Guide to Civic Tech & Data Ecosystem Mapping

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For more information on the Civic Tech & Data Collaborative visit livingcities.org/CTDC

About the National Partners







Living Cities harnesses the collective power of 18 of the world's largest foundations and financial institutions to develop and scale new approaches for creating opportunities for low-income people, particularly people of color, and improving the cities where they live. Its investments, applied research, networks, and convenings catalyze fresh thinking and combine support for innovative, local approaches with real-time sharing of learning to accelerate adoption in more places. Additional information can be found at www.livingcities.org.

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Coordinated by the Urban Institute, the National Neighborhood Indicators Partnership (NNIP) consists of independent organizations in 32 cities that share mission to help community stakeholders use neighborhood data for better decisionmaking, with a focus on assisting organizations and residents in lowincome communities.

CODE for AMERICA

Code for America is a national nonprofit that believes government can work for the people, by the people, in the 21st century. We organize a network of people who build technology to further local governments' priorities of creating healthy, prosperous, and safe communities. Our goal: government services that are simple, effective, and easy to use, for everyone.

I. Introduction to Ecosystem Mapping



From 2014 to 2018, the Civic Tech and Data Collaborative (CTDC) brought together local government officials, civic technologists, and community data organizations from seven communities to explore ways to harness data and technology to benefit low-income residents. Three national organizations with local networks-Living Cities, Code for America, and the National Neighborhood Indicators Partnership (NNIP)—guided the initiative. To provide real-world examples and lessons for the field, local collaboratives in Boston, St. Louis, and Washington, DC, created products that use data and technology in new ways to improve services or programs in their cities. Each national organization brings its own partnership to the table: brigades from Code for America, NNIP from the Urban Institute, and city staff, including the Project on Municipal Innovation, from Living Cities.

NNIP organizations, local governments, and Code for America brigades exist in <u>civic tech</u> <u>and data ecosystems</u>. Ecosystems are dynamic networks that emerge through connections between many actors. For our project, the CTDC "ecosystems" included interactions between local actors who use or create data and technology to improve civic life. specifically government services and policies that affect low-income residents. We tasked seven local collaboratives—Boston, Cleveland, Pittsburgh, St. Louis, San Antonio, Seattle/ King County, and Washington, DC—to become "ecosystem builders" in their communities. To better understand, support, and leverage these local connections, the CTDC used ecosystem mapping, a process that allows people to visualize their network and helps foster an understanding of how each organization in the community contributed or could contribute to the collaborative. The culture of trust and new relationships forged through the CTDC work and ecosystem exercises increased the flow of information.

This document provides guidance and examples from these cities on the value of mapping, key questions when getting started, different methods to collect the data, and how to use and analyze ecosystem maps to strengthen community relationships.

II. Key Questions to Ask Before Getting Started

An ecosystem map will never capture an entire ecosystem; an ecosystem is a dynamic, emergent network of many actors, so the civic tech landscapes continuously shift Envisioning the mapping process as the beginning of a journey, rather than a destination, can inspire new ideas for collaboration or help uncover areas in need of growth. Beginning the process with specific intentions can limit the scope and keep the project focused.

Here are some guiding questions to help you get started:

1. What is the purpose?

Ask yourself, why do you want to map an ecosystem? Ecosystem mapping can produce a static, snapshot-in-time map; document your network over time; or form new connections through the process. Your purpose should guide your methodology. Perhaps you want to identify all the potential and current partners in your city, or maybe you are starting a project and want to look at how each person or organization is contributing. Perhaps you want to identify funding sources and available grants. Establishing a clear purpose can direct the budget and timeline for your mapping. It can also keep your scope from expanding or drifting.

2. What is the scope of your ecosystem map?

Determining what information you want to include will help you manage the process and build milestones to show progress, especially if the ecosystem map is a one-time exercise. Is there a subject-matter focus? For example, an ecosystem could be the entire Seattle tech community or only the groups working in digital literacy. What is the geographic focus? A clear and concise intention will pare down and focus the project's scope.

