



**Code for America Brigade:**  
**Connecting People, Places, and Apps within the Civic Hacker Community**  
U.C. Berkeley School of Information  
Master's Project Final Report  
By [Kari McGlynn](#) - Advisor: Prof. Robert Glushko

## **ABSTRACT**

Code for America Brigade is an open-source platform for connecting the work of Code for America (CfA) to the larger Civic Hacker community of volunteers interested in deploying civic apps that promote positive change. The web application, [brigade.codeforamerica.org](http://brigade.codeforamerica.org), currently hosts nine reusable civic apps with instructions and links to resources to help users stand up a local instance. More importantly, there are currently over 250 registered members in over 80 locations who have formed nearly 40 brigades. They represent budding communities of civic leaders within cities across the U.S. who are inspired by Code for America's work, and are using the Brigade platform to come together, share their skills, and deploy apps. By connecting individual people to groups within their communities, and individual groups to a national movement of civic app development, Code for America Brigade aims to galvanize the sporadic work of isolated civic hackers into a larger, all-inclusive movement.

## **TEAM**

In the Fall of 2011, as part of Prof. Robert Glushko's Information Systems and Service Design (ISSD) class at the School of Information, Kari McGlynn lead a team including Gilbert Hernandez (MIMS 2013), Jamie Kong (MBA 2012), Karen Rustad (MIMS 2012), and Meng Wang (MIMS 2013), on a project for Code for America entitled "CFA Everywhere", that laid the foundation for this final project.

In the spring of 2012, Kari McGlynn continued work on the project, now entitled "Code for America Brigade", for his Master's Thesis at the UC Berkeley School of Information. Kari worked alongside Code for America staff as a UX Consultant for the Brigade, contributing interaction design recommendations, and assisting in the design, development, research, and refinement of the application.

## BACKGROUND

Code for America, is a non-profit in San Francisco whose mission is making city governments more efficient, transparent, and accountable to the needs of their residents through the help of technology. Each year, Code for America organizes a fellowship program where small teams of selected programmers, designers, and other technologist fellows go into Code for America partner cities to help local government and community groups solve problems by building web and mobile applications. In 2011, the Code for America fellowship program's first year, there were four client cities and twenty fellows. In 2012 the program expanded, with eight cities and 26 fellows participating.

In addition to helping client city governments solve specific challenges with technical talent, the broader goals of the fellowship program include:

- Cultivating the next generation of public sector technology leaders
- Introducing city government workers to a networked, web-centric and open approach to problem-solving
- Encouraging experimentation through “skunkworks” projects
- Introducing lightweight, simple technology that can help with internal government functions
- Facilitating collaboration between cities, including sharing applications and setting technology standards

In general, Code for America fellows “spread the gospel” of startup culture—the values of iteration, agility, continuous feedback, and responsiveness to users' needs—to the government leaders and staff within their client cities.

Code for America's fellowship program has been highly successful in creating interesting, useful applications for cities. It has also succeeded in generating attention and press for Code for America, as well as helping with raising funds from prominent philanthropists and organizations such as the Macarthur Foundation. However, in the fall of 2011, Code for America faced two challenges that our ISSD project was tasked with addressing:

1. They had no infrastructure to coordinate or handle volunteer contributions from individuals outside the organization, despite an “enthusiasm surplus” including more than 550 fellowship applicants and over 10,000 social network fans/followers.
2. Over the next 3-5 years they were planning on dramatically expanding the fellowship program, but they were concerned that even if they marshaled the resources needed to

do this, with the current program structure it would be unlikely that they could ever scale the program to reach smaller cities and towns.

Working closely with the previous CTO of Code for America, Dan Melton, our team blueprinted a new channel for Code for America outreach and development alongside the existing fellowship program. We proposed using a web application, full-time community manager, and various other Code for America resources to recruit and coordinate volunteers, technology enthusiasts, and community organizers in cities and towns across the country. Tentatively called "Code for America Everywhere," this community website would support volunteer civic tech projects, events, and local networking, in essence creating local Code for America chapters. With some guidance from a well-designed platform, the belief was that this self-organizing community could spread the broader goals of Code for America with a speed and reach beyond the means of the fellowship program alone.

In early 2012, Code for America made the decision to move forward with this proposal, having acquired funding for the initiative and hiring Kevin Curry as Program Director. The project was re-named Code for America "Brigade" as a reference to fire brigades—the network of public and private organizations that provide fire protection to different jurisdictions across the United States. A logo was commissioned featuring a reference to the iconic helmets of these firemen:



While development of the brigade platform would begin at an inception meeting at Code for America in January 2012, significant prior research and design formed a foundation from which to build our assumptions on.

## **PRIOR RESEARCH FINDINGS**

### **Research Methodology: Open-Source Development Interviews**

We conducted primary interviews with volunteers from projects both technical (i.e. open-source development projects and hackathons) and non-technical (i.e. Habitat for Humanity). While we initially assumed the system would need to include a project management component, we soon realized that a tool for assigning and tracking the granular tasks and responsibilities of a volunteer project was not the most desired feature. Most developers already have project management tools that they like to use for different facets of a project, such as Basecamp, Pivotal Tracker, Github, etc. And the same was true of non-technical volunteers, who typically managed their projects through less specialized tools such as mailing lists. In speaking with volunteers, over and over again we heard that the most important feature and motivational factor was the opportunity to be a part of a community of people with similar interests.

After our interviews, and taking into account our other key insights, we decided to focus on designing a platform that would encourage and support community development. The platform could link with other common project management tools (e.g. we could display notifications of a project's progress through Github's API) but its main purpose would be to help people connect with others in their community who were interested in open government and wanted to collaborate on projects that were consistent with Code for America's mission. This online platform should be designed to facilitate and reinforce offline community building and collaboration.

#### **Key Insight #1:**

- **The platform should be a community organization platform instead of a project management platform.**

### **Research Methodology: Social Network Analysis**

Code for America projects are not tackled by programmers alone, but rather by programmers, designers, researchers, government liaisons, community leaders, and others. Our analysis of Code for America's fellowship applications and Twitter followers also bore this out. Most of Code for America's deferred applicants listed skills and interests in graphic design, art, user experience, project management, community activism, and many other non-coding activities, and the majority of Code for America's followers on Twitter appeared to be designers or public policy enthusiasts. In fact, at that

time, only 279 of Code for America's over 6000 Twitter followers listed a programming-related keyword ("javascript", "php", "ruby", "python") in their Twitter profile, while design-related keywords were an order of magnitude more common.

