following categories:

Freemium/Premium on data services

In this business model, the company divide their data services into different levels in terms of the quality of services. For example, the company can offer some basic services, which give users free or low cost access to part of the information. However, if the customers want to access the whole dataset or get informed by some level of data analytics, they need to pay (more) for those extra features. The key point for the success of such business model lies in value add-on process on obtaining the open datasets, which might be isolated, noisy, incomplete and out-of-date. The business can grow if the revenue charged from one group of customers is used to develop new and more value adding-on services, which will target a wider market or will attract existing customers to pay more for those powerful features. Examples of businesses in this model include SpendNetworks [5], HospitalRegisters [6] and OpenCorporates [7]

Network effects

This business model is similar to the idea of open source, but focusing more on the maintenance of data instead of software. For some companies with large datasets, the storage, maintenance and analysis of the data are very costly. So by opening up the datasets, they would be able to collaborate with other partners, organizations or even individuals to lower down such cost. Additional values can be gained from the extended engagement between the datasets and relevant communities, which may result in the exploitation of more values that could not be achieved by the company itself. What's more, the visibility of such company will be greatly improved in the communities, which is also a way to of brand advertising [3]. This business model has been widely taken by some major IT companies, such as Google Public Data Explorer [8] and the founder companies of Open Data Platform [9].

Open Data outsourcing and consultancy

In a broader sense, Open Data has both technical and non-technical meanings. Technically, Open Data combines different aspects of open platforms, such as open APIs, open licenses, open standards, which removes the technical barrier to unlocks the data's latent potential. On the other hand, the non-technical side includes the policy of data publication and reusing, privacy, etc. Thus, when organisations want to publish or consume Open Data, they may need help from technical people, as well as policy makers, legal representatives, etc. Therefore, companies with specialists can charge for such outsourcing or consultancy services. For example, Socrata [10] developed a service to help customise open government data portal. The Open Data Institute provides consultancy and training services or organisations, who want to publish Open Data.



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[5] SpendNetworks <https://spendnetwork.com/>

[6] Walnut Medical <http://www.walnutmedical.info/index.html>

[7] OpenCorporates <http://opencorporates.com/>

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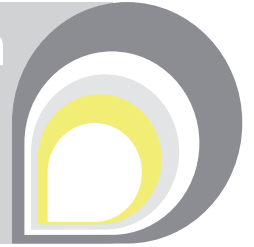
[9] Open Data Platform <http://opendataplatform.org/>

[10] Socrata <http://www.socrata.com/>

The economic and social impact of open data

Coming challenges

Alberto Abella



Society is changing dramatically due to the global availability of data. Data that comes not only from public services, but also from devices (IoT, wearables, smart cities' sensors, etc.) is creating radically new services, changing human behaviour and the way of making business. Big data now opens the door to a brand new world of data—the impact of which we have hardly started to explore.

Some reports identify data economy as a relevant part of the GDP of EU ranging from 0.4 to 4% depending on sources [1][2]. This increase in GDP would provide a stream of new job demands for well-qualified and skilled people. However, in order to achieve such a horizon, a few barriers and challenges must be overcome.

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Barrier 1: Standardization

The data-driven services in the emerging ecosystems of Smart Cities provide some hints of the key importance of standardization of information sources in order to reduce the imposed costs to the professional re-users.

Those costs grow at a higher rate than the value of the information published. And the ratio between those costs can be reduced by standardization. However, facing such general standardization in several fields (but for geographic information) is a huge task and requires of the co-ordination of lots of organisations (public and private)—and, in many fields, it is expected that it could never happen.

Lack of standardization imposes such costs that makes non-viable the business sustainability of the for-profit professional re-users.

Barrier 2: Commitment to data publication

The second barrier deals with the commitment of public sources of information with keeping on the publication. Public sources are generally subordinated to political power, and political power is renewed every 4 (or less) years. Currently, it is difficult to find a cross-party

agreement on the publication of information, or specific regulations forcing to publish informations in an open way. It means, from the point of view of professional re-users, a high degree of discretion, and accordingly to this unstable context, investments in data-driven services based on the reuse of public sources tend to be short-lived and limited initiatives.

Barrier 3: Lack of a “quality mark” to help re-users in reducing the effort to know if a dataset is worth the effort

Last but not least, data-driven services tend to be quite innovative. And lots of parameters should be established before a sound business model can be launched. A metric proposing the suitability of a dataset in terms of availability, updating, technical standards, legal licenses, etc. could reduce the amount of time a professional re-user expend on discovering whether such source of information could be the foundation of a successful business model. This way, Meloda[3] metric is trying to provide such a quality metric in order to make reuse of information a seamless experience.



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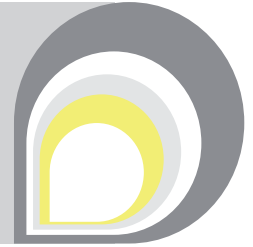
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Innovative services for ‘local’ governments

Thimo Thoeye



Local governments are increasingly exploring methods that allow co-creation of governmental services. They are continuously endeavouring to tap into the creative potential of citizens in order to deliver more innovative services with fewer resources. Indeed, in these times of economic scarcity, there is a clear strain on governments to focus on their core business, while citizens are demanding more and more efficient services, often requiring them to adapt to technologies such as mobile applications and social media.

Hackathons are seen as a common way to deliver—or at least experiment—with new ways of collaborating with citizens (specifically developers). However, the sustainability of such events and the results thereof are often questioned. Hackathons set up by local governments have demonstrated their merit—especially in terms of evangelising administrations and civil servants in their use of open data.

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Hackathons set up by local governments have demonstrated their merit...

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Public sector slow to innovate

Slowly, public bodies in Europe are moving towards a more open approach, as citizens and third parties are increasingly being involved in the development of new services. The reason for this is that public bodies are often slow to innovate, whereas the private sector can adopt new technologies (such as mobile applications) much faster. Hackathons have been instrumental in this shift because, through such events, public bodies are confronted with the ease with which even small teams of developers can create new services, taking an innovative approach to public service delivery. These demonstrations were (and still are) important drivers for local governments to invest in open data. Unfortunately, even if these events result in nice proof-of-concepts, most local governments lack the required frameworks or organisational structures to sustain these developments. The sustainability of hackathons is being challenged, and as a result, many organisations are looking for different formulas to make these events a success.

Towards an open government

A sustainable collaboration amongst local government, citizens, local entrepreneurs, and research institutes (the so-called “quadruple helix model”) requires a thorough mind shift. Even though opening up public sector information re-use can lead to unexpected and beneficial developments, much more is needed to actively stimulate such collaboration. In short, an open government opens up not only its data, but also all of its internal processes and services as well. This leads to a far more transparent government and incites collaboration and participation with citizens, civic societies and private sector organisations. With such an approach, the public sector is to set up proper governance structures that protect the citizen’s interests. Open government is no free ticket for public bodies to “outsource” its core business. Even though government services may be set up and run collaboratively, there is no way to guarantee that the private sector will provide an inclusive, complete, and accessible service offering. New balances need to be found in which the public sector takes the role of an orchestrator and data manager, while actual service development can be (partially) taken up by other sectors.

A new way of doing business?

So, how can local governments set up such collaborative initiatives, and more importantly, what comes “after the hackathon?” In other words, how can sustainable collaboration be facilitated? How should such a local public-private service offering be run? And what’s in it for the companies (or startups) providing such services? Unfortunately, there is no one-size-fits all answer to these questions. Some large-scale, public-private partnerships already exist and some best practices can be found there. For local governments aiming to capitalise on the results of hackathons, and for “open data startups” to be successful, the Apps for Europe project provides a valuable set of experiences, lessons learned and methodologies. Through the business lounges organised within this project, a number of “business models for open data startups” have surfaced. Even though each of the businesses is different and care should be taken when generalising these findings, a number of recurring elements can be identified, which may serve as an inspiration to local governments wishing to facilitate sustainable innovative partnerships:

1. Labelling

A (local) government enjoys a strong perception of trust. A possible way for local governments to support business-providing services on top of open data is “labelling” these services as “official” or at least

“approved” by the local government. On the one hand, this will help the business to expand their user base while it allows the local government to keep some kind of “control” over the services that are being offered by third parties. Alternatively or complementary to this approach, local governments may decide to actively advertise the app or service through its official communication channels.

2. Short-listing for public procurement

Existing public procurement legislation does not always go hand-in-hand with the acquisition of innovative solutions. For instance, participants to a hackathon, particularly its “winners” cannot simply be offered a contract to expand their application or solution. Instead, some local governments in Europe are taking steps within the existing legislative framework (e.g. by having companies or startups compete in a hackathon or similar event to get short-listed for a (small) public tender).