3. What is your budget and timeline?

Your budget and timeline will shape your process. You will need to budget for materials. staff time, activities like a mapping meeting, and paying for a mapping platform or service. In determining your logistical parameters, map outward from your organization. Beginning with your staff or organization helps identify networks and inventory relationships. For organizations working with a limited time frame or budget, beginning the mapping process internally offers greater control over the timeline and scope. The more extensive and collaborative option is to work with outside partners. Convening a group to gather information about your ecosystem or administering a survey to collect information on networks can reveal new opportunities for funding or partnerships. This strategy might be more expensive and time consuming but can result in richer information about the people and organizations in your ecosystem. Additionally, the mapping process can be a great opportunity for outreach and communication with new or potential partners. For the CTDC, we asked each city to create an ecosystem map without being too prescriptive about the purpose or method of data collection because building an ecosystem map can be resource intensive. We provided examples of maps and allowed the cities to decide how they wanted to explore ecosystem mapping.

<u>Pittsburgh</u> leveraged the collective knowledge from its Civic Roundtable members and mapped all the tech, data, and government organizations in its ecosystem through inperson activities. San Antonio mapped the people and organizations that attended the inaugural Alamo Regional Data Alliance conference. These two cities had different scopes for their maps, which changed the maps' complexity and use.

That is not to say that the purpose cannot change. After the end of the grant, the San Antonio team decided that the mapping process would be valuable going forward. Their purpose changed from a map showing partners in one instance in time to a map that allowed them to add more organization to their ecosystem through crowdsourcing data collection.

III. Decide What Data to Collect

The possibilities of mapping can be daunting, but creating intentions and guidelines for your mapping makes the process manageable. Once you have outlined a goal and determined your scope, you can gather information. Depending on your purpose, some data may be more useful than others. Number of funders or grant amounts might be important to include if your purpose is to identify potential funding streams. Alternatively, if you are looking to use the map to form a new collaborative, you should include organizations' numbers of staff, missions, or existing relationships.

The two main components of a network ecosystem map are the actors and the connections between actors. **Actors** are generally represented by nodes, while **connections** are edges or lines.

- Government
 Individuals
 Funders
 NGO's
 Nonprofits
 Corporations
 Hackers
 Organizers/Activists
 Data intermediaries
 Libraries
- Funding streams Social connections Events Projects Organizational Partnerships Locations Resources

To begin, think about the partnerships and organizations in your network, their characteristics, and the nature of relationships (e.g., collaborations, events, boards or committees, funding). The following questions offer guidance about information to include.

Actors

Actors

What "actors" do you work with?

 "Actors" are the organizations or people that work in the ecosystem. They can be active in the project or groups that you have yet to connect with. You can begin by mapping the partners you regularly work with, and then expand to include their partners or funders. Using this method can help you organically map connections starting with your current partnerships. This approach can identify commonalities between organizations and connections to potential partnerships.

Who are the organizations in your ecosystem?

- Are there any relevant city government offices or community organizations that you have not reached out to yet? Think about community players that have been historically marginalized.
- Is there a city government office or agency involved in civic tech and data?
- How active is your community foundation?

Organization Characteristics

What role do they play?

 What level of involvement do they have in the space (e.g., communicate mission, describe the organization, provide details on organization size and scope)?

Connectivity and Relationships

How do the organizations you mapped interact with each other?

 The diagram on the previous page lists potential connections (e.g., funding, social networks, resources, locations, subject matter, and formal collaborations or partnerships) between actors.

What types of events occur (frequency and structure)?

Are there relevant boards or committees that make decisions in this space?

How is each organization or partnership funded, and what do funding relationships look like (partnerships and projects)?

IV. Choose a Data Collection Methodology and Mapping Software

Now that you have the purpose, scope, and budget for your ecosystem mapping project, think about how you will collect the data. Methodologies include:



Your data collection method should fit your project scope, budget, timeline, and staff capacity. If the intent is to form new connections, take an interactive approach. Interviewing partner organizations about their networks or hosting a group mapping session can foster conversations and bring together potential partners.