**Key Insight #2:**

- **The platform should be designed for multiple types of volunteers, not just developers.**

**Research Methodology: Fellow and Staff Interviews**

At the beginning of the project, we envisioned that Code for America would use the platform to actively manage the efforts of volunteers to complete Code for America projects—practically as if they were fellows. However, after interviewing several fellows and staff members, we realized that they lacked the additional bandwidth to manage external projects in addition to their own. Instead of actively defining and managing a large number of projects, Code for America could more effectively scale its impact by bringing its supporters together, providing them with resources to self-organize, and rewarding them for their progress.

We learned from our interviews how difficult it can be to organize civic hacking at the local level on one's own. Local civic hacking enthusiasts struggle with building legitimacy for their events and obtaining resources such as venues or speakers. They also have difficulty finding collaborators with needed skills (i.e. coding skills) in their communities because it can take a long time to build awareness and network within a community. Often times, local civic hacking movements are also highly dependent on one main leader to drive the movement. If this person loses passion or burns out, the movement will fizzle out as well. As a national organization, we noted that Code for America could provide much needed support to these local civic tech enthusiasts. Code for America has the brand recognition, legitimacy, network, and connections to help local affinity groups succeed in their projects. As illustrated by its thousands of Twitter followers, it has already built a large group of people interested in open government; the individuals in that group simply need to connect with each other to turn into a real community.

**Key Insight #3:**

- **Code for America's role in the platform should be that of a catalyst helping to unlock the potential of supporters around the country.**

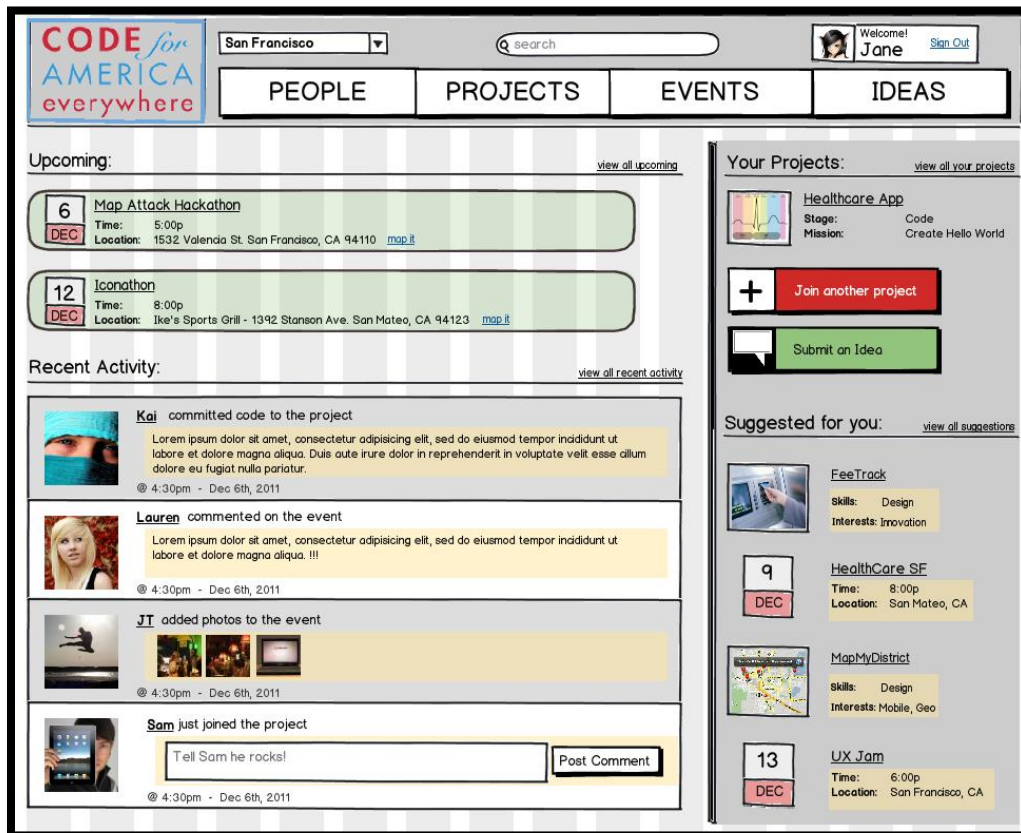
## PRIOR DESIGN

Our initial prototype combined elements of community organization platforms such as Facebook, Kickstarter, Meetup, and Github. The larger platform was sub-divided by location, with users seeing community content relevant to where they lived.

The key sections of the platform included:

- PEOPLE: A section for discovering and connecting with other users
- PROJECTS: A section for finding and joining a project and committing to project tasks
- EVENTS: A section for discovering local events such as meet-ups or hackathons
- IDEAS: An idea-sharing mechanism where people can view, submit, and vote on project ideas

In addition, the prototype included many social features throughout, such as user profiles, avatars, a commenting system, and activity streams.

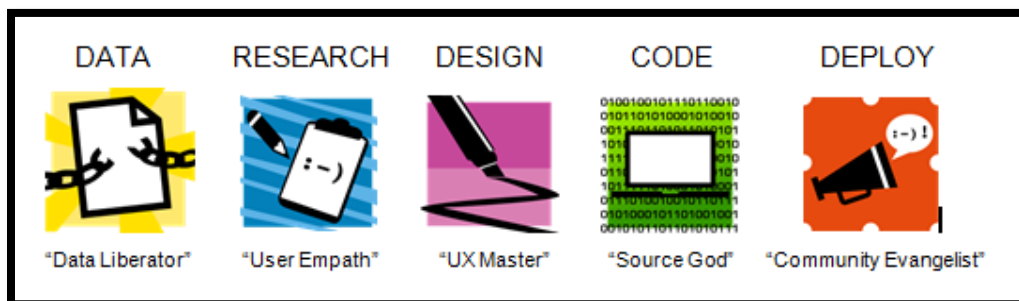


Prototype of User Dashboard



### Prototype of Individual Project Page

Another key feature of the initial design included a taxonomy for categorizing project tasks/roles. In order to actually join the project we wanted to force users to commit to a particular task, forcing a level of accountability as the “cost” of belonging. In order to encourage a variety of users to commit to tasks, we wanted to surface the fact that Code for America projects require a variety of skills beyond simply coding.