3. Acquiring know-how

Many local governments are struggling to attract internal know-how. Local government is rarely a popular career choice for aspiring developers or highly qualified technical profiles. The evolution towards an open

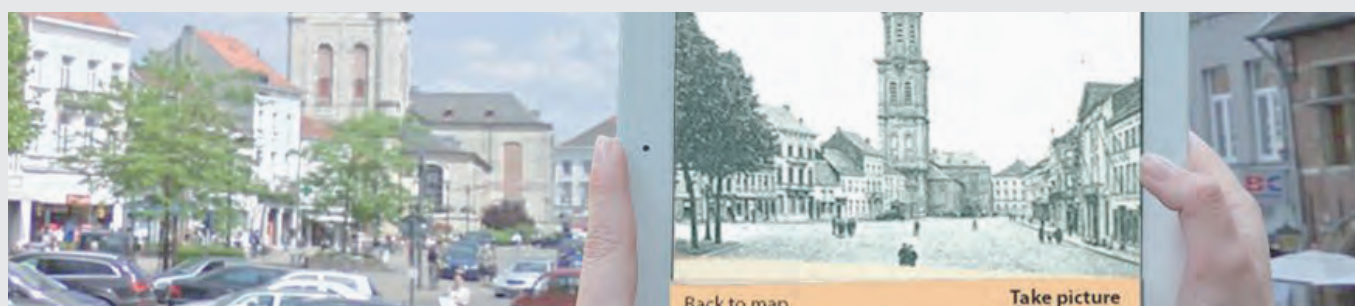
government is an important step towards shaking off this “boring” image. Some examples within Europe (Commons 4 Europe, Code 4 Europe, Open Summer of Code, EdgeRyders, etc.) exist that involve (tech) students in local government, through internships, summer schools, temporary contracts etc.

Hackathons are a very valuable event for local governments to advertise their vacancies[1], and may serve as a channel through which talented youngsters can be recruited. For instance, a hackathon may be redressed as an application for an internship.



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[1] <http://ec.europa.eu/digital-agenda/en/public-procurement-innovative-solutions>



Meeting Ides Bauwens Co-founder Nostalgeo

Ides Bauwens - Co-founder Nazka Mapps and Nostalgeo.

Can you tell me about Nostalgeo, how is the business going?

“We started the company ‘Nazka Mapps’ in October 2012, and in the first year, during the AppsforGeo hackathon, the idea of Nostalgeo emerged. Nazka specialises in smart mapps - Nostalgeo fits perfectly in the mission of Nazka to make (geo-) information more accessible by technology, which has a positive impact on current and future generations.

After the AppsforEurope International Business Lounge (IBL), we applied for governmental funding and we received 25,000 euro. We participated in a feasibility study, from the IWT (Agency for Innovation, Science and Technology), containing three aspects: technical, business model and the user experience aspect. At the moment, we are in the final phase of the feasibility study, and we will publish our first online application, which will be online somewhere between

December 2014 and the beginning of 2015. After the IBL, we saw an increasing number of landing page visits—particularly from outside Belgium. As a result of winning the audience award during the IBL, we earned a lot of credibility; more people were willing to listen to us. The increased credibility certainly helped us to receive the governmental support.”

What tips would you give to other/ similar startups?

“We were surprised that we won the competition, both apps for Flanders and the IBL, mostly because we couldn’t show anything that worked. We only used a few mock-ups to present our idea. We made some good visualisations, and we clarified our plans for a wide audience. As a tip for other startups I would say: Imagine yourself where you’re heading to, do not be afraid to present your product(s) and do not let anyone intimidate you, be critical and go for it!”

The Role of Local Government in Scaling Civic Technology

Mandeep Hothi



Civic technology promises so much: better public services, increased citizen engagement, more accountability, and stronger communities. So, why aren't local governments across the world more taken by it?

Engaging local government

Civic technology is still an embryonic field, but it should emerge as a major source of civic innovation in the next decade. But if you speak to civic innovators today, they will often tell you a story that involves the difficulties they have getting local government to engage with their innovations.

The story will probably sound familiar: they've developed a product with some really cool features, but they need users—perhaps investors—so they try and get their local city or regional government on board. The government is slow to respond and doesn't understand the technology. They just don't understand the potential.

I've heard this story across many different fields and countries; it's a classic problem faced by innovators—including those who aren't using technology. There is no easy solution.

What can we reasonably expect?

So, what can the civic tech and open data movement reasonably expect of local government? I would argue that the imperative should not be that local government buys or invests in lots of different apps. How many apps can a local authority sustain before it becomes chaotic? 10? 20? Perhaps one for each of the hundreds of services it provides!

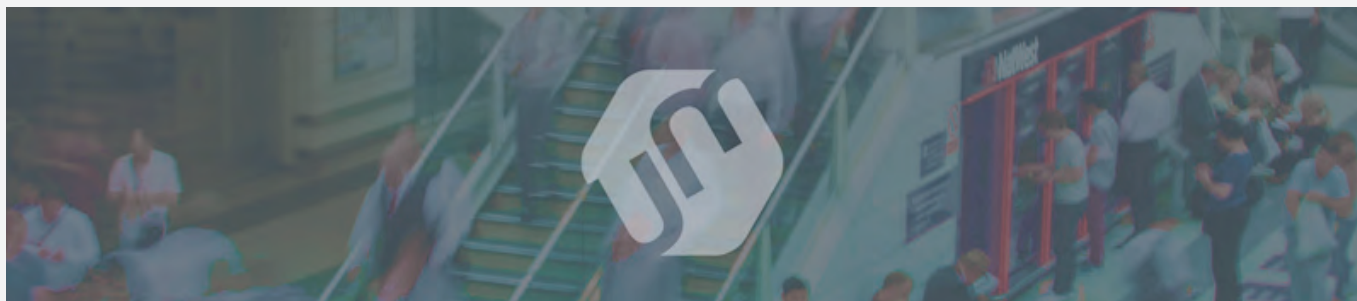
This is not a sensible approach if local authorities want to provide a genuine digital service to its citizens. Instead, the request we need to be making of our local authorities needs to be simpler, yet more radical: they need to rethink the way they operate so that they are genuine digital organisations.

This means they need to put in place a modern, compartmentalised architecture that ensures their use of digital technology is flexible, structured, avoids duplication, and is interoperable so that a citizen's experience of crossing departmental silos is seamless. It means that services need to be totally redesigned—from back office through to the front line—so that they take advantage digital.

If they don't do this, then any new technology will be layered upon inefficient, old-fashioned services, using old-fashioned ICT. This isn't good enough. If innovations are to succeed they need to be able to integrate into existing systems, not sit on top of them. They need to be built according to sensible, open design principles, using open standards wherever possible. Only when these changes are in place, and local government gets its own house in order, will civic technology see the kind of scale it deserves.



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Meeting Sven Lenaerts founder Umber

Sven Lenaerts founder Umber

I interviewed Sven Lenaerts, participant of Apps for Flanders in June 2013. Currently Sven works as a product manager for a mobile app company, "Fueled," in New York and runs his startup, "Umber" where he

helps clients with user experience and design.

I asked how he uses open data and whether or not he raised money to bring his startup to the next level.

What happened after participating in the BL?

I am a designer, not a developer. After participating

in the BL, Apps for Flanders, I received an offer to work in New York. Participating in the BL was a helpful experience: I gained more experience in pitching for a huge audience and I developed my personal skills further. After the BL, I participated in Open Summer of Code through the Open Knowledge. I also worked as designer on the iRail project, an open-data tool which provides information about public transport in Belgium.

In what ways are you using open data?

Most of my projects use open data in some way. For example, I use the Foursquare API for location-based data which commonly is required in applications. Often, the use of open data is free, but sometimes you have to pay to have access to good APIs. Using open data saves time and effort. It's data which is easily accessible and uses technology you no longer have to develop. For example, three weeks ago, there was a Hackathon at Fueled using a huge amount of open data from the US government. The topic was public

safety. This was in collaboration with the White House.

Do you have investors?

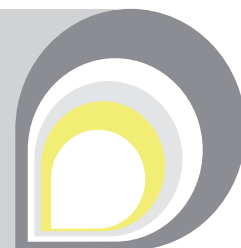
For some reason, it's a lot easier to raise money in the States than in Europe. The network of investors in Europe seems to be smaller and seem to be harder to reach. Apps4eu is a European network that runs better than I'd expect. For my startup, I am still in the search for funding so I can focus full-time on my business. With funding, my first step is to expand the team. I have a large enough customer base and a network, but no initial funding to bring my startup to the next level.

Tips from Sven

Don't forget the user interface and the user experience. Try to think from the audience's point of view. Don't be afraid to make mistakes. Every mistake you make will bring you closer to the final product. Mistakes allow your company to improve.