Alternatively, groups may want to more quickly inventory group members, or lack the capacity to host a session or conduct interviews. Creating a database, shared spreadsheet, or online form can help ecosystem mappers crowdsource connections. The Alamo Regional Data Alliance created a portal for organizations to input information such as organization type, function, location, and willingness to participate in civic tech.

If you would like to facilitate your own ecosystem mapping session, we include a step-by-step guide by FSG's <u>Guide to Actor Mapping</u>.

After you have completed the initial data collection, you can begin mapping, or visually representing those connections. There are many visualization tools for ecosystem mapping. A quick search for "stakeholder mapping" will return at least a dozen tools. For our CTDC mapping, we analyzed four tools and decided to go with Kumu, based on the functionalities and features we prioritized below. See <u>appendix A</u> for a detailed analysis. If you would like to use Kumu, it has a <u>data structure guide</u> to help you structure your data into a spreadsheet.

	Functionality						Features		Ownership		
Тооі	Customizable fields and clustering	Stakeholder analysis metrics	Import/ export via Excel or csv file	Individual changes to each actor/ connection	Image options	Search bar	Structure for inputting data	Geotagging	Free	Account needed	Multiple users/ crowdsource
Civic Graph		•		•		•	•	•	•		•
Connect the Dots		•	•				•		•	•	
Kumu	•	•	•	•	•	•		•	•	•	•
Gephi	•	•	•		•	•			•		

Once you choose the tool, you can import your data and design your map. You should account for time to organize and design the map, especially if you are new to the process. Organizing and designing the map can become most time-consuming portion. Some examples of ways to organize your Kumu map are <u>here</u>.

* Note: these features are as of May 2018

V. Analyze Your Ecosystem Map

An ecosystem map is the beginning of a journey. Reflecting on your map or process can be an opportunity to brainstorm new ideas for collaboration or recognize areas in need of growth. Below are some guiding questions for analyzing your map.

Are there any silos?

Does the data look correct? Are there any challenges with data quality?

Are there opportunities for new collaboration?

Is any sector not represented?

What skills are missing?

The Seattle NNIP partner saw that her network was heavily represented by researchers and lacked technology partners. There were a lot of questions, including these: Why were there actors that were not connected to each other? Why were there big clusters of actors in other cases? The map showed gaps in data entry. Some organizations were not labeled correctly, and other organizations were not included. Before you share your map publicly, do your own analysis with our guiding questions to make sure your data are accurate.



What makes some connections weaker than others?

Resources aside, how can you improve connections between organizations or people?

Whether you collect data for

partnerships or relationships

could form.

the map independently or collaboratively, information will be missing. A visual map can show gaps where

Your initial analysis might illuminate gaps in funding or highlight areas for more community engagement. Once you have shared with your partners, consider sharing this map with your community and encouraging an open dialogue about potential partnerships, funding, or other collaboration. By looking at the potential or existing relationships with the data, tech, government, advocacy, and philanthropic communities, individuals and groups can identify assets or gaps in their ecosystem that cause challenges for low-income residents.

Through ecosystem mapping, groups can form civic tech and data collaborative, identify and build on shared priorities, and address challenges with increased resources.

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Civic Tech & Data Collaborative

Appendix A: Tools and Examples for Ecosystem Mapping

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Introduction

Ecosystem mapping allows civic tech and data practitioners to visualize and understand the actors and relationships in the civic tech and data sectors. Ecosystem maps should identify key players in a tech and data space—funders, coders, organizations, local government—and highlight their connections to each other, to different projects, and to funding streams. These mapping efforts should ideally be collaborative and iterative, incorporating new information as the landscape changes.

This appendix has two sections: tools for mapping ecosystems and examples. The first section describes four tools for mapping ecosystems that enable users to input their own data and generate a network map or visualization. The second section provides examples of reports and maps to inspire users who are mapping their ecosystems. These include some reports that focus explicitly on civic tech and/or data ecosystems and others that describe local, national, and global networks.