### Proposed Taxonomy for Categorizing Project Tasks/Roles



## TRANSITION TO LEAN STARTUP METHODOLOGY AND AGILE DEVELOPMENT

While the current design concept was highly informed by our previous work in ISSD, transitioning from an academic exercise to an actual development project required re-evaluating every aspect of our proposed design. During the academic phase of the project, Code for America staff imposed few constraints on our design, and as one might expect, we produced an ambitious proposal for a highly-advanced product with little consideration of what it would cost to develop. Now that an outside development team would be hired to help build the application, we needed to consider what features of the platform were “must have” for the initial release, and what features could be added incrementally during subsequent releases. In the lingo of Eric Ries’ [The Lean Startup](#), we needed to define the requirements for the “MVP” or “Minimum Viable Product”.

### Inception Event

In early January, we held an agile inception event at Code for America’s office bringing together the various stakeholders, including myself, Kevin Curry (Brigade Program Director), Jack Madans (Program Coordinator), Jennifer Pahlka (Executive Director), Abhi Nemani (Director of Strategy and Communications), Ryan Resella (Technical Lead), Lauren Reid (Marketing Coordinator), and other former fellows and staff. The event was led by iSchool alumnus Parker Thompson, a Director of Business Development at Pivotal Labs, who had extensive experience guiding agile inception events for successful start-ups. The goal of the event was to define the essential “user stories” for the minimum viable Brigade product—those features that would need to be present in the first release.



In the course of a working day, through a process of discussion and sometimes active debate, we explored our ideas and assumptions about the proposed platform. In several phases of index card generation in the style of affinity diagramming, we each contributed to piles representing different categories of goals, risks, users, and use cases associated with the project. Finally, using dot voting, we prioritized product features, and by the end of the event we had created the preliminary user stories for import into Pivotal Tracker.



Piles of “Risks” from the Agile Inception Exercise

| USER                       | STORY   |  |  |   |  |  |   |  |
|----------------------------|---|--|--|---|--|--|---|--|
|                            | Find an app   | Learn about app  | Find collaborators                       | Communicate with collaborators  | Commit to participate (app / brigade / challenge)                                  | Organize event   | Declare a challenge   | Manage content   |
| <b>CIVIC HACKER</b>        |   |  |  |   |  |  |   |  |
| FEATURES / FUNCTIONALITY > | Browse apps   | View app page (pulls in civic commons metadata, link to github repo, usage data, etc...) | By app (see also: find experts)          | View recent conversations on app or brigade page (pulled from Google Group) | Register with site (email / name / photo)  | Add venue to "Venues" section / page for App / Brigade | User can challenge a Brigade to standup App X   | Users can create and edit content for an App   |
|                            | Commit to task(s) on existing app                           | View "recipe" (detailed steps) for standing up app                                       | By location                              | Join Google Group (email list)  | Connect via Facebook, Twitter (LinkedIn? Github?)                                  | Browse Venues  | User can challenge a Brigade to solve a problem   | <i>Admin can create a homepage for an App (Start an app?) for their Brigade location</i> |
|                            | Start new app in their location & Commit to task(s)         | App page shows Brigades that have deployed apps  | By skills                                |   | Commit to steps A - C for app X for brigade Y                                      | Link Meetup group to Brigade page                      | User can commit to challenge X  |  |
|                            | Tell us if their needs aren't met by apps we currently show | Associate (link) an existing Brigade to an app   | Tell us if they can't find collaborators |   | Email is sent to Google group announcing commitment (including steps committed to) | View a list of all scheduled events for App / Brigade  | User can invite people to Support / Commit to Challenge   |  |
|                            |   | <i>Admin for app can add text, video</i>   |  |   | User is asked to introduce self to group (Google Group)                            |  | User can start a new Brigade if one doesn't already exist (from those who have committed to challenge?) |  |
|                            |   | <i>Admin for app can add "recipe" (task list) for standing up an app</i>                 |  |   | User is asked to share commitment with social network                              |  | Users who support / commit to challenge are notified of progress  |  |

User Stories for the “Civic Hacker” (Primary) Use Case

## A REVISED “OPEN” DESIGN STRATEGY

While our prior strategy was firmly focused on community organizing, the prototypes we designed attempted to accomplish this through numerous advanced social features that, a) already exist in other tools, and, b) are costly to develop from scratch. If the goal was to create a commercially superior product, we might want take the time to develop our own proprietary versions of these features to establish a competitive advantage in the marketplace, but clearly this wasn't to be our main objective in building the Brigade.

Over the course of the inception event, Code for America's broader values became evident in the open, collaborative design strategy the staff and fellows advocated. Two key themes emerged during this time with regard to prioritizing features and limiting the scope of this non-profit project:

### 1) Don't Reinvent the Wheel

Wherever possible, we opted for utilizing third-party API's and existing functionality, instead of building things from scratch. By starting small with easily implemented, off-the-shelf features, we could test our assumptions without expending a lot of resources building a custom feature that no one wants.

- **Civic Commons:** Instead of building a database for apps, the platform pulls existing app information from the Civic Commons API, further establishing this emerging marketplace for civic apps from around the world.
- **Gravatar:** Instead of building an avatar system, the platform makes another API call and pulls in a user's "global avatar" from the Gravatar service.

### 2) Don't Try to “Own” User Interactions

Many of the people who are most valuable to the Brigade effort are those who have already been organizing a civic hacking movement in their location. Similar to their project management tools, many of these groups already have their preferred tools for group communication—rather than building a complicated in-system messaging service the Brigade leaves that choice up to users.

- **Google Groups:** Instead of building a forum or messaging system, the platform encourages each brigade to sign up for a Google Group mailing list where all of that functionality is already available, and more importantly, can be self-managed.

## INTERACTIVE PROTOTYPE OF MVP

After the inception event, I began work on a medium-fidelity interactive prototype of the MVP using the web-based tool HotGloo. In contrast to the previous Balsamiq prototypes, this web-based tool allowed for remote collaboration and sharing of designs between myself, Code for America, and the third-party development firm.

View HotGloo Prototype: <http://karimcglynn.hotgloo.com/wf/978d878f#/uw8h4387b>

The screenshot shows a web application for the Code for America Brigade. The header includes the logo, a search bar for "Start hacking in" with a "GO" button, and navigation links for "LOCATIONS", "APPS", "CHALLENGES", and "ABOUT".


