



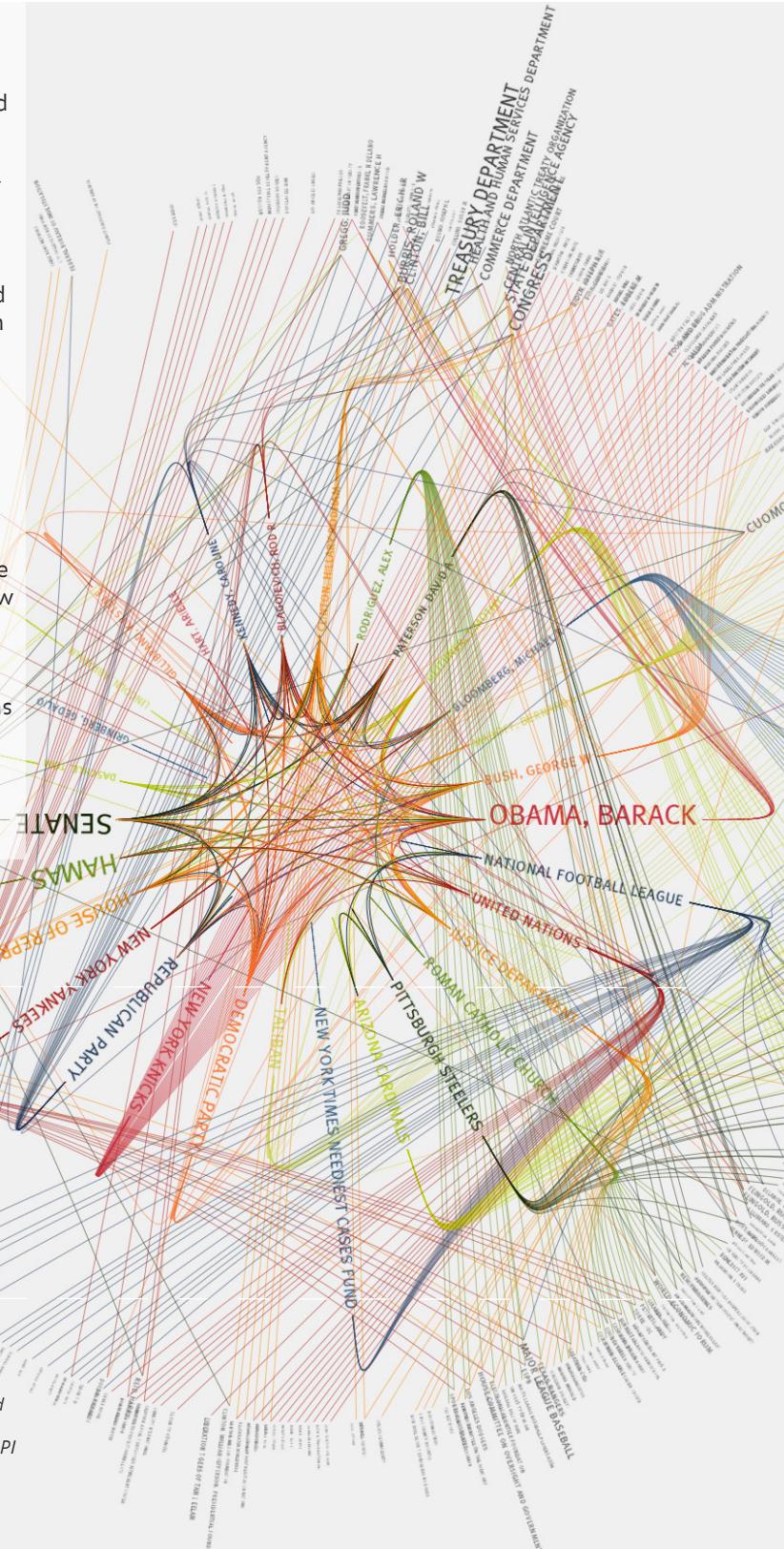
Open Data, Open Government: Design Principles for the Public Internet