The tools described below are software or online platforms that allow users to generate their own network maps or include additional information. The two main components of a network ecosystem map are the actors and the connections between actors. **Actors are generally** represented by nodes, **while connections** are edges or lines.

Tools for Mapping an Ecosystem

As listed in Table 1, these tools illustrate the range of resources available for free to organizations or individuals looking to document civic tech and data ecosystems or any other networks. Authors reviewed these tools in Spring 2017.

 Table 1: Summary of Tool Characteristics

	Functionality							Features		Ownership		
Тооі	Customizable fields and clustering	Stakeholder analysis metrics	Import/ export via Excel or csv file	Individual changes to each actor/ connection	Image options	Search bar	Structure for inputting data	Geotagging	Free	Account needed	Multiple users/ crowdsource	
Civic Graph		•		•		•	•	•	•		•	
Connect the Dots		•	•				•		•	•		
Kumu	•	•	•	•	•	•		•	•	•	•	
Gephi	•	•	•		•	•		•	•			

Civic Graph

http://civicgraph.io

Description

Civic Graph is an open-source project powered by Microsoft that is available to users free of charge. It has a public version online with predetermined fields and layout, but users could adapt the code to create a customized website. It is an interactive tool that enables users to add information to a cumulative online database of the civic tech landscape. Users can generate networks using existing data or add new information.

Components

Data in the platform represent entities-- - either organizations or people. For each entry, the program prompts users to include:

- Entity name
- Location
- Type of organization (government, nonprofit, for-profit, individual)
- Employment
- Field of work (i.e. Social Services, GovTech, Smart & Resilient Cities)
- Size (measured by number of employees and Twitter followers)
- Social media handles

You can then specify the types of connections between two entities: Funding, Data, Employment, or Collaboration. Users are able to filter for specific types of actors or connections. Visually, users can toggle between "number of employees" and "Twitter users" to scale the size of the dots. These measures serve as proxies for organizational capacity and social influence. The tool features a "network" view which shows the entities color-coded by organization type and a "map" view where users can see the aggregate number of entries when zoomed out and then drill down to see the geographic distribution of interconnected partners and the connections between organizations.



The map shows a partial geographic and social distribution of the Civic Tech and Data Collaborative network. It also shows how the Civic Graph interface reflects different types of organizations and relationships.

Comments

Users are able to visualize patterns of different connections interact in the civic tech space. The categories and fields are pre-set, which makes it easier to use, but not easily customizable for a specific project or context. Contributing to a public space enables you to crowdsource knowledge, but it may contain entries not relevant to your analysis. Additionally, users are not able to import or download data from the tool.

ConnectTheDots

https://databasic.io/en/connectthedots

Description

ConnectTheDots is an online tool that provides users a simple and accessible way to visualize networks. By analyzing the connections created between data points, ConnectTheDots generates a network diagram based on the information inputted by the user. Users are able to download both the final diagram in png, svg, and gexf formats and the accompanying table as a csv.

Components

- Nodes the dots are the central organizing units that are connected to one another
- Edge connection between nodes
- Degree number of connections for a node
- Centrality a score of how much of a "connector" the node is. A high centrality implies that the node has a high level of connectivity, i.e. many connections flow through the node.

Comments

The easy-to-use platform is great for beginners. Users can import their own data file or paste rows from an Excel document-- the website shows necessary Excel formatting. Additionally, the website has an <u>Activity Guide</u> to explain terminology and basic analysis for first-time users. Here is an example of a simple network map for the characters of Les Miserables.



Gephi

http://gephi.org

Gephi is free software available for users to download and install locally. The software allows users to manipulate the representation of data—colors, shapes, structures. The products are interactive visualizations of up to 100,000 data points (nodes) and 1,000,000 connections (edges). There is a plethora of layouts to apply to datasets, and Gephi includes features such as network evolution over time, cartography options, filtering abilities, and data table creation/manipulation options.