The main content area is divided into two sections:

- Join the Brigade!**: A call to action with a sign-up form for "full name" and "e-mail address", and a "Sign Me Up!" button. It also features social login options for "github", "f Connect", and "Linked In".
- Apps In Progress**: A carousel of three app cards, each with a progress bar and a "Commit to a Task" button:
  - Adopt-a-Hydrant**: 60% progress, Philadelphia, PA, 6 Contributors.
  - Public Art**: 80% progress, Austin, TX, 8 Contributors.
  - ClassTalk**: 40% progress, Santa Cruz, CA, 4 Contributors.

The footer contains two columns:

- @cfabrigade on twitter**: Two tweets with placeholder text and links.
- Latest News**: A news item dated "February 14, 2012" with placeholder text and a "See More..." link.

HotGloo Prototype of Home Page



Start hacking in \_\_\_\_\_ **GO**

LOCATIONS
APPS
CHALLENGES
ABOUT

Kan McGlynn | My Info | Sign Out

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## SAN FRANCISCO



Share via: [f](#) [t](#) [g](#)

32 Members



View All Contributors

4 Deployed Apps

[Public Art Mapper](#)  
[Adopt-A-Hydrant](#)  
[Class Talk](#)  
[Open Trip Planner](#)

### Apps In Progress

Public Art

80%

Commit to a Task

Adopt-a-Hydrant

60%

Commit to a Task

### Upcoming Events

|           |   |  |
|-----------|---|--|
| 12<br>MAR |  | <p><b>Map Attack Hackathon</b> <a href="#">Add to Calendar</a></p> <p style="font-size: x-small;">Time: 10:00am - 5:00pm<br/>           Location: CFA Office <a href="#">map.it</a><br/>           Description: Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.</p> <p style="text-align: right; font-size: x-small;"> <span style="border: 1px solid gray; padding: 2px;">Meetup</span><br/> <span style="border: 1px solid gray; padding: 2px;">Join</span> </p> |
| 05<br>APR |  | <p><b>Iconathon Jamboree</b> <a href="#">Add to Calendar</a></p> <p style="font-size: x-small;">Time: 10:00am - 5:00pm<br/>           Location: CFA Office <a href="#">map.it</a><br/>           Description: Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.</p> <p style="text-align: right; font-size: x-small;"> <span style="border: 1px solid gray; padding: 2px;">Meetup</span><br/> <span style="border: 1px solid gray; padding: 2px;">Join</span> </p>   |

### Forum

Mark all as read
🔄
🔔
☰
☰
Topics more ▾

🔍 Search

CfA Brigade - San Francisco
+1 1
Join group
Showing 4 of 4 topics (4 unread)

|   |   |  |
|---|---|--|
|  | ★ | <p><b>February Hackathon Logistics (1)</b></p> <p style="font-size: x-small;">by Pat Smith - 1 post - 50732 views - updated 7/19/11 <span style="float: right;">🔒</span></p>     |
|  | ★ | <p><b>Getting Data from the City (1)</b></p> <p style="font-size: x-small;">by SF_Rubyist - 1 post - 87474 views - updated 3/25/11 <span style="float: right;">🔒</span></p>      |
|  | ★ | <p><b>Another CfA Brigade Forum Topic (1)</b></p> <p style="font-size: x-small;">by Pat Smith - 2 posts - 87314 views - updated 2/25/11 <span style="float: right;">🔒</span></p> |

**HotGloo Prototype of Brigade Page for San Francisco**





During the event in San Francisco, I was an organizer and a participant—I set-up a tool projecting a live Twitter stream of posts using the #codeacross hash tag, I conducted casual interviews and observed participants, and I learned about a new tool called DataCouch developed by 2011 fellow Max Ogden that allows you to upload any spreadsheet and turn it into an API accessible data source for apps.

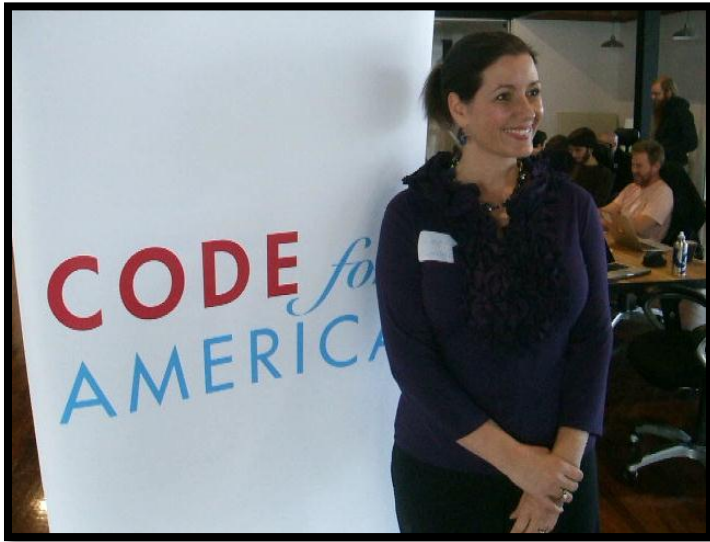


Revisit Twitter Visualization Tool



Civic Hackers at Work

I also interviewed our highest-profile guest of the day, Oakland City Council member Libby Schaff (District 4), seen here talking to Code for America Community Organizer Jack Madans about the event:



<http://db.tt/ufreLqou> (link to download video - 29mb)