From open data to an API economy

Arjan El Fassed



Some eight years ago, one might step into a local supermarket, buy some drinks and chips, invite some developers from your network and some civil servants from the government with some datasets and you had a great time. Developers started building apps, but after the weekend was over, the data was not updated, or worse access to data was stopped. Developers left their apps as they were and continued on with their lives.

Opening up data

Advocating for proactive and sustainable release of open data has been a long and difficult process and (depending heavily on the area of government, the agency itself, and often on personal connections) it still is. Nonetheless, at expanding circles of governance the level of understanding about the benefits of open data is growing. Even when convinced, the road to sustainable release of data, lively ecosystems of developers and data holders around various areas with measured impacts is still long and bumpy.

It often seems like a vicious circle. The need of business cases to stimulate both data holders as well as investors is important but not always essential. Sometimes the lack of a clear business case keeps a data holder from releasing data, and a developer will not touch demo-data because he or she is afraid the real data will never be available.

In the Netherlands, Wageningen University evaluated the release of the so-called Basic Land Registry. Two

years after the release of the data, Wageningen University found a positive effect on re-use of the data. In the first year, the private sector was experimenting with the data; and in the second year, the use increased strongly. Two years later, the use of the data by the private sector was fivefold and private sector started to invest in product development. One such app is TopoGPS. The economic effect of this product development was at least € 9 million per year.

Where's the value?

The interest in open data and big data is no longer limited to enterprises and start-ups. Increasingly, SMEs are starting to explore the possibility of data for their organizations. For instance, seven multinationals with roots in the Netherlands jointly organized the Dutch Open Hackathon in 2014. The Open State Foundation facilitated the process both running up to and during the event. Only few of these companies already had open APIs (like Bol.com) and others (like TomTom Telematics) already had an ecosystem of developers. Others used the process to experiment. At the event, APIs and datasets were available from seven multinational corporations, including TomTom Telematics, Schiphol Airport, KLM, Rabobank, USG People, Albert Heijn, and Philips. During the 30 hour hackathon, 360 developers built 50 apps.

The winner was the WelcomeHome app, which allowed friends and family to send gift packages for passengers arriving at the airport on the luggage belt. It is a way

to enhance the downtime of waiting for luggage, eminently scalable and viral. The runner up was Alberto, an app in which you issue a request for groceries to be delivered at a certain time and place. Third parties bid to deliver them to you using bicycles, creating employment opportunities. A lot of apps made during the hackathon focused on sustainability and societal good.

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A lot of apps made during the hackathon focused on sustainability and societal good.
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It showcases possibilities; brings innovation from outside the large corporate sector; creates sustainable relations between large multinationals and SMEs; and reveals to these big companies that when they start to release data on their own, they benefit and it creates new products based on consumer needs. All competitors demonstrated to these large companies how clean, open data is powerful when combined with innovation. New business models emerged on the spot. From the multinationals' perspective, it was felt that the more open APIs and technologies they share, the more likely it becomes that something useful can be created. It was felt that such data collaboration across industries

might become crucial to brand development, nurture partnerships, scale, and provide usability to consumers.

Recently, the Schiphol and Paris airports organised a follow-up hackathon in Paris and Amsterdam simultaneously. Just like the Dutch Open Hackathon, it included actual flight data, baggage system data, and parking traffic data. Real-time airport transportation data added new data such as retail product offerings, terminal assets, and beacons. After this follow-up hackathon, Schiphol announced that it would develop an API-platform to share this type of open data with developers so that can build new apps and sites. The CIO sees open data as essential for the future of airports.

A structured approach to openness seems still to be limited to companies that have standard rules on data and APIs are part of the designs. Business managers strategise about engaging third parties towards their business goals through APIs. They have evangelists in-house, organize meet-ups, and start incentive programs for making openness a success. Companies big and small can benefit from adopting such strategies.



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Open Data: Where's The Value?

FutureEverything 2014

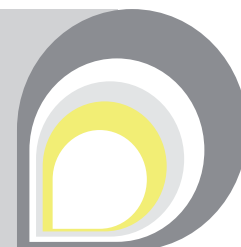
Photo: Manox Media

<https://www.flickr.com/photos/futureeverything/13758277413/in/album-72157643789829404/>

From a hackathon prototype to a market-ready product

Alternative financing strategies for open (cultural) data projects

Milena Popova



Europeana has extensive experience in organising hackathons to stimulate the re-use of open cultural data. We experienced two “waves” in the hackathon concept development:

Wave 1: focus on the actual app development (what can be done with open cultural data)

In the period from 2011-2012, we ran Hack4Europe hackathon road shows in 9 European countries that gathered 170 developers in total and resulted in 79 prototypes. These projects showcased convincingly the potential of open cultural data re-use; however, the majority of them haven't moved to the production phase due to the lack of financial support and business development knowledge of the app creators.

Wave 2: integration of business support to bring prototypes from ideas to market

In 2013, Europeana joined two EU-funded projects (Apps4Europe and Europeana Creative), which reflected the need to overcome the challenges mentioned above, and provided various forms of business support to the prototype developers. Apps4Europe has introduced the effective business lounge format which connects developers with investors and incubators, whereas Europeana Creative organised a few thematic app challenges and provided business incubation support to their winners.

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Crowdfunding can be particularly relevant for products and services using open cultural data because cultural heritage is a public treasure and resonates on a deep personal level.

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During all app competitions, the developers received extensive mentoring and training in business development and business-related skills (such as pitching skills). Bringing expertise on board was easy; attracting real capital for further development proved much more challenging. Traditional investors showed little interest and involvement in the hackathon open data prototypes and the project organisers as well as the app developers investigated alternative funding sources.

Growing the importance of crowdfunding

In particular, crowdfunding, the practice of funding a project or venture by raising monetary contributions from a large number of people, typically via the internet, has emerged as a successful financing strategy. Global crowdfunding experienced accelerated growth in 2014, expanding by 167 percent to reach \$16.2 billion raised, up from \$6.1 billion in 2013. In 2015, the industry is set to more than double once again, on its way to raising \$34.4 billion[1]. In the Apps4Europe context, *Bike Citizens*, the winner of the first Apps4Europe international lounge, is a great example. After securing substantial funds from their crowdfunding campaign, they got easier access to classical financing at the next product development stage. At Future Everything 2015 in Manchester, the crowdfunding session led by Nesta was well attended and quite interactive. Backed up with a substantial research by Nesta, participants were eager to discuss and identify successful strategies for alternative financing of their ideas.

Crowdfunding can be particularly relevant for products and services using open cultural data because cultural heritage is a public treasure and resonates on a deep personal level. Europeana recognizes this opportunity and has integrated the crowd-funding in its incubation services. In cooperation with the crowdfunding platform Goteo, we aim to help developers of open cultural data products to design and promote their crowdfunding campaigns and thus turn their ideas into viable projects. Currently, we are supporting the crowdfunding campaign of *Europeana Beacon*, the winner at the Hack4Pisa business lounge last year and a finalist of the second Apps4Europe international business lounge in Manchester.

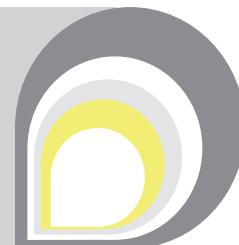


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[1] 2015CF – Massolution's Crowdfunding Industry Report, <http://bit.ly/1HhFuUu>

Design for Openness

Kevin Smith



Openness has increasingly come to be seen as a default setting: as a solution to our lack of trust; as a way to find answers to the questions that result; and as a social and economic opportunity to capitalise upon.

The problem is that openness is not simply a switch we can turn on or off as we choose; it is not a decision that we can retract at a later date. Once open, things are difficult to close. Therefore, openness, that is the state of being open, needs to be very carefully designed.

Our vision at FutureEverything is:

To realise a truly participatory culture and society, with art and research at the centre of things, and everyone, everywhere able to connect, create and shape their world for the better.

Openness is central to everything we do.

We have learnt—through experience on past projects such as *Open Data Cities*, *DataGM*, and the *Greater Manchester Data Synchronisation Programme*—what it takes to design for openness. In our projects, we tend to work with institutional systems: the EU, national and local governance, academia, trusts and foundations (and their various reinventions). Working at this macro-level, within these “cultures of decision making,” brings with it challenges that are different from those often associated with more traditional design practice. There is no existing blueprint for this kind of work, it does not follow a set formula, rather it responds to the needs of

the stakeholders involved.

However, a clear set of design patterns is beginning to emerge: replicable units of design thinking that we use to solve commonly occurring problems across our portfolio. These methods are often event-based, put people first, and can perhaps be best understood as a hybrid between Hacks, a type of event where programmers meet to do collaborative computer programming[1] and Design Sprints, a “five-day process for answering critical business questions through design, prototyping, and testing ideas with customers.”[2] We are still learning, and in more recent projects such as *FutureEverything Moscow*, *The Lean Startup Weekend* and *The City Infrastructure Lab*, we are iterating these ideas. If asked to summarise our key findings so far, it would be this:

Everyone has a different perspective—and different information that might be helpful—the goal is to encourage everyone to share what they already know and develop a common understanding.