Components

Gephi generates visualizations based on nodes and edges. A "node" is a data point that could be used to represent actors --organizations, users, projects, funders--while "edges" show the connections—financial, social, organizational— between nodes. The entity types and attributes are not pre-set as with other tools like Civic Graph.

- Nodes data points
- Edges connections between data

The program includes the standard metrics for social network analysis (closeness, diameter, clustering, etc.).

Comments

Gephi is extremely comprehensive visualization software that allows users to input data and generate multiple layouts, units of analysis, and exportable reports. The program supports more complex and customizable functions with imported data. However, it does not allow for multiple users to edit and update data.

Data Driven Detroit (D3) has used and <u>catalogued</u> their networking mapping experience with Gephi. Using data from the Urban Innovation Exchange, D3 generated a protocol document to introduce users to the Gephi interface, preparation of data for import, visualization basics, and simple sample visualizations and maps.



Kumu

https://kumu.io/

Kumu generates a web of connections based on selected organizational attributes. Users upload data and descriptions to Kumu's online platform and can organize the types of elements and connections involved in the network. The variability of the platform gives users immense freedom in creating maps. To help users, Kumu includes a <u>data structure</u> <u>guide</u> to help organize data in a spreadsheet prior to importing into the tool.

Components

Users can select filters based on the structure of the dataset imported. For example, "elements" or units of analysis could be people, organizations, or opportunities. "Connections" could be partnerships or projects. Additionally, the ability to "cluster" allows users an extra level of analysis by revealing connections not highlighted by filters.

To explore the tool, we created an <u>ecosystem map</u> of our Civic Tech and Data Collaborative (CTDC) convening in Kansas City. Our elements were people, organizations, their project role, events, cities, sector, and networks. The connections included the city and sector. We could filter by whether the organization was a CTDC partner, and then look at the connections by city. The functionality of the tool allows us to layer filters to reveal the underlying complexity of how organizations interact with one another. Our project-specific map attributes included:

Filters (Elements)

- Person
- Organization
- CTDC member
- CTDC national partner
- CTDC convening session
- Event
- Networks
- City
- Sector

Filters (Connections)

- City
- Sector

For a more complex map, we looked at Data <u>Driven Detroit (D3)</u>'s map of their network of urban innovators. Their ecosystem map included an extensive web of projects with descriptions of actors, organizations, and people. The Kumu tool allows users to add explanatory text to the diagram, which can be helpful for contextualizing and communicating network maps. The maps below show more extensive options for elements and filtering and the options available for adding descriptive text.



Comments

The tool requires the user to create an account, allowing the user to update and customize data and analysis. The software is initially difficult to navigate but allows for a wide array of categorization and representation options. Additionally, the Kumu site provides a support document for structuring input data. This tool can also be helpful if you are crowdsourcing data from multiple organizations. We used a Google Sheet to collect information in a central respiratory before inputting into Kumu. There is an additional paid option that allows users more options.

Example Analysis of Civic Tech Networks

To help see how ecosystem mapping works in practice, the following section includes examples of mapping analysis, visualizations, and sample maps. The examples show various aspects of the state of civic tech and data, different tools that can be used, and the value of documenting networks. Some examples describe a specific ecosystem (St. Louis StartUp Ecosystem Map), while others provide an overview of the state of the civic tech field. Each includes an element of network visualization. However, the reports are static— users are not able to import their own data or manipulate the existing data set.

St. Louis Tech StartUp Ecosystem Maps

https://www.itenstl.org/wp-content/uploads/2017/03/ITEN_2016_STL_Tech_Ecosystem.pdf

ITEN, an entrepreneurial support group, created a static map that captures a snapshot of the tech startup ecosystem in St. Louis.

Components

ITEN's map includes organizations, investors, connections, and explanations of the various initiatives in St. Louis. The inclusion of explanatory bubbles makes the graphic more accessible and usable for someone looking to understand the scope of the tech landscape in St. Louis. For example, the four spheres—funding, facilities, acceleration, community resources—are components of the tech ecosystem.