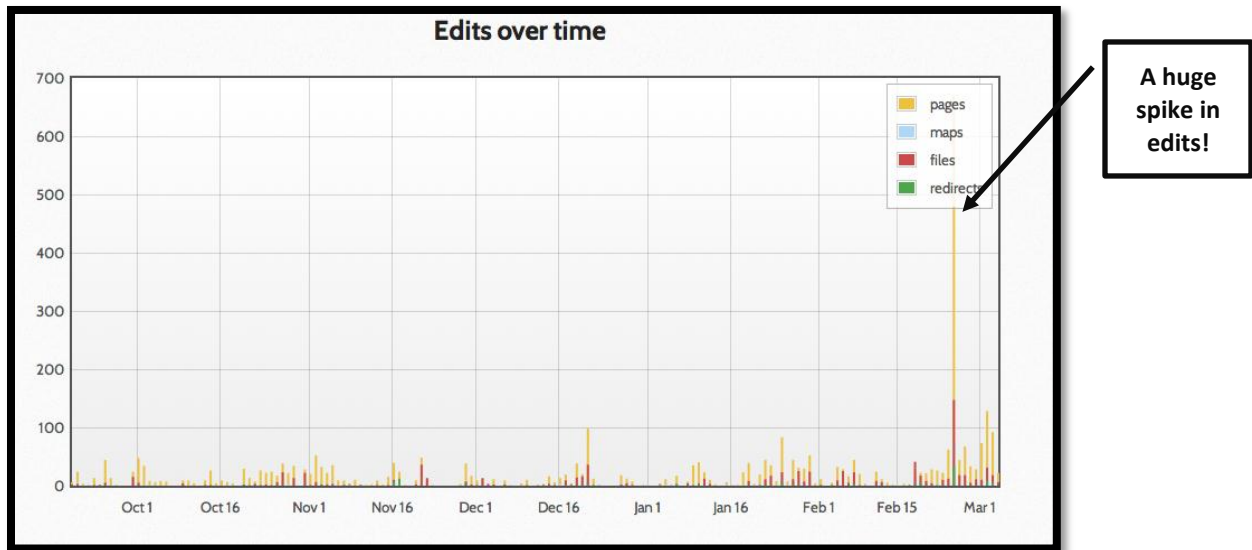
After the hackathon, I used a web service called BatchGeo to create a map of the #codeacross Twitter activity across the world during the week of the event:



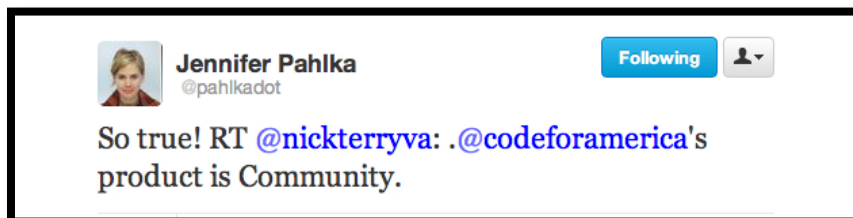


## Bringing Civic Hackers Together

One of the great accomplishments of this first Brigade event was in generating “momentum” among the existing civic technology projects already in progress in some cities. In Raleigh, NC a few civic hackers who had been working on an instance of a local knowledge sharing app called LocalWiki used the event to collaborate with approximately 50 additional volunteers. In one day this impromptu community added 633 page edits, 100 maps, and 138 new photos, nearly doubling the work that the app leaders had completed in the previous 6 months.



In addition to generating momentum for projects, this first Brigade event helped create community by linking together the efforts of civic technologists in different cities into a connected national movement. For example, during the event multiple cities were working on open data-related apps and had questions about creating their own open data catalogs. Meanwhile, a few other cities hosting events had already successfully deployed an open-source, open data catalog called ODC. The Brigade helped connect these cities into a lasting community of support around this open-source software project.



A Tweet from the “Code Across America” Event

## DEVELOPMENT LEADING UP TO SXSW LAUNCH

After the inception event, the selection process for the third-party developer that would build the initial version of the Brigade platform went on for several weeks. After making the decision to build the platform using the popular Ruby on Rails web application framework, Brigade Program Director Kevin Curry chose a development firm in Norfolk, VA called [We Are Titans](#).

During the development phase we collaborated via Pivotal Tracker and Basecamp. Both Kevin and the We Are Titans team were based in Virginia, so most of the collaboration happened asynchronously via e-mail, Basecamp message board threads, and shared files. As We Are Titans completed features such as the ability to sign-in, the ability to view a list of registered users, etc., we would test them via a staging site hosted on Heroku.

### Information Architecture Challenge

While the development team had a clear set of user stories from the inception event to translate into features for the Brigade site, some confusion emerged over the information architecture of the site. We knew we would have sections for 'Apps', 'People', and 'Brigades', however the variable of physical location presented some challenges that still persist. While one might assume that a 'Brigade' would have a single location associated with it, in the case of a metropolitan area such as the Bay Area it might consist of members from both San Francisco and Oakland, thereby making the location field a difficult choice. Instead, the current platform only assigns a location to 'Apps' and 'People', so a 'Brigade' can consist of individual members from various locations, and it can deploy apps in multiple locations.

#### *Database Model:*

| <b>A Deployed Application</b> | <b>A User</b>                                | <b>A Brigade</b>  |
|-------------------------------|--|---|
| Belongs_to:<br>A Application  | Belongs_to:<br>A Location                    | Has_many:<br>Deployed Applications                        |
| Belongs_to:<br>A Location     | Has_and_Belongs_to_Many:<br>Brigades         | Has_many:<br>Applications, through: Deployed Applications |
| Belongs_to:<br>A Brigade      | Has_many:<br>Applications, through: Brigades | Has_and_Belongs_to_Many: Users                            |

With this approach, forming a brigade consisting of members and apps in one location doesn't give you any type of ownership over that location within the platform. If others from that location want to join your brigade? Fine. If they want to start their own brigade? That's fine too. By making a 'Brigade' a purely virtual association, we let users self-organize into the groups of their choosing. Our end goal was to get users to come together and commit to deploying apps in their communities, and our hope was that groups would organize around the actual work on a specific app rather than the fact that they were in the same city. Rather than force all users in a location into one brigade, instead the system prohibits multiple versions of the same app in one location, thereby encouraging participants to consolidate their actual efforts (measured in terms of apps not brigades). While this information architecture fit with the goals and values of Code for America, as we would later learn, it did not lend itself to the clearest user experience for new users.

### Application Deployment Checklist Challenge

One of the greatest challenges in planning the Brigade platform was in choosing where the bulk of the administrative responsibility would fall. In this regard, no feature presented a greater challenge than the checklist of "tasks" associated with each application. Initially we envisioned this checklist of tasks as a sort of "recipe" explaining the individual steps that would need to be completed in order for a new instance of an app to be deployed. Ideally we wanted to have this list be so comprehensive that users could commit to individual tasks, and as those tasks were marked "completed" a status bar would advance showing the deployment was "XX% done".

**SHELTR.ORG DEPLOYMENT CHECKLIST**

The following items will need to be accomplished by teams as part of deployment.