Marleen Stikker, president Waag Society
Netzpolitischer Kongress, 12.-13. Nov 2010
Deutscher Bundestag, Berlin

Back in 1993 I founded the Data Liberation Front, that later resulted in the first free access community on the Internet, called De Digitale Stad, the Digital City. I visited newspapers, cultural organizations, libraries, political parties and the city council, educating them about the wonders of the Internet and meanwhile collecting floppy disks full of documents. Although most people had no clue about the Internet, they all where intrigued by the idea to build a digital city together. It was a truly citizens initiative, designed and facilitated by artists, hackers and activists. A powerful combination, as history shows again and again.

When a civil servant of the City of Amsterdam provided me with the disks of the complete governmental information system, both he and I could hardly understand what would be the consequences of his action. Official documents used to be confined to the city network. From the moment we put them on the servers of the Digital City on the 15th of January 1994, the documents where open for anyone to access. Within a few weeks it led to situations in which citizens where better prepared on topics than the city council members and city officials were themselves. It opened a complete new playing field for the checks and balances between citizens and politicians.

It was a small step for a hacker, but a giant leap for democracy.



Technology is defining the rules for society.

Communication, interaction, workflow and procedures are engineered and often forced upon us without much room for debate. The government has implemented information systems to manage and control public transport, health care, workforce, legal and financial systems and many, many other areas of our society. All of these systems have increased their scope and reach over the years. Databases are now linked by default and demand a far larger consistency than even a few years back. Civilians, us, are obliged to comply. This makes it even more important to be aware of the design principles that are used to build these systems.

Waag Society is an independent media lab that has sprung out of the Digital City. Waag Society designs for real needs of real people, by bringing together technologists, artists, designers, scientists and prospective users. Design thinking is at the heart of what we do. From this experience, I want to share with you a few design principles that I think are important for governmental services and systems.

1. Users as Designers

Design requirements should be defined by real users, not by organizations, panels or marketers. Information systems that are made by governments are based on the requirements of existing stakeholders and structures. Disruptive solutions often don't get a chance because they are a threat to the status quo. By involving real users in the design process, the results are far more likely to bring meaningful perspectives and options into the hands of people. This leads to better systems that are designed with the user in mind. Eventual adoption and appropriation become far more likely.

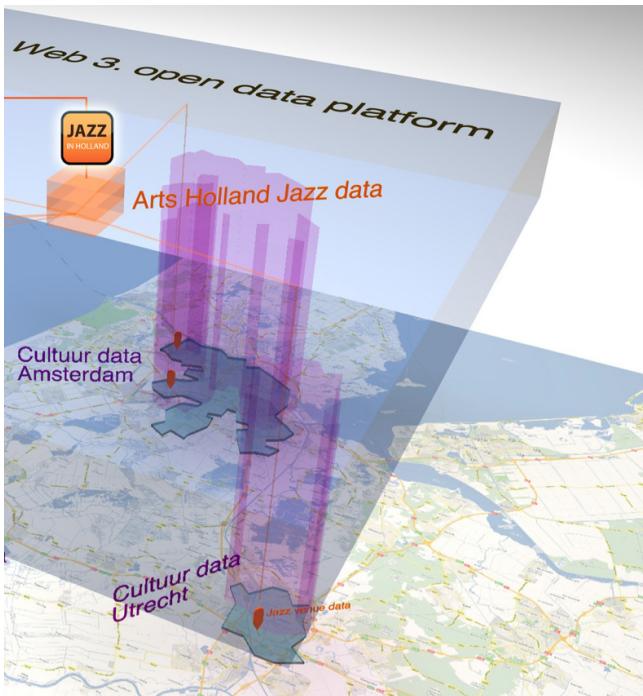
2. Find the real questions

Defining the right question is the most important step in getting a real answer. Unfortunately, these questions are not easy to get at. For example: We were approached by an elderly home that wanted to bridge the digital divide by putting an Internet corner in the home. While working with a few elderly women, it turned out that they had no interest in the Internet. 'Why would I be interested in the World Wide Web, when the world had forgotten about me?' They were lonely and did not even talk to each other anymore. The real need was not access to the Internet, they wanted to be facilitated to connect to each other. We designed the Storytable with historical video-footage that triggered their memories and helped them in starting conversations and capturing oral history. The Storytable is now available in more than hundred homes all over the country.