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[1] New Playgrounds: An Introduction to Hacks in the Arts, Brearley et al. (2014): <http://futureeverything.org/ideas/new-playgrounds-introduction-hacks-arts/>
[2] Design Sprint: Method, Google Ventures: <http://www.gv.com/sprint/>



Meeting Tom van Arman, CEO & Founder iKringloop

Tom van Arman, CEO & Founder iKringloop

iKringloop app - participating in Apps4EU?

Want to dispose of unwanted items in three easy steps and share the items with neighbours, thrift stores, and collection agencies? iKringloop is an app that is good for sustainability and popular in the city of Amsterdam.

The start-up participated in the International Business Lounge 2014, but how are they doing now? To find out, I talked to Tom van Arman, CEO and Founder.

How is iKringloop doing these days?

“In total, we have over 14,000 downloads, which translates to eight or nine hundred downloads a month. Sixty percent of all items placed on the app come from Amsterdam. We worked with the city of Amsterdam as a one-year project, but we have noticed

that we are not growing as fast as we would like because we are dealing with cities. Different cities have different needs, have their own ways of doing things and are not as flexible as start-ups. At this point, we are changing our business plan because, while the app works really well locally, it is not suited to being used internationally.”

What changed after participating in the BL and IBL?

“The prize itself was quite significant and important - winning the business lounge (BL) was helpful for new acquisition. Participating in the International Business Lounge (IBL) was good for interaction and feedback. We met the investors at the IBL, but too early. They wanted to see some numbers and movement, but at that point in June last year, we had just launched. The investors did give us great insight and tips. We learned a lot from them, and they learned from us. We also won the Most Responsible app Award from Appril,

the app-incubator from the Netherlands. These kind of prizes are important because it legitimises your concept as a sustainable, social, and multifunctional app.”

Tips for start-ups

1. Small businesses should look into open data or making the data open—because data is money. When you have data, you have informational insights that people have never had before.
2. Make it and get it on the market as quick as you can. Don't be shy talking about it. Go to events and hackathons. When you are pitching and presenting, you are selling.
3. Networking is especially important—get your cards out there and make yourself visible.



Start-Up Workshop
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Apps For Europe Awards
FutureEverything 2014
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Spatial Data and (Open) Spatial Data Infrastructure

Karel Charvat, Tomas Mildorf & Karel Janecka



Spatial data infrastructure (SDI), sometimes referred to as spatial information infrastructure, is generally understood as “a computerised environment for handling data that relate to a position on or near the surface of the earth.” Spatial data, sometimes referred to as geographic data, geodata or geospatial data, are defined by INSPIRE [1] as “data with a direct or indirect reference to a specific location or geographic area.” It has been estimated that over 80% of all data have a spatial component. The spatial aspect is sometimes amended by temporal aspect. Spatial components enable to locate objects, processes and other phenomena, to model their shape and to analyse their relation to other data.

Spatial data represent a fundamental cornerstone of all geoinformation technologies (GITs), spatial applications, and spatial services. GIT uses SDI as a source of spatial data, metadata, and spatial services. Currently, GIT is becoming a common part of everyday life in modern society. For example, GIT is used for car navigation, cartographic visualisation of spatial data in mass media, displaying maps in mobile devices, and browsing applications such as Google Maps or Google Earth. GIT systems are used in network management, transport, state administration, and other institutions and organisations influencing global society. GIT and spatial data play an important role in research, education and environment protection. GIT tools are used to monitor

changes in the environment, analyse these changes, prevent environmental disasters, and eliminate their effects.

From Policy to EU Open Spatial Data Infrastructure

Public sector information (PSI) is one of the largest sources of information in Europe. It is produced and collected by public bodies and includes meteorological, legal, traffic, financial and economic data as well as

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Currently, GIT is becoming
a common part of
everyday life in modern
society.”

spatial data. Most of this raw data could be re-used or integrated into new products and services, which can be used on a daily basis (such as car navigation systems, weather forecasts, financial and insurance services). Re-use of public sector information means using it in new ways by adding value to it—combining information from different sources and making mash-ups and new applications for both commercial and non-commercial purposes.

The Commission’s EU Open Data Strategy [2] asserts that opening up access and reuse of public sector data offers major opportunities not only for innovation and growth, but also for more informed science, greater public participation, and for addressing societal, and environmental challenges. The strategy is part of the Digital Agenda, one of seven flagships supporting the Europe 2020 strategy to achieve growth based on research and innovation, a low carbon-economy, jobs and poverty reduction. Another flagship initiative of relevance for this project is the Innovation Union, which argues for better use of existing investment in research and research infrastructures, pursuing a broad concept of innovation that is “involving all actors and all regions in the innovation cycle: not only major companies but also SMEs in all sectors, including the public sector, the social economy and citizens themselves (‘social innovation’)”.

The Open Data movement covers many aspects of using existing data sets without any limits or restrictions—“A piece of data is open if anyone is free to use, reuse, and redistribute it—subject only, at most, to the requirement to attribute and/or share-alike.” The Open Data activities mean open-source, open-content and open-access. They are focused, above all, on technical solutions (open APIs, standardised formats etc.) or on legal issues.

Compatibility of data licences

Open Data, as defined by Open Knowledge (2013), are “data that can be freely used, reused and redistributed by anyone—subject only, at most, to the requirement to attribute and share alike.” This sounds like a good and reasonable definition, and one might not see any problems with open data reuse.

Using open data for commercial activities or activities that can be sustainable has become popular, especially with the support of the European Commission and its funding schemes. The experience of the Czech Centre for Science and Society shows certain problems concerning licenses and restrictions given to open data such as “share alike”.

The main issue tackles combining open data from different sources. This is one way to add value to existing open data sources and can be a potential for commercialisation of the result.

Let’s demonstrate the problem with an example. An open dataset is distributed under the ODbL license. This license [3] defines the “share alike” restriction as follows:

“If you publicly use any adapted version of this database, or works produced from an adapted database, you must also offer that adapted database under the ODbL.”

The other dataset is under the Creative Commons [4] license where the “share alike” restriction reads:

“If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original.” (Creative Commons 2015)

What happens if you combine the two open datasets? These data licenses are obviously not mutually compatible and you cannot combine these data, unless you break the license. Such problems hinder open data reuse and thrive of commercial and sustainable activities based on open data worldwide.



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[1] <http://opendatacommons.org/licenses/odbl/>

[2] <https://creativecommons.org/>

[3] Infrastructure for SPatial InfoRmation in Europe. <http://inspire.ec.europa.eu/>

[4] http://europa.eu/rapid/press-release_MEMO-11-891_en.htm

Open Data Days

Inspiring open data activities in Europe

Christian Villum



Open Data Day is an international day that is hugely popular worldwide. It is a gathering of citizens in cities around the world to write applications, liberate data, create visualizations, and publish analyses using open public data to show support for and encourage the adoption open data policies by the world's local, regional, and national governments. Read more about the Open Knowledge network [here](#).

Open Knowledge works to stimulate and support open data activities in Europe and beyond. We host a network of local groups in many countries and cities, actively campaigning for open information, collaborating to train, learn, build technology and work with data, and helping others find out about open knowledge. We have nine chapters in Europe, 41 local groups globally, and many working groups around thematic areas such as Open GLAM (galleries, libraries, archives, and museums) and Open Government.

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Activities large and small, from Cameroon hosting 2,000 attendees to Open Data Day, to data walks in Denmark, are a thrilling reminder of the impact Open Data Day can achieve in stimulating learning, publishing and use of open data.

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Activities large and small, from Cameroon hosting 2,000 attendees to Open Data Day, to data walks in Denmark, are a thrilling reminder of the impact Open Data Day can achieve in stimulating learning, publishing and use of open data. Highlights about Open Data Day in the [Asia-Pacific region](#), [Latin America and the Caribbean](#) and in [Africa](#) are also available on the Open Knowledge blog.

Below, activities around Open Data Day in Europe were rounded up by Christian Villum for Open Data Day February 21, 2015.

Portugal

Open Data Day in Portugal was the 4th consecutive Open Data Day for the Transparência Hackday Portugal community, all of which have taken a “show-and-tell” approach to ensure an inclusive, community-building programme for the general public. For this year's event, the goals were to invite the general public with an interest in open data to get together, and also become interested in joining hackdays during the rest

of the year—as well as to showcase the work done at Transparência Hackday Portugal and elsewhere for collective inspiration.