- ✓ Convert your data from excel (.csv, etc.) into JSON format using a service like [Mr. Data Converter](#)
- ✓ Sign-up for a free [cloudmine account](#) and upload your JSON data to cloudmine.
- ✓ Set the environment variable in the 'routes.js' code to reflect your cloudmine API information.
- ✓ Sign-up for a free redis hosting service such as [RedisToGo](#)
- ✓ Set the environment variable in 'server.js' to reflect your Redis server URL
- ✓ Follow the local installation instructions on [Github](#)

Over time we realized that many of the apps in the Civic Commons marketplace lacked documentation. Thus, the knowledge of the individual steps necessary to deploy an app often remained trapped in the minds of those who originally created it. Further, the specific steps necessary to deploy an instance of an app in a new location could vary, depending on the availability of data, hosting solutions, etc. While it would be convenient to place the original developer's contact information directly on the application page, doing so would likely result in an annoying number of requests for support. And as much as we would like current or former CfA fellows to be available to assist the Brigade community, they each have their client cities and/or new jobs to attend to. Until a better solution emerged, the administrative burden would need to fall on the dedicated staff for the Brigade platform. Thus, prior to the SXSW launch, the community organizer for the Brigade was scrambling to populate the task fields for each application. Afterwards, the number of apps featured on the site had to be reduced to a smaller, more manageable number.

### **Minimum Viable Product**

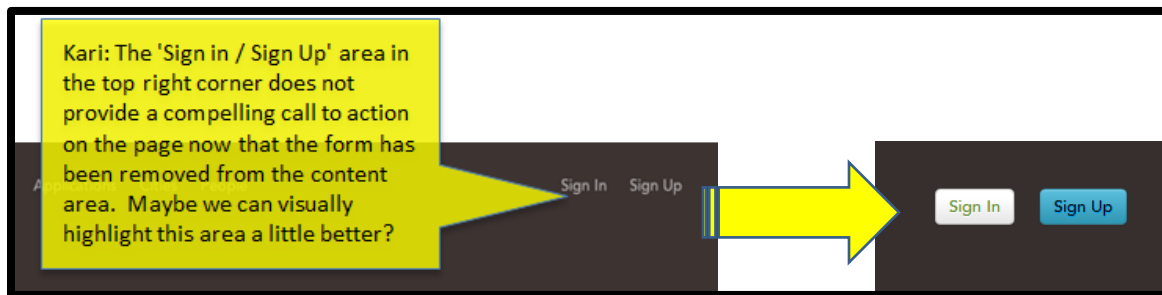
Nearing the launch date for the MVP, the basic features of the application included:

- the ability to sign-up with an e-mail or Github account
- the ability to create a basic profile with contact information
- the ability to join or launch a brigade
- the ability to view lists of the Apps, Brigades, and People in the platform
- the ability to view pages with more information about each individual App or Brigade
- the ability to view individual pages with more information about locations (Cities, etc.) within the platform and the different Apps and Brigades present there
- the ability to submit and view "Challenges" to the community
- the ability to share an App or Brigade with your social network via Facebook or Twitter

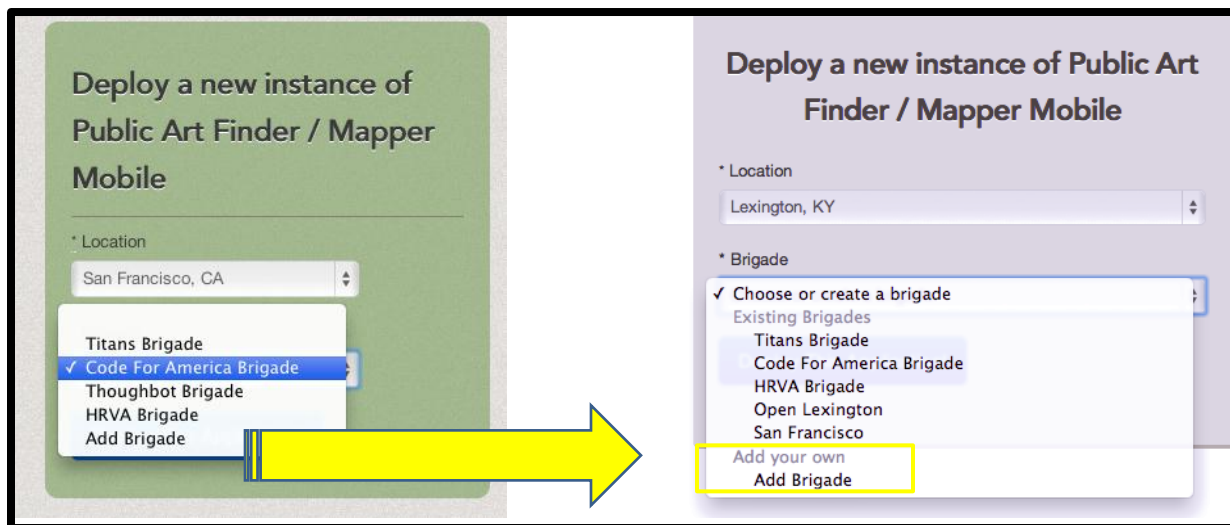
## SXSW INTERACTIVE - LAUNCH OF THE BRIGADE

On March 14<sup>th</sup>, Jennifer Pahlka announced the launch of the Brigade platform during her SXSW Interactive keynote address. As part of the team responsible for getting the site ready for public release, we were making small changes to the UI right up until the event, especially improving the calls to action for user registration and creation of local brigades, in order to take full advantage of the surge of users we expected that day.

### LAST MINUTE DESIGN TWEAKS:



Improving the Visibility of the Calls-to-Action for Sign In and Sign Up



Improving the Visibility of the 'Add Your Own' Brigade Feature vs. Existing Brigades

Work on Open Data Kit

**Sign In or Sign Up to Deploy This App!**

GET INFO **10** DEPLOYS

TECHNICAL

- Github URL: None supplied
- IRC Channel: None supplied
- Twitter Hashtag: None supplied

ABOUT OPEN DATA KIT

Open Data Kit (ODK) is a free and open-source set of tools which help organizations author, field, and manage mobile data collection solutions. ODK provides an out-of-

Adding a 'Sign In or Sign Up to Deploy this App!' Call-to-Action for Non-Signed In Users on App Pages

View Brigade v.0: <http://codeforamerica-staging.herokuapp.com/>

### SXSW PUBLICITY

In addition to giving her keynote address to thousands of conference-goers in Austin, the speech was also presented around the world via a live streaming feed.