In the design for public services finding the right questions is as important. For example: an ICT system for public transport is not about logistics and transactions. It is about visiting friends or family, going to work or school. Or it is about being a shelter for homeless. These perspectives are absent in the current ICT departments.

3. Reciprocity

Information systems are aggregating data. We are often obliged to give this data. We have no access to the data. That is why we fear these systems. They now more about me than I know about myself. The right to access and use the (aggregated) data should be the same for the user and the system. Put reciprocity central in processes and interactions. This goes beyond the issue of Privacy by Design, which, of course, has to be at the heart of every system.



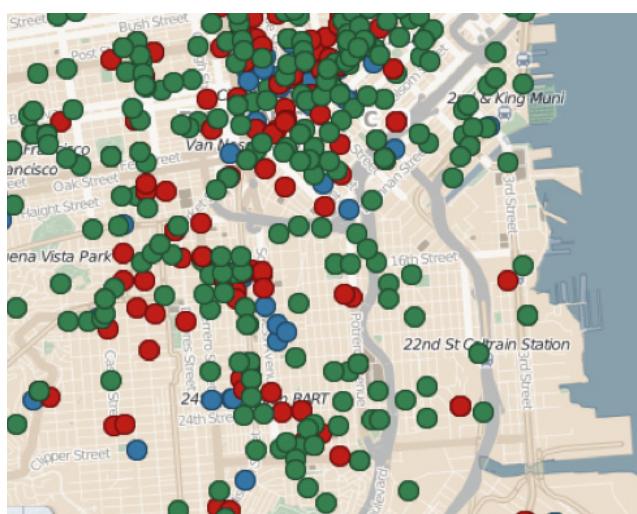
OPEN DATA

Although much has happened since the middle of the nineties, public administrations have far more data than they currently allow to be in the public. Over the last few years the Open Data movement that has attracted much attention. Open data is data that is free for anyone to use, to share and to mash-up.

Unrestricted access to information is invaluable and all information is eventually grounded in data. The public sector generates and owns many data sets; e.g. mobility, infrastructure, sustainability, education and health care. Many of these have been collected for decades, but kept in silos without the possibility to access, cross-reference or use it in a meaningful way. Sometimes data is not even accessible within the organizations that collected or generated it. As a result many interesting, valuable applications using this data have not had the possibility of being developed.

Using the powerful tools of the Internet, it is easier than ever to collect, share and use data of all kinds in many different ways. Meanwhile, access to Public Source Information (PSI) is recognized to be a valuable stimulator of innovation. In Europe alone, the monetary value of public source information is estimated at 27 billion Euros. Opening up databases produces new platforms for civilians, government and commercial organizations to express themselves and develop new services, products and ways of working.

This has resulted in many 'open data' initiatives. In 2010 the British government gave access to 3000 data sets, ranging from demographic data to maps of the performance of schools, the destinations of British travelers, the names of babies in Northern Ireland and several calendars. Internet pioneer Tim Berners-Lee was commissioned to help in this endeavor. At about the same time, president Obama launched OpenData.gov. Where necessary, legislation was changed to make this possible.