Austria

Open Data Day 2015 in Vienna was organized around two specific tasks. A group of ten people analysed and visualized all subsidies given by the City of Salzburg in the year 2012 and 2013. This full and complete dataset will be published in the near future, to bring full transparency into Salzburg's subsidy regime. Another group of 15 people started a new citizen sensor data project. We built first seven sensor boxes based on Arduino, which measure sun-hours, traffic density, noise, NOx and dust, alike. Together with the city wide public sensors owned by the city administration, this new citizen sensor network bring more local and more frequent data to be used in APPs and analysis. It is planned to present the running citizen sensor dashboard at [viennaopen.net](#) (scheduled for 2015).

Czech Republic

The Czech community celebrated Open Data Day with a hands-on gathering aimed at solving specific data problems. One of the groups worked on improving an API for government contacts, while others discussed the state of openness of Prague's data. Thanks to the presence of one of the municipal representatives, the working group managed to draft a basic concept for opening the datasets of the Czech capital.

Denmark

In Denmark, two separate events took place for Open Data Day 2015. In Aarhus students competed in creating the most innovative open data solutions at the Open Culture Days, organized among others by the Open Data Aarhus initiative. In the capital city of Copenhagen 35 open data enthusiasts met for multiple workshops: a data workshop on electoral data, an introduction to data analysis and an attempt to map different actors involved in the field of open data and “open” in general. As a pre-event a group of people went for a “data-walk” in the area to learn about Mapillary, the crowdsourced open-source equivalent of Google Street Maps.

Spain

Spain hosted around 40 participants from 9 different countries as part of the Open Data Day, and held the OKFN Awards to recognize achievements in open knowledge, open data and transparency. Winners included: for its involvement with citizens and society went to Concurso datos abiertos Junta de Castilla y León; best sustainable initiative to Open Food Facts;

best use of open data for transparency to Aragón Open Data; best open science initiative to Open Science Training Initiative; best non-public initiative for transparency to Openratio and El BOE nuestro de cada día; and for support to entrepreneurship based on open knowledge to Medialab Prado. Our president Rufus Pollock closed the event, and, last but not least, thanks to the main collaborator, Google and the jury members coming from local groups of Argentina, Belgium, Ecuador, El Salvador, Germany, Paraguay, Spain and UK.

Germany

In Germany, the OK Labs from Code for Germany once again participated in Open Data Day and organized hackathons and workshops in their cities across the country. Leipzig, Münster, Munich, Cologne, Heilbronn (Mannheim), Berlin, and Ulm were all among the cities where events took place. Open data enthusiasts in Frankfurt, Jena, Magdeburg, and Karlsruhe even used the occasion to launch new OK Labs groups. At all events the community hacked, discussed, welcomed new members, and developed numerous projects. You can find an Storify-overview about the Open Data Day in Germany.

Bulgaria

With a varied and very interesting spectrum of participants covering both civil society, servants from government bodies, and government-related businesses (including the Head of Cabinet of Deputy Prime Minister Rumjana Bachvarova as well as representatives from TechnoLogica), Open Data Day in Bulgaria ran over two days. Activities included automatic data pushing to the national CKAN instance and the creation of a data visualization with data from the energy sector. The event also discussed the ongoing government data project: the Bulgarian government has prioritized 119 datasets to be published in open format and are now working to put them on the CKAN data portal that volunteers from Obshtestvo.bg developed last year. They also talked about potentially organising a larger event when there is data in the portal, when they will attempt to engage other organisations like the British Council, universities and venture funds.

Romania

In Romania the organisers, Coalition for Open Data, and partners, ran their event over two whole days to celebrate Open Data Day. The event, run by Coalition for Open Data in collaboration with the Romanian Government and supported by State Embassies of United Kingdom and the Netherlands in Romania, was held at the National Library and on the first day included debates about transparency, justice, culture and business, all from an open data perspective. On the second day, a programming activism marathon was organised at the Academy of Economic Studies, Faculty of Cybernetics and Economic Statistics. Participants included developers, activists, journalists as well as many others, who all got together to build applications that promote good governance.

Russia

In Moscow, the international Open Data Day was supported by the OP Information Culture and the Russian branch of Open Knowledge. The event was attended by over 40 people who represented a variety of skills. Among the participants were representatives of the humanities (PR, advertising, journalism, etc.), as well as developers, programmers, and data analysts. Not only were there reports the presentations, but also stories, announcements of upcoming events in the free form. The activities included presentations, among others on open science, data visualisations, plain language, and Leaflet.js. This was followed by a hackathon, which resulted in four prototype applications. Lastly, some of the participants participated in the Open Science Labs project, which focuses on the discoveries of science and is designed to popularize and promote the concept of open science in Russia.



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Apps for Europe Awards

FutureEverything 2015

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Meeting Daniel Kofler, CEO & Founder BikeCityGuide

Daniel Kofler, CEO & Founder BikeCityGuide

BikeCityGuide app—Winner of the IBL 2014
Two former bike couriers created this app, which guides cyclists on bike friendly routes with less traffic for a safe and easy bike ride, point to point routing is also available offline.

The app also recommends tours connecting point of interest in the city. BikeCityGuide won last year's Apps for Europe International Business Lounge and we, from Apps for Europe, are curious. How is BikeCityGuide doing? What are the latest developments? And what do they still need? We talked with Daniel Kofler, CEO & founder.

Can you tell me about BikeCityGuide's progress?

"We have a seasonally-based business. People just cycle more often during summer. But the number of cyclist has grown exponentially since last year. In fall and winter we had a huge growth in terms of members/users, so we had to restructure a lot of things in the app.

This made last year an incredible busy one. Our team now consists of 20 employees."

Did the range expand or contract?

"We implemented a beta test (for free) in London, but it's still in the early stages of development. We also added more cities in Spain, Portugal and Poland. In total, we increased the number of available cities from around 30 close to 50."

"Although we've been online since 2012, we doubled the number of users since we won the apps for Europe competition. At this moment, we have more than 200,000 downloads. We won the Eurobike award, which was a big success; and the Fiets Innovation award in the Netherlands.

We also got two offers from business incubators but we didn't take the opportunity yet. Open data is fundamental for our start-up. The main source for the app is OpenStreetMap, and we use Wikipedia for descriptions of points of interest and photos."

What does BikeCityGuide still need?

"We have a need in terms of user activation. In routing, navigation, offline availability, and in the design and usability itself—we're world leaders. But we still need to complete the picture. Since we're now in a very dynamic stage, let me predict that we will come up with some huge developments in the very near future. Investment is therefore an issue, but not a major one. We are at the stage where we can keep our business independently, which is for us a huge advantage."

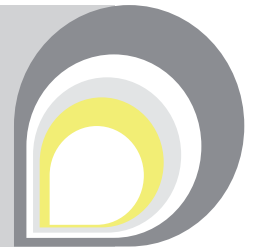
What tip would you give to start-ups in general?

"The most important thing is to find out what your value proposition is; what is your strong point? This is important because it also tells a lot about who you are and to whom your service must be dedicated.

Secondly, it is a marathon, of course with sprints. So, if you want to run your project sustainably, then you have to run yourself sustainably—simple as that. Seventy percent of technology start-ups fail because of personal problems and not being able to address their market."

What the Hack?

Frank Kresin



Hackathons, as in 'condensed timeframes where programmers come together to collectively or individually achieve something out of the ordinary' (a more comprehensive definition can be found on Wikipedia[1]) have existed for decades, but became wildly popular after the 2008 Apps for Democracy contest[2] in Washington. That event, which yielded 47 open data apps in 30 days, has inspired a host of contests in over 50 countries (says iStrategyLabs[3], the creative consultancy that designed the scheme) with hackathons as indispensable components in the mix of events that make up their schedules. Invariably, expectations are high while expenses are low. Ideas flow freely and lasting, business success is the goal.

Unfortunately, the eye-catching results of the effort expended by hackathonistas often quickly fall apart within hours, days, or weeks after the prize ceremonies. Why? Results are typically demos or prototypes, and never products; often they are based on technology push, instead of societal or market pull; the groups lack designers, entrepreneurs, or both; the initial enthusiasm turns out to be less firm than expected; and many more valid reasons that are familiar to organizers and participants alike.

The partners of Apps for Europe[4] have strived to overcome these and equip the teams with knowledge, coaching, and contacts to increase the chance of their survival—a life for the project after the flowers have withered. But what if the outcome of a hackathon is not a viable business, does not aim at an IPO, and will not survive the first weeks of user scrutiny? Was the energy lost? Or are there other ways in which the experience has been useful? Ways that are somewhere hidden below the glitter of winning prizes, starting a company, and becoming the next TomTom or Facebook?

After attending and organizing a few dozen hackathons, my answer is a clear YES. There are many reasons for people to join. Most of the participants value the social part—being and working together intensely with like-minded, smart, and motivated people. Some are in it for education: being able to tinker with new technologies, new kinds of data, and learning tips and tricks from more advanced colleagues. Some participate to meet their new employers or clients: showing off wizardry skills that have a fairly skewed distribution in the general population. Many hackers sympathise with the social causes in events like Apps for Development, Apps for Democracy, or Apps for Good. A few bring their technologies, in the hope that their familiarity amongst programmers will enhance the uptake after the event. All love to code. And yes, a few are in it for the (often little) money, too.

It is safe to say that in most hackathons, these goals are met without any dependence to what happens to the resulting apps after the event. Attending well-designed hackathons increases work pleasure, networks, experience, and skills for people that are used to working alone and without many opportunities for pro-level education, or in jobs that only tap in to part of their capabilities.

To amplify the likelihood of satisfying the participants, well-designed hackathons adhere to several principles. If the events are frequented by potential clients and employers that scout for new contacts; if the programme encourages getting to know many new people with different skills and levels of expertise; if the setting is social and low-key; if there is room for hackers to show off their technologies; if sharing of code, skills and results is encouraged and facilitated; if there is a prize that is in line with the efforts, and if the 'winners' are just as encouraged as the 'losers' (better: leave out this part entirely)—then a larger share of the participants will be happy, because their goals will be met.

By acknowledging what the true reasons are for people to join these events, they can be organized in a more effective way. We can leave the 'startup your startup, and become an entrepreneur overnight' rhetoric, that is simply not applicable, attainable, nor inspiring for most of the participants. By giving hackers what they really want, we will get more capable and more inspired programmers back. Programmers who are so needed to help solve the problems in which we find ourselves. Give them problems that matter, colleagues that care, and have them think outside of the box. Do all this, and yes—every once in awhile, some accidentally successful new company might arise.



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[1] <https://en.wikipedia.org/wiki/Hackathon> - An event in which computer programmers and others involved in software development and hardware development, including graphic designers, interface designers and project managers, collaborate intensively on software projects

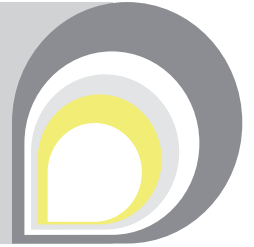
[2] <http://iststrategylabs.com/work/apps-for-democracy-contest/>

[3] <http://iststrategylabs.com/>

[4] <http://www.appsforeurope.eu/>

Do cities need another hackathon?

Esteve Almirall



These days, [Apps4Europe](#) is ending. Over the last 3 years, Apps4Europe tried to redefine the dynamic of hackathons, making them more effective, and resulting in more and better apps while also putting into practice concepts like the Business Lounge. This is the last of a series of European projects (Open Cities, Commons 4 Europe, CitySDK, Apps4Europe, etc.) aimed at transforming cities into ecosystems where app services were provided not by the cities themselves, but by developers and startups. It is, therefore, time for a reflection.

Over the past few years, European cities have promoted a lot of hackathons with the hope of fostering the development of city & civic apps. Hackathons have become a staple in cities' policies with the ambition of promoting the development of a tech ecosystem.

However, very few startups graduated from this process, and you could argue to what extent hackathons were a decisive factor for those who did. Moreover, if we look at the apps we have installed on our smartphones and regularly use, only very rarely will we find one resulting from this process. None are on the top 100 list either.

Therefore, confronting the results with the ambition, it is hard to argue that we got far with this strategy. It becomes pretty obvious that we have to rethink the whole process because it has not worked and it is still not working. And in this case, it is not because we didn't try—we did and we did a lot.

“

If we want to understand any social process, we have first to understand the incentives and motivations that drive it ...

”

In spite of this evidence, however, cities continue investing in hackathons. It seems quite reasonable to ask us why this is happening, and to what extent this is the best possible move.

If we want to understand any social process, we have first to understand the incentives and motivations that drive it—meaning the incentives and motivations that drive the groups involved. In hackathons, we have two

main groups: (1) the community of developers and (2) the organizers & sponsors.

Developers continue to attend and engage in hackathons, maybe in smaller numbers, but they are there. There is an obvious gain for them in terms of visibility, and some money, too. Visibility is very important for a developer's life because is the key to new opportunities, to a better job, to land in a more promising startup. In general, visibility means progress. Developers don't have a lot of ways to show off, and even fewer to signal their expertise. There is always too much to learn and too much work around. Also, ideas are generally presented by founders or business development people. Hackathons offer a unique opportunity for visibility, networking, and cohesion.

Founders and business developers have an even clearer incentive. One huge problem for apps is discovery. With about 1.7M apps around, being anywhere past page 3 is equivalent to death. You do whatever you can to be on the first or second page, few people looks at the third and almost nobody to the fourth.

What about cities? And hackathon organizers? Well, they get the front page. Who is not happy with the front page? They also get the feeling of moving things forward— maybe modestly, but still forward. Doing everything they can.

Now it is a bit clearer why we still have lots of hackathons despite the fact that they are neither conducive to producing more apps nor to the growth of a successful ecosystem of developers. Motivations and incentives are there. They don't align very well with the objective of having successful apps, but they are there. Therefore, they will continue running until these motivations are no longer present. This is happening slowly. At a certain point, particularly in small communities, there is no more networking to be done, the press is tired of hackathons, they no longer get into the news, and people begin to ask where the apps are. This is, however, a long process.

What we just described is a case of a process of social misalignment that, without external validation, will continue because it addresses to some extent the motivations of the groups involved—even if everybody is aware that its goals cannot be completely achieved. The invisible hand is there!

Can we do better?

If we want to do better, we need a process that both maintains or surpasses existing incentives while aligning with the desired results.

If the promised results were there, if apps resulting from hackathons became great successes, the whole process would work. The main reason it is not working is not the quality of developers, the amount of money on the table, or the challenge presented to developers. Results are not there because the business model is not working. Only a very few app developers make a decent living, only a few apps find their way to our pockets.

The actual business model assumes that value has to be captured solely with the app, either directly or indirectly through subscriptions, virtual goods, ads—you name it. And, as we know all too well, this is not working for the great majority of developers. Thus, very few apps have the opportunity to grow fast enough to attract capital to become visible and graduate.

It will be very difficult for us to change this dynamic because it is generated by the network structure, the same network structure that created the app market in the first place. This is particularly true in the case of civic apps, which are normally more local.

Therefore, we need to create opportunities of value capture for developers, and they cannot and will not come—at least for a while—from the market. Without opportunities for civic startups and developers, no market can flourish.

Opportunities will drive developers and create a community around them, a community that can flourish and enter in new markets. However, with apps at \$1.99, limited downloads, limited visibility in app stores, and our limited attention span, it is really difficult for startups and app developers to capture value and for VC to believe that they need to invest in this market.

Therefore, these opportunities are not going to come solely from the market, particularly in areas where venture capital, access to visibility, and best talent cannot be taken for granted. Also, it will be rare that they are equally distributed between high-growth

private companies and civic-oriented ventures.

We must, therefore, go beyond this belief that hackathons are silver bullets powerful enough to transform the provision of services by themselves. And we have to get serious about changing procurement processes, about changing the provision of technology in cities, and about injecting new life into city tech corps while also aligning with the initiatives of companies and the civil society.

Here are a few ideas: firstly, instead of investing in disconnected hackathons, we could build on more permanent and connected structures (like local and international co-working spaces and accelerators). Secondly, we could invest in open source software (like CKAN for Open Data platforms), and use it as a lever to promote the growth of the ecosystem because it will be maintained and extended by local communities, which will help in the creation of an industry. Thirdly, we could promote the development of independent organizations that can put transparency in the hands of journalists and provide credible assessments to citizens (cities can not provide the data and the assessment – this is not credible sorry).

Developing ecosystems and changing the provisions of services means more than hackathons.

So, do we need another hackathon? Maybe this is the wrong question. After all, what we urgently need is a comprehensive strategy that addresses the provision of public services and the role of local authorities in this digital world of the XXI century.

And yes, we still need hackathons, too!



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Hack4Pisa - work in progress
Hack4Pisa, 2-3 October 2014
Photo: Europeana EU

<https://www.flickr.com/photos/europeanaimages2/15362200558/in/album-72157648380279249/>



Meeting Peter Tattersall, Silvana Precup, Enrique Puertas, and Brian Vink

Peter Tattersall (FinanceTree)

Peter is concept designer for the company Hahmota in Finland. One of the tools from Hahmota's tools is the FinanceTree, a visualization tool that provides the big picture and fine details of an organisation's finances in one interactive chart.

Peter: "FinanceTree has received several prizes in the Apps4Finland competition and participated in Apps for Europe 2015 in Manchester. Since joining in the Apps for Europe business lounge we have been focusing on new products relating to financial simulation and forecasting. Our new visual simulation software is opening up much wider opportunities than our old product. At the moment, we are working on creating a cloud service based on this product."

Silvana Precup (Flopulr)

Silvana works as a freelancer in digital Communications and online Community management. She participated at the Opening Up Conference in Brussels, in 2014.

Silvana: "I participated in the Opening Up 2014 Conference with a group of women. We met a couple of months before at a coding workshop for the European Code Week and decided to join the Open Data Hackathon. We wanted to contribute something to the social good, improve local society and make something neighbourhood-based. We came up with Publi-city, and afterwards we changed the name into Flopulr. We started from the user point of view. Who would be our users? From there on, we created a user experience journey. We were all missing coding experience, reason why we did everything from the user perspective."

At the moment, I am finishing a 3 months intensive course in programming. I've started working on a project to teach kids how to experiment with technology. I am now researching and working on a methodology to create the right learning experience, so kids get the best out of it. At the same time, I am looking for a job to combine my previous experience with the new tech knowledge I acquired."

Enrique Puertas (K-SOCIAL)

Enrique joined the K-Social team at the Business lounge MADdata in Madrid and won in the category social enterprise.

Enrique: "I am professor of Artificial Intelligence at Universidad Europea de Madrid. I have worked in many open data research projects (last week I won the challenge "Fujitsu's Linked Open Data Challenge"). My lectures are mostly about data mining and linked open data. Currently, I am working on open data health services, tourism, and shopping. For example, a few weeks ago we created an application for hospital visitors. Most of the time people don't understand hospital records simply because of the difficult medical terms. The application translates these terms using linked open data."

In the university building we have a hub and every year we organize a challenge for the best open data start-up idea. Winning this challenge means Pitching for a wider audience, support, and advice on legal issues."

Brian Vink (HogeNood)

Brian is the co-founder of App-vise. App-vise is a young organization that specialises in consulting, positioning, development, and the implementation of mobile application and other internet related products.

Brian: "We started the project: HogeNood, in 2011 at the university with a toilet "find & rate" app. When we elaborated on the project, we decided in 2011 to join the Apps for Noord-Holland competition. The jury decided to choose HogeNood as second best application and we won the audience prize. In 2012 we won the audience prize of Apps for the Netherlands. We also pitched for apps for Europe in Barcelona in 2014. After attending a fair in Belgium, we were incorporated into the waste management system of the municipality, which was a stimulant for the number of downloads."

At this moment, we have developed a "Toilet Management System" including an online dashboard and a tablet that can be placed in toilets, including a rating system. Because of this management system, it is very easy for other parties to add toilets to the database of HogeNood. The app is available on android and iPhone, and recently for windows phones."

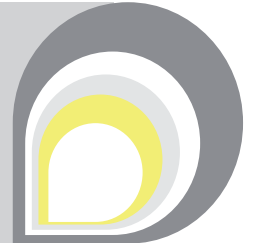
We started to expand to the United Kingdom, Belgium, and Germany. But, this is a long process because of the return on investment in the long run. Our business needs a full time programmer. We would like to add some more features for the toilet management system and for the app. An example is to make it possible to pay for a toilet with the app.

Open data

In The Netherlands we collected the data ourselves. Here, the data is locally available, so you need to reach out to every party individual. It is difficult to find and collect data. Where do you search? Who is in charge? We stand for quality and that takes time.

Cities removing friction from open data driven business

Hanna Niemi-Hugaerts



Open data as a concept has become widely known, but still many businesses have not fully seized the opportunities that open data can provide commercial purposes—adding that extra little something to their ad campaigns or services they build for their clients. Even those businesses that are aware of the business prospects open data could provide for them, are not necessarily familiar with all the data that is available. Some companies that have actually utilized open data have come across quality issues, or have faced uncertainty regarding the reliability of the APIs upon which their product is built. Challenge is also familiar for the city of Helsinki, which (in a recent study from Frost and Sullivan[1]) was ranked as advanced in almost all other aspects of open data, except for the Commercial Roadmap, where the progress was rated moderate.

To remove this friction around open data driven business, Helsinki along with the other five largest Finnish cities - Espoo, Vantaa, Turku, Tampere and Oulu - decided to take a fresh start regarding their collaboration with businesses. Cities invited companies to become part of their "Open Data business panel" to initiate continuous dialogue with businesses around the use of open data. With the help of the panel, the Six city strategy's Open Data spearhead project will better target its activities: open up data that, according to the members of the panel, has the most business potential and strengthen the business ecosystem around open data. Cities are all aiming at building a close relationship with the developer community at large.

During the first stage of the call for panel membership, one hundred companies and business networks joined the panel. According to the first questionnaire[1], smaller companies in the panel aim at making business out of apps whereas larger ones believe they can improve efficiency internally. All companies foresaw that the key is to combine open data with other data sources. When looking at the identified utilizer roles of data: users, developers, aggregators, enablers and collectors, most companies saw themselves in almost all roles. This is probably due to the low maturity of the

ecosystem and will change while companies start to position themselves in the ecosystem according to their focus. Furthermore, the cities learned from the panel that the businesses needed to get more examples of existing success stories, from abroad as well. In other words, the cities not only need to provide the data, but also support companies in finding new ways to use open data.

Thus, becoming an enabler of data-driven business brings new set of requirements for cities. Cities will have to level up to the Business2Business requirements: APIs have to be up and running 24/7 with service level agreements, load-balancing, and a long-term commitment to further develop the API. Aiming at the digital single market, and following the second pillar of the Europe 2020 strategy interoperability and standards[2], the six Finnish cities harmonize both data and APIs. As the national market is not large enough alone, the six Finnish cities collaborate on harmonization with cities across the world. Their consortium has joined the Open and Agile Smart Cities network[3] that already counts 31 cities and builds similarly to the six cities on earlier harmonization work such as CitySDK project[4].

To conclude, cities do witness innovation based on open data but the business potential hasn't yet been fulfilled. As many other cities, also Helsinki would like to enable and attract third-party services also in the future. Cities are putting a lot of hard work into becoming enablers of third-party service production and results seem promising.



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[1] Heat Map of Europe's Real - Time Cities — Progress towards Commercialisation Results of End - user Survey Conducted 1Q 2015 <http://www.marketresearch.com/product/sample-9049396.pdf>

[2] <http://theodi.org/open-data-means-business-conclusions-recommendations#recommendations-for-government>

[3] <http://6aika.fi/wp-content/uploads/2015/05/6Aika-yrityspaneeli-kysely-2015-raportti.pdf> (in Finnish)

[4] <http://ec.europa.eu/digital-agenda/en/our-goals/pillar-ii-interoperability-standards>

[5] <http://connectedsmartcities.eu/open-and-agile-smart-cities/>

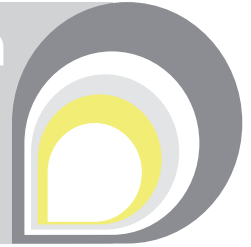
[6] <http://citysdk.eu>

[7] <http://www.api-first.com/>

Development of a startup community in Europe

The Dawn of a Startup: the Open Data for Startups Workshop

Andrea Rivetti & Massimo Zaglio



Getting together with startups: workshops and competitions

The importance of creating a network to connect the players in the Open Data business lies mainly in the value of the experiences shared among participants.

An event targeted at startups works well when developers share stories about the evolution of their ideas. Investors and startups get to know about what to expect from each other, and Public Sector workers and Policy Makers can figure the best way to publish the information held by their organizations to create value for the citizens.

This exchange is what creates the mix where opportunities can arise for startups planning their next step, investors looking for promising businesses, and public administration to identify the datasets that would generate more interest if published.

The Business Lounge format has been developed by Apps4Europe to help create this kind of environment during an App Competition or startup-oriented event. The first challenge when helping developers with an idea (and possibly a prototype) to find investors is to define the minimum level of maturity of the idea needed for a project to be considered a startup ready to pitch investors.

This is the main issue that the "Open Data for Startups" workshop addressed, the experience by Top-IX in presenting this workshop has been brought in the Apps4Europe project and it has been further refined for the Business Lounge format.

Getting to know the candidate startups

According to the format of the Business Lounge event, a developer with a project needs to have an "alpha-version" of his or her startup in order to be given the opportunity to meet investors. The Business Lounge organizers need very clear criteria of how to assess if a project has all it needs in order to be considered a startup, App Competitions need a clear set of metrics to evaluate how mature and promising a project is and tutors at workshops like "Open Data for Startups" also need to quickly evaluate where a startup project needs to be refined in order to progress.

When figuring out a consistent scoring system to quickly get a feeling of where a startup or an idea is positioned along the path towards becoming a successful business, a good starting point is the well-established list of elements that investors look at when evaluating the opportunities in an innovative idea:

- Elevator Pitch: a short and simple sentence containing "What", "How" and "Why"
- The problem that the idea is solving
- The solution and how it is better than anything available now
- Market Size and how it has been evaluated
- The Business Model: what are the sources of revenue
- Proprietary Tech: the advantage the startup has in the field
- Competitors: who are they and how they compare to the startup
- Marketing Plan: how customers are reached
- The Team: the know-how (tech, entrepreneurship, sales, etc.) the team has, the skills still needed
- Money and Milestones: where the project is and how much is needed to reach the next objective

These guidelines can be a starting point to define a scoring system for competitions of Startups and Business Ideas.

How these ten areas of evaluation translate into a scorecard depends on what's to be considered a "successful business".

Getting to know the target audience

Turning an idea into a "successful business" means different things depending on the audience. The definitions of success falls into a spectrum that goes from "company that increases its value several orders of magnitude in one year" to "service that can make enough money to sustain itself in the long term".

One side is what Venture Capital funds are interested in, the other can nevertheless be interesting for public servants, Small Medium Enterprises, Business Incubators, non-profit organizations. These players are also considered investors if they are ready to invest resources to publish the information they hold, to create innovative services and maintain them with the revenues they generate or to build small companies with a solid perspective of commercial sustainability.



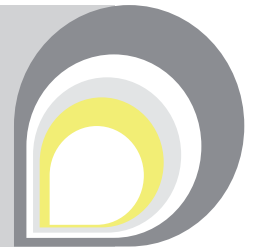
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Creative Reuse, Open Content, and the Cultural Sector

A Brief History
Maarten Brinkerink



Introduction

Since founding Open Images [1], an open media platform, stimulating the reuse of audiovisual heritage, in 2009 and participating in numerous publicly funded research projects, the Netherlands Institute for Sound and Vision has been an active provider, user and advocate of open cultural data and content in the cultural (heritage) sector. As a publicly funded national archive for Dutch audiovisual heritage, we believe allowing (creative) reuse of our collections - when copyright allows - enables innovative applications based on our shared cultural wealth and contributes to a bigger, more diverse and - sometimes - more meaningful reach of these collections. Allowing this to happen contributes to our relevance to today's society and adds value that would otherwise remain unlocked. A good example where this is evidenced is the contextualization of our historical newsreel collection in Wikimedia projects, most notably Wikipedia. Thousands of articles on various language versions of Wikipedia have been enriched with archival footage from our collection, attracting millions of pageviews every month. [2]

In the beginning Sound and Vision mostly acted as an open cultural data and content provider but over time became involved in the advocacy for and (stimulation of) reuse of open data and content through initiatives like Europeana [3] and Open Cultuur Data [4]. Sound and Vision hosted the first hackathon organized by Europeana in its building in Hilversum and co-founded the Open Cultuur Data network initiative in the Netherlands (together with Open State Foundation and Kennisland), helping other cultural heritage organizations open up their collections, and connect them with hackers through hackathons and app challenges. Involvement in the stimulation of (creative) reuse of open cultural data and content continues for Sound and Vision in projects like Apps4Europe, Europeana Creative and currently Europeana Space.

Hackathons and Sustainable Businesses

As voiced in other contributions included in this publication, Sound and Vision witnessed a development of the hackathon concept in the cultural sector. At first - around 2011 - these hackathons were mostly functioning as events for developer involvement, open data/content advocacy and creating awareness of the innovative possibilities of apps based on open cultural data and content. The resulting apps often could (only) be considered prototypes showcasing a certain concept, and were not meant to be a sustainable product for end users (at that point). But with the popularization of the hackathon concept and the slow but steady increase in the amount of open data and content made available

by the cultural sector in the Netherlands, attracting developer attention purely based in the incentive of experimentation and access to unique open collection became harder. In parallel, cultural institutions were increasingly challenged to facilitate the economic valorisation of their collections, through establishing links with the so-called 'cultural industries' [5].

The developments described above are reflected in the approaches of some of the aforementioned projects, while also showing some of the current challenges. Apps4Europe helps app developers create sustainable businesses through the Business Lounge concept, but - speaking for the cultural domain - investors are mostly interested in innovative concepts. The reuse of open cultural data and content is not often an (important) criteria for them, let alone a unique selling point. Europeana Creative provided app developers with some key examples of the possibilities of open cultural data and content reuse, by developing inspiring 'pilots' for different domains (social networks, education, tourism and design). This provided excellent examples of the creative, innovative and social possibilities, but didn't always convincingly show the business potential. Through challenges Creative gathered submissions of ideas and based on open cultural data and content reuse, awarding the best concepts with an incubation support package to help bring their product to market. The design of a sustainable business model for these winning submissions turned out to be quite challenging. Currently Europeana Space is contributing to job creation through the reuse of open cultural data and content, by following a three step process: First the generation of innovative concepts is supported through a hackathon, then the most promising concepts are supported through a business modeling workshop (focussing on the concept design and market value proposition) and finally one concept is picked selected for a business incubation trajectory. While the concept creation is based on open cultural data and content reuse, the quality of the concept put forward by the participants their previous experience, drive and market savviness are equally - if not more - important. Further support is given by Europeana Space in the form of content sourcing and providing technical infrastructures that enable (easier) reuse of open cultural data and content.

Creating Value

In conclusion, we would like to share some observations. Firstly there is still very limited 'hard' proof that the reuse of open cultural data and content leads to the generation of economic value. Also there are few viable business models available that can exemplify this at a level higher than theoretical. Value increase that can

be easily observed are of a more social nature, like greater and more diverse access to culture, meaningful contextualization of cultural resources leading to new and open knowledge, new forms of creativity and new and/or stronger relations between the creative industries, cultural institutions and their audiences.

In our experience these values are often also still the incentives that predominantly motivate the participants to contribute to open cultural data and content reuse (including the related hackathons, app challenges, etc.). This however does not mean that economic factors are not and will never be involved here. In our experience the most successful open data business in general are based on provided data services (data aggregation, data enrichment, data analysis, etc.). These types of services can also emerge from concepts based on open cultural data and content. This also complies with our experience that investors aren't interested in the (open) data and content that is 'feeding' these services, they are interested in innovative concepts. Therefore, open cultural data and content reuse provide a perfect opportunity for app developers to create innovative concepts for a social or creative good, while building their portfolio toward economic sustainability and job creation in the cultural sector. To accelerate this process support actions like business development and incubation are welcome additions to the open cultural data and content reuse realm.

More information on open cultural data and content, creative reuse and business models:

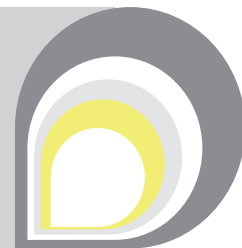
- [*Hacking Culture For Europeana Space*](#)
- [*Sound And Vision On The Future Of Video On Wikipedia*](#)
- [*An Invitation To Get Creative*](#)
- [*Europeana Gets Creative*](#)
- [*Open Data On The Web: Finding Solid Ground And The Business Of Open \(Culture\) Data*](#)
- [*Opening Up Museums And The Web*](#)
- [*White Paper: Business Models for History Education and Natural History Education*](#)
- [*White Paper: Business Models for Social Networks*](#)
- [*White Paper: Business Models for Tourism*](#)



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Expert Public Participation and Innovative Access
Netherlands Institute for Sound and Vision

- [1] <http://www.openbeelden.nl>
 [2] <https://www.beeldengeluid.nl/en/blogs/research-amp-development-en/201506/dutch-cultural-heritage-reaches-millions-every-month>
 [3] <http://www.europeana.eu>
 [4] <http://www.opencultuurdata.nl>
 [5] <http://www.pedrobendassolli.com/pesquisa/cc1.pdf>

Organisations involved



Apps for Europe is a support network that provides tools to transform ideas for data based apps into viable businesses. We bring a powerful European network of individuals and organisations who have been involved in open data programmes and in supporting promising ideas to help ideas to scale:

- *Stichting Waag Society, THE NETHERLANDS*
- *Stichting Nederland Kennisland, THE NETHERLANDS*
- *Nesta, UNITED KINGDOM*
- *Forum Virium, FINLAND*
- *Vlaamse ICT Organisatie, BELGIUM*
- *Open Knowledge Belgium, BELGIUM*
- *iMinds, BELGIUM*
- *Ceske Centrum pro Vedu a Spolecnost, CZECH REPUBLIC*
- *EURECOM, FRANCE*
- *Open Knowledge Deutschland, GERMANY*
- *Conorzio Top-IX, ITALY*
- *PT Comunicacoes, PORTUGAL*
- *Rooter, SPAIN*
- *ESADE, SPAIN*
- *Open State Foundation, THE NETHERLANDS*
- *Nederlands Instituut Voor Beeld en Geluid, THE NETHERLANDS*
- *Europeana, THE NETHERLANDS*
- *Open Knowledge Ltd, UNITED KINGDOM*
- *FutureEverything, UNITED KINGDOM*