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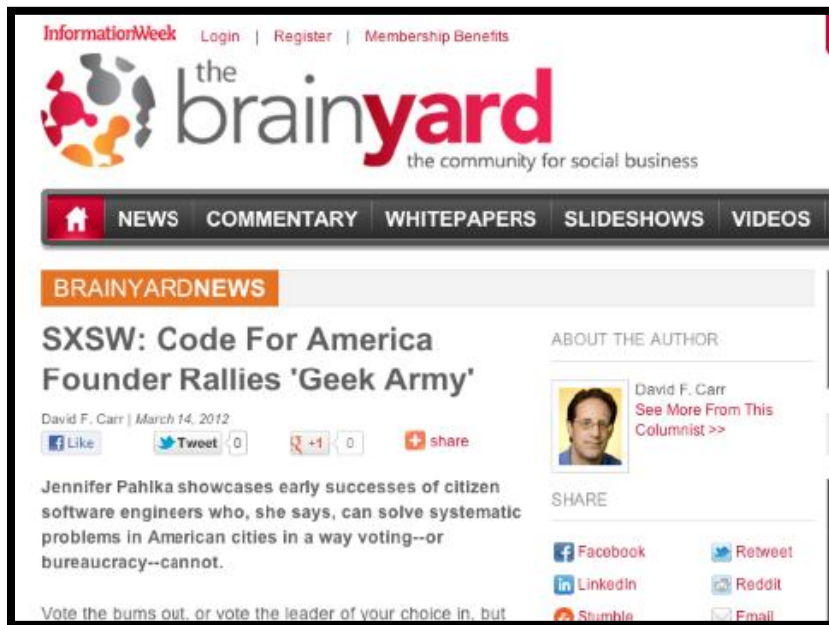
SXSW Interactive Keynotes and Featured

CfA Executive Director Jennifer Pahlka Announces the Launch of the Brigade During her SXSW Keynote

Meanwhile, a number of well-timed news articles dropped on the day of her keynote, further helping to spread the word about the launch of the Brigade site.



Huffington Post Article by Code for America's Abhi Nemani on the Launch of the Brigade

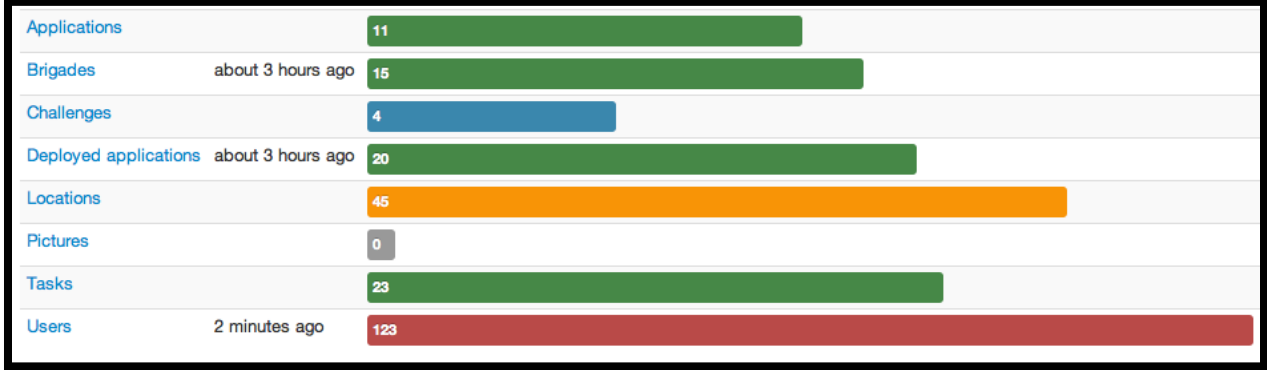


InformationWeek Article on the Launch of the Brigade "Geek Army"



**Tech President Article on the Launch of the Brigade**

All in all, the launch was a major success, with over 120 users from 45 locations signing up in the first 24hours. In addition, the launch party attracted a healthy crowd of over one hundred fans of Code for America fans to Austin’s city hall.







**Brigade SXSW Launch Event – Austin City Hall - March 14, 2012**

## EARLY FEEDBACK ON BRIGADE v.0

In the weeks after the launch of the Brigade site at SXSW, as the number of registered users climbed to nearly 200, we received informal feedback via the brigade mailing list and other channels that suggested there were a few common themes emerging about areas where the Brigade site could be improved:

1. **CONTENT:** Besides catching a few typos, several users also noted a lack of content and/or links to additional information about the applications.
2. **APP STATUS:** A few users noted that the difference between “deployable” and “deployed” apps was not clear—that they wanted to see a clearer distinction between the original application and in-progress deployments in other locations.
3. **EDITABILITY:** A few users and internal staff noted that it would be easier if users could edit the information that was missing or incorrect within the platform—as it currently stood, only site admins could make those types of changes to the site.

## OFFLINE COMMUNITY DEVELOPMENT

In the weeks after the launch of the platform, the Brigades that seemed to flourish were those that already had some type of community in place offline, and simply used the Brigade web site to connect people to their existing activities and channels of communication. For example, Open San Diego hacked the e-mail field on their Brigade page, placing a link to their Google Group message board instead, where a number of active discussions were taking place regarding their ongoing efforts since before the launch of the Brigade web site.

The image consists of two screenshots. The top screenshot shows the 'Open San Diego' Brigade page. It features a table with columns for 'App Name', 'Status', 'Location', and 'Action'. The first row shows 'Open Data Catalog' with a status of 'In Progress' and a location of 'San Diego, CA'. To the right of the table is an 'INFO' sidebar with sections for 'GET INVOLVED' (with a 'Join the brigade to get involved!' button), 'CONNECT' (with a link to a Google Group forum), and 'MEMBERS' (with two profile pictures). A dashed arrow points from the 'CONNECT' link to the bottom screenshot. The bottom screenshot shows the Google Group message board for 'Open San Diego'. It has a 'NEW TOPIC' button and a 'Join group to post' button. The message list includes: 'Introductions (11)' by Jed, 'Re: [CityCamp Exchange] What's the scoop on AT&T's Hackathon Plans (1)' by Kevin Curry, '"Publishing Open Data - Do you really need an API?" (2)' by Jury Konga, 'Code Across America TOMORROW at 11am (2)' by Jed, 'Code for America Event on March 3rd. New date! (12)' by Jed, and 'Re: Digest for opensandiego@googlegroups.com - 3 Messages in 2 Topics (1)' by Xavier Leonard. A dashed arrow points from the 'CONNECT' link in the top screenshot to the first message in the bottom screenshot.

In general, despite having launched the Brigade web site, the majority of the interactions between Brigade staff and civic hackers were still being conducted through other channels such as e-mails, conference calls and Google Hangout video chats. As it turns out, much of the work of organizing a

fledgling network of civic hackers is messy work, involving issues that don't cleanly lend themselves to communication through the asynchronous, standardized forms of web pages. Some areas where conference calls and video chats proved more effective included:

- **Establishing New Relationships:** In many cases the most effective way of connecting people who had never been in contact before was to bring them together on a conference call and have a real-time conversation about how they might be able to work together.
- **Identifying Key Partners:** In other cases these real-time conversations were necessary to identify key stakeholders within city organizations who could help provide access to data, tech savvy volunteers, event spaces, etc.
- **Meeting Urgent Challenges:** When an upcoming civic hacker event looks like it will be sparsely attended unless additional people are recruited to spread the word, more immediate channels of communication are better suited to meeting the deadline.

As Brigade Director Kevin Curry pointed out in his review of the effectiveness of the Brigade MVP, this level of direct support from Brigade staff was to be expected:

*“Overall, we kept functionality low while we rely on CfA’s Brigade Support Team to bridge the gaps through direct communications with users. This strategy helps us start organizing virtually without presuming too much about what users need a web site to do in that regard. Many local communities already have tools and use them effectively. (What they need is sustained organization and direction toward specific goals.) Many of the services we use as civic hackers are already out there and just need to be linked into brigade.”*

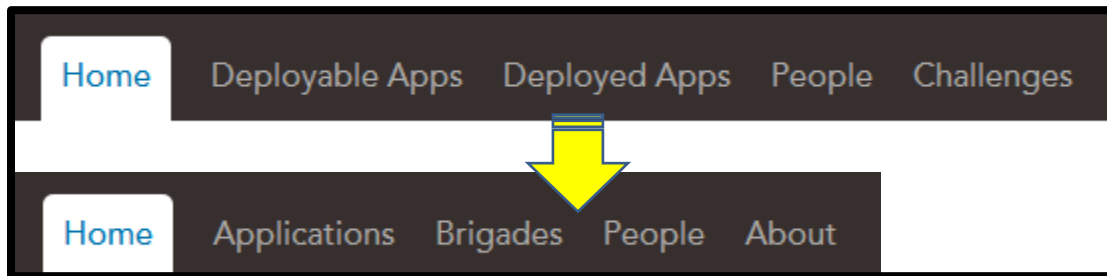
While the initial excitement around the launch of the Brigade site created significant momentum within the civic hacker community, the extent to which the functionality of the Brigade site was instrumental to this was debatable. As it currently stood, the Brigade site existed mainly as a symbolic record of the connection between the people, places and projects within a heretofore largely undocumented community of civic technologists around the country. While this in itself was a fairly ambitious and certainly useful undertaking, questions loomed about what core functionality on the site should be developed further. For instance:

- **How do we know if anyone is really working on these apps?** As it stands, the individual app pages link to Github, but do not support user accountability for particular tasks or any type of granular progress tracking.
- **How might the site support fledgling civic hacker communities in doing a better job of outreach and organization?** Currently there are a significant number of Brigades that only have a few members, and for which the e-mail address is just a personal e-mail rather than a connection to a Google Group or outside resource.

## BRIGADE v.1 UPDATES

In early April the Brigade team met to make some tweaks to the design of the site—based on the informal feedback we received from users we wanted to address a few issues, namely:

- **Clarifying the Site Architecture:** The top navigation of v.0 was more representative of the database structure of the application than it was of a clear hierarchy. After the review of the MVP we decided to focus the site more clearly around ‘Applications’, ‘Brigades’ and ‘People’.
- **Temporary Shelving of ‘Challenges’:** While the original design strategy called for a way for users to submit requests for apps or other civic demands currently unmet by the site, we realized there would be too few resources to appropriately address these requests during the early development of the site.



### Modifications to Top Navigation

- **Additional Content Explaining the Site Nomenclature:** The language of ‘Apps’, ‘Deployments’, and even the word ‘Brigade’ itself can be confusing to those unfamiliar with civic hacker terminology. Communications Director Abhi Nemani added explanatory content on each page to clarify the meaning of the site’s nomenclature.

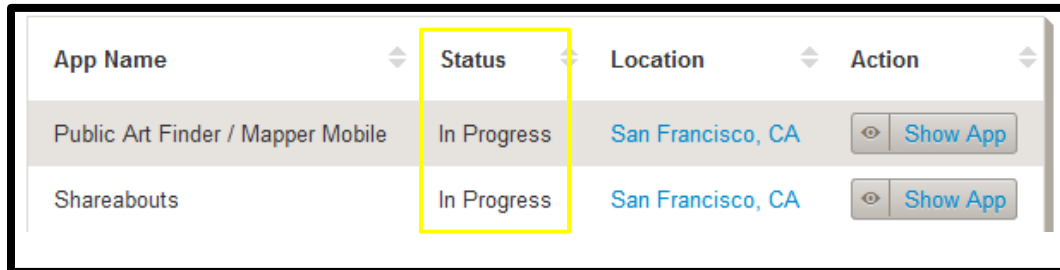
## Brigades



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Brigades are groups of passionate local citizens committed to making a difference: they are standing up apps, gathering civic data, and hosting events, ranging from hackathons to unconferences. See if one of the brigades below is in your community; if not, start one by challenging your city to [deploy an app](#).

### Additional Content Clarifying the ‘Brigades’ Section

- **Addition of App 'Status':** By adding a column for 'Status' to the list of 'Deployed Apps' we attempt to get one step closer to clarifying for users where there is work left to be done on an app. It is not quite the individual task list and progress bar originally envisioned, but it is at least moving in that direction.



| App Name                          | Status      | Location          | Action   |
|-----------------------------------|-------------|-------------------|--|
| Public Art Finder / Mapper Mobile | In Progress | San Francisco, CA |  Show App |
| Shareabouts                       | In Progress | San Francisco, CA |  Show App |

**Addition of the App 'Status' Column**