Open Data, Open Government:
Design Principles for the Public Internet



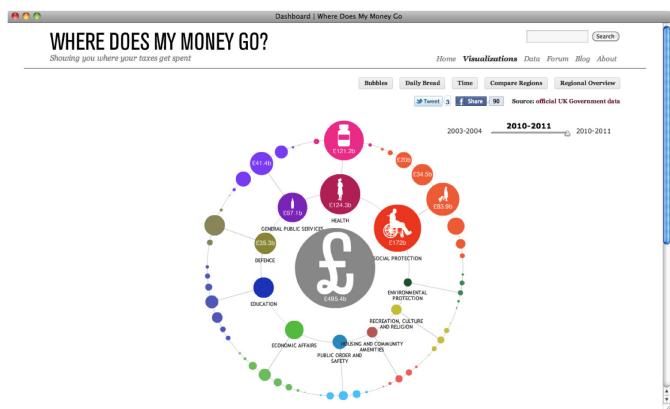
OPEN DATA CRITERIA

In December 2007, 30 advocates of Open Data drafted eight principles for Public Source Information:

- Complete: All public data is made available. Public data is data that is not subject to valid privacy, security or privilege limitations.
- Primary: Data is as collected at the source, with the highest possible level of granularity, not in aggregate or modified forms.
- Timely: Data is made available as quickly as necessary to preserve the value of the data.
- Accessible: Data is available to the widest range of users for the widest range of purposes.
- Machine processable : Data is reasonably structured to allow automated processing.
- Non-discriminatory: Data is available to anyone, with no requirement of registration.
- Non-proprietary: Data is available in a format over which no entity has exclusive control.
- License-free: Data is not subject to any copyright, patent, trademark or trade secret regulation. Reasonable privacy, security and privilege restrictions may be allowed.

Together they make up a powerful set of criteria to which we can measure open data initiatives. This process of 'data democratization' is on the way and many meaningful, interesting, educational and innovative applications are envisioned and, in fact, have been developed.

I will show you some excellent examples of open data applications.



Where Does My Money Go / Open Knowledge Foundation
View and understand where UK taxpayers' money is spent.
Explore and discover stories behind the figures. First of its kind: 2007

wheredoesmymoneygo.org

The screenshot shows the Data.gov Raw Data Catalog search results for the RITE Comprehensive Listing (CEROLIS) dataset. The search bar at the top contains 'Search our catalog...'. Below it, there are two tabs: 'RAW DATA CATALOG' (selected) and 'TOOL CATALOG'. The search results list the 'RITE Comprehensive Listing (CEROLIS) (Superfund) - NPL Sites' dataset, which is categorized under 'All Agencies' and 'Environmental Protection Agency (EPA)'. The dataset has a rating of 5 stars based on 1 vote. The page includes navigation links like 'Page 111 of 119 (2,051 results)', 'Rating', 'Agency', 'XML', 'CSV/TEXT', 'KML/KMZ', 'Shapefile', 'RDF', and 'Other'.

Data.gov

On his first day in office, President Obama signed the Memorandum on Transparency and Open Government, calling for unprecedented transparency, participation, and collaboration as a hallmark of his Administration.

www.data.gov/catalog

The screenshot shows the Apps for Democracy website, specifically the Community Edition section. It features a banner with the text 'Got what it takes to mash-up DC's data to win some cash and tons of street cred?' and 'Then sign-up for Apps for Democracy and start coding here!'. Below the banner, there is a call-to-action: 'Interested in launching your own Apps for Democracy inspired initiative? You're in luck! We've prepared a detailed guide showing you how to create one. Download the PDF here.' A yellow button with a download icon is visible. The page also includes a 'What:' section detailing the mission and goals of the competition, and a note about an innovation contest with \$34,000 in potential prizes.

Apps 4 Democracy

The first edition of Apps for Democracy yielded 47 web, iPhone and Facebook apps in 30 days - a \$2,300,000 value to the city of Washington at a cost of \$50,000.

www.appsfordemocracy.org

The screenshot shows the World Bank Data Catalog topic page for 'Data'. The main menu includes 'ABOUT', 'DATA', 'RESEARCH', 'LEARNING', 'NEWS', 'PROJECTS & OPERATIONS', 'PUBLICATIONS', 'COUNTRIES', and 'TOPICS'. The 'TOPICS' tab is selected. Below the menu, there are sections for 'By Country' and 'By Topic'. The 'By Topic' section lists categories such as Agriculture & Rural Development, Aid Effectiveness, Economic Policy and External Debt, Education, Energy & Mining, Financial sector, and Health. To the right, there is a list of 'INDICATORS' including Infrastructure, Labor & Social Protection, Poverty, Private Sector, Public Sector, Science & Technology, Social Development, and Urban Development.