Comments

This map focuses more on the relationships between actors versus the specific attributes of each individual actor. There are explanations of the overall components of a civic tech landscape, but the nodes are all uniform size and lack descriptions. Ultimately, this structure emphasizes the intersections of organizations, rather than organization-specific details.

The St. Louis civic tech map is an example of an output that a city or partnership may generate as point in time documentation of their local ecosystem or survey participation, funding opportunities, interest, or existing investment in civic tech and data in a given city.



Knight Foundation Civic Tech Tool

http://knightfoundation.org/features/civictech

The Knight Foundation and Quid published a report and interactive visual based on an assessment of the civic tech landscape. The interactive visualization allows users to explore financial streams, areas of focus, and civic tech actors. The two major themes are: open government and community action. *Open government* refers to organizations or projects that take a top-down approach to publicizing and making accessible government data. *Community action projects* build from the bottom-up to increase community capacity through peer-to-peer information and skill exchange. The Knight definition of civic tech is broader than most, including peer-to-peer local sharing, civic crowdfunding, and neighborhood forums, which are categorized as community action projects.

Components

Organizations or projects are represented based on their relative capacity and impact in a given space. Issue areas and initiatives are deemed "clusters." The documentation and representation of organizations shows the relationships and funding streams between major organizations, initiative areas, and funding and resources. The report enables users to sort nodes by theme (open government and community action projects), cluster, or organization characteristic. The list below shows the options for sorting:

Clusters

- Visualization & Mapping
- Data Access & Transparency
- Information Crowdsourcing
- Civic Crowdfunding
- Voting
- Neighborhood forums
- Data Utility
- Public Decision Making
- Resident Feedback
- P2P Local Sharing
- Community Organizing

Organizations

- Investment broken down by type (private, grant, no investment) and size (small, medium, large)
- Each sphere shows the investment size, type, year founded, similar organizations, and connections to other actors

Comments

The visualization is multi-layered with intersecting themes, clusters, and organization nodes. The complexity of the map provides detail on how each individual node interacts with other actors. Additionally, users can see summaries of the investment and infrastructure (number of organizations and investments) for each cluster or subject area. The report offers clear figures for investment and participation in the civic tech space. However, the report is static and does not allow users to adapt or augment the organizations in the tool.



Omidyar Network's Engines of Change Report

http://enginesofchange.omidyar.com

Description

The Omidyar Network and Purpose created a report and interactive data visualization comparing the rise of civic tech to 21st-century social movements. They define civic tech as "incorporating any technology that is used to empower citizens or help make government more accessible, efficient, and effective." The research used data from 2013 and 2015 social media sites including Twitter, HackerNews, GitHub, Google Trends, and Crunchbase to show how the civic tech sector has changed in popularity, engagement, action, vision, and identity.

Components

They generated a set of criteria that describe and measure a social movement and applied them to civic tech, including:

- Scale and/or Growth
- Grassroots Action
- Sustained Engagement
- Shared Vision
- Collective Action
- Shared Identity

Additionally, to analyze each of these areas, the report uses Purpose's Movement Measurement methodology to capture civic tech involvement through five participatory indicators -- interest, conversation, action, affiliation, and funding.

For example, to measure "scale and/or growth" the report applied social media indicators—interest, conversation, action, affiliation, and funding—to social media mentions between 2013 and 2015.

To measure "grassroots activity," the report used an "affiliation" indicator based on the number of Meetup events happening in a given geographic area, GitHub participation, and Twitter.

An additional data exploration tool allows users to interact with the movement elements and data. Interactive visualizations accompany the discussion of each metric. Some examples include:

Graphs show Twitter activity, meetup/civic tech events, and Github contributions as indicators of "collective action."

Analysis of "Average Tweeter Overlap with Topic" looked at how often people tweet about multiple civic tech topics. The intent was to measure common messaging and a shared understanding and vision of civic tech.

Comments

The overall finding of the report is a need for a coherent and comprehensive view of civic tech. If the sector can better conceptualize and communicate its mission and sense of shared identity, it will capitalize on growing interest in the field. Additionally, there are calls to action for specific audiences including: organizations, governments and cities, practitioners, startups, and investors. Here, ecosystem mapping can help identify potential areas of collaboration and points of entry.

Network Impact's Leveraging Data and Tech for Healthy, Equitable, Sustainable Communities

http://networkimpact.org/leveragingtech/#notes

The Network Impact report focused on the needs of the social sector to assess and document networks of data users and available data. Their analysis includes various types of civic tech and data components, including mapping and analytic tools, data websites and local and national organizations. Leveraging data was found to be critical in expanding the impact and effectiveness of the sector. Additionally, the main three findings presented by the research were:

Data ecosystems can help identify data networks and inform users and practitioners to better leverage connections. Each step in the data process can be improved with a better understanding of data and or data infrastructure—access, standards of use, collection-- analysis, and information sharing.

Understanding the role data plays in the sector can expose areas of need or areas of overinvestment. A clearer picture of data use can help shape initiatives using data to advance equity and social justice.

Increasing data literacy would empower the sector as a whole—from the individual level up.

The Network Impact report concludes that bolstering data ecosystems would be key to advancing the social sector. Furthermore, in investing in an ecosystem, organizations should prioritize four areas – data infrastructure, technology infrastructure, organizational capacity, and research and discovery.

Components

The report diagrams the components of a social sector data ecosystem. The stakeholders are actors or entities in the civic tech space, comprising individuals, communities, organizations, funders, and governments. The elements of the ecosystem are shown radiating outward from "data". A data ecosystem should document these elements, either explicitly with commentary or through the visualization of actors and relationships.

The report included a section on the elements of a data ecosystem and the tools for analysis and visualization that individuals or organizations employ. It also included organizations and their specific roles in the analysis. The categories of tools included:

- Collaboration
- Data Analysis
- Data Collection
- Data Visualization
- Evaluation
- GIS Mapping
- Multi-feature platform
- Open source

- Process mapping
- Sensors
- Storytelling



The "Knowledge and Collaboration" tools evaluated ranged from software (ArcGIS) to broad methods of analysis (Community Health Needs Assessments) to data intermediaries like (Data Driven Detroit). Additionally, Network Impact ranked tools on their usability and innovativeness; it found that the most innovative tools required the greatest amount of user knowledge and expertise to use effectively.

Comments

The report indexes and analyzes a variety of data tools, techniques, and practitioners. It also contains a written analysis of the importance of building tech and data into sector capacity. The increase in data literacy can help bolster the missions and effectiveness of groups in the social sector.

Scraping the Global Civic Tech Community on GitHub

http://sbaack.com/

A PhD student at the University of Groningen in the Netherlands, Stefan Baack studied the "datafication" of the world—the increasing quantification of culture and society. He studies the intersection of civic engagement, data, and journalism. His experiment "Scraping the global civic tech community on GitHub, part 2" is an update to a prior look at GitHub as a proxy for civic tech participation across sectors.

Components

Node-the user

 The color of the node corresponds to the organization the user belongs to. The size of the node reflects the number of follows a user has

Repositories

 "repos" are locations for files to be stored and accessed, including open-source projects

Comments

Baack noted is that organizations with more connections in common appeared clustered, like Code for America and gOv. These two dominant groups are clustered together on the map, while more country-diverse groups occupy a separate space. A caveat identified by Baack is that the GitHub follower analysis is a proxy for exchange, while the contributor network is a proxy for collaboration. Analyzing repositories, Baack restructured the ecosystem to reflect collaboration between users. When the map was restructured, it showed the collaborative networks of certain groups, i.e. gOv works with European groups more than US, despite being closely clustered with Code for America.

The post also includes a listing of the most popular repositories and a map showing the geographic distribution of hackers around the world. The United States and Europe had the largest concentration of civic hackers.





Civic Tech & Data Collaborative