Worldbank

The Data Catalog provides download access to over 2,000 indicators from World Bank data sets.

data.worldbank.org

The screenshot shows the homepage of the 'Apps for Development' challenge post. It features a main banner with the text 'We're challenging the public to create innovative software applications that move us a step closer toward solving some of the world's most pressing problems.' Below the banner are sections for 'Submissions' (\$45,000 in prizes, 1,130 supporters), 'I support this too!' (with sharing links for Twitter, Facebook, Digg, and Email), and 'About Apps for Development' (including a detailed description, how to enter, important dates, judges, and judging criteria). There are also 'Supporters' listed with small profile pictures.

Worldbank: Apps 4 Development Apps 4 Development Challenge

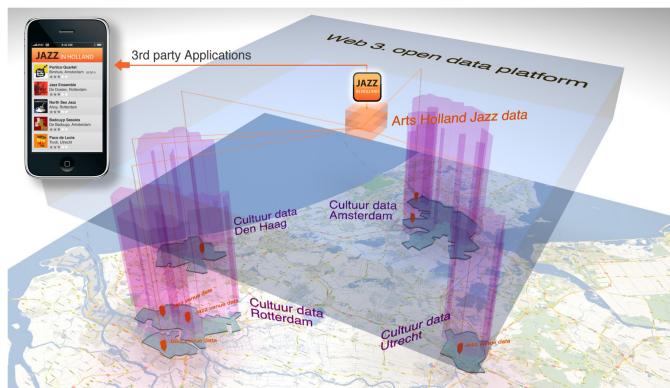
appsfordevelopment.challengepost.com

The screenshot shows a blog post titled 'GOOD's guide to Pakistan v Haiti – which disaster got more aid?' from the 'DATA BLOG'. The post includes a chart comparing aid to both countries. The Guardian logo is at the top, and the URL is http://www.guardian.co.uk/news/datablog/2010/nov/12/pakistan-haiti-aid-good. The sidebar shows other news items like 'Canon PDMA' and a list of 'On News' stories.

Guardian Open Platform

Content API Get access to over 1M articles going back over 10 years in addition to today's content, the Guardian's tagging information architecture, picture galleries, podcasts and video. Politics API includes a wealth of information on election day results, candidates, parties and constituencies.

www.guardian.co.uk/open-platform



Arts Holland 3.0 Open Data

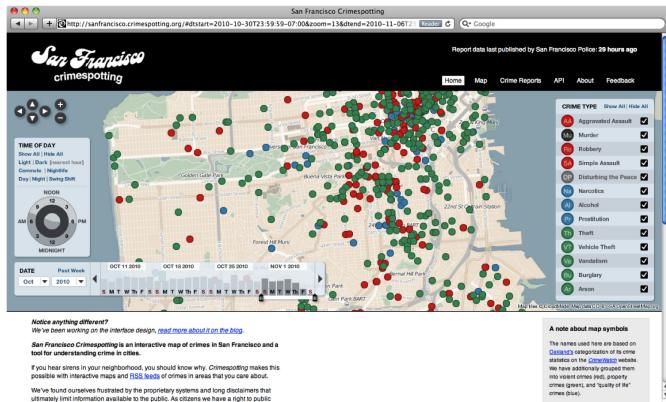
Touristic and cultural information platform 4 cities and 8 organizations work together / + platform for third parties.

The screenshot shows the 'DataSF App Showcase' website. It features a banner with the Golden Gate Bridge and navigation links for SFDev, Residents, Business, Government, Visitors, and Online Services. Below the banner is a section titled 'SAN FRANCISCO INNOVATIONS SHOWCASE' with a map of San Francisco. It lists several apps: 'CrimeSpotting - San Francisco' (an interactive map of crime), 'Boulevard San Francisco' (a transit app), 'EveryBlock' (a news feed for city blocks), and 'ClearScores' (a tool for inspecting buildings). A disclaimer notes that the City of San Francisco does not endorse these apps.

Data SF

DataSF is a clearinghouse of data sets available from the City & County of San Francisco. Open Policy / Open data toolkit http://policysf.org/?page_id=996

datasf.org



Crimespotting

San Francisco Crimespotting is an interactive map of crimes in San Francisco and a tool for understanding crime in cities. Stamen is a design and technology studio in San Francisco.

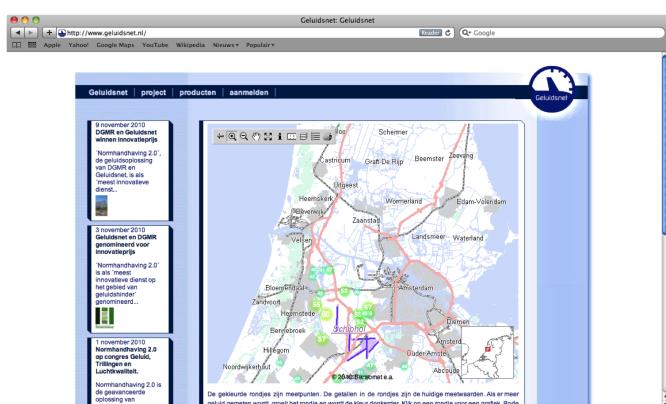
sanfrancisco.crimespotting.org



Geo.me

Geo.me Solutions is showcasing a number of open data demonstrations using map-based visualizations. It consists of a network of individual land stations designated by the World Meteorological Organization for use in climate monitoring. The data shows monthly average temperature values for more than 1,500 land stations.

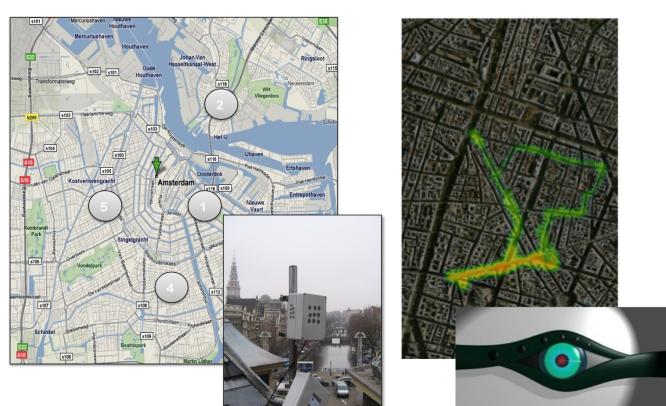
www.geo.me/climate



Geluidsnet

Using a large network of noise meters, Geluidsnet can give definitive and traceable information about sound levels and patterns in key areas over the whole country. The Internet is used both to collect incoming data and also to display results to the customer. Real-time and historic measurements from all meters are constantly available to clients through the Geluidsnet website.

www.geluidsnet.nl



Sensorsnet

Citizens Research: Sensors in lifestyle and design product measure CO₂.



Facebook How open is Social Media data?

techcrunch.com

While this is happening, many issues still need reflection. Government initiatives are there, the value is recognized, both on the national and European levels. Policy on the local governments' levels often lags. Various forms of 'freedom of information acts' provide legal contexts in many countries but these do not necessarily translate well to the Internet age. Both local and national governments have a need for 'good practices' and need to consider issues around accountability, privacy and indeed, cost of the technical implementation.

To sum up:
Open Data allows people to build their own systems, not having to wait until someone builds it for them.

Governments should not wait until it knows what the data will be used for – the whole point is to open a field of possibilities for others to jump in. This leads me to the real challenge: design for serendipity.

'The best thing to be done with your data is probably thought of by someone else' – a quote from Rufus Pollock, director of the Open Knowledge Foundation in the UK. I couldn't agree more.

The civil servant of the City of Amsterdam who handed over the disks with the complete governmental information system, back than in 1993, opened up a field of possibilities for others to jump in. I want to honor him for that.

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waag.org/opendata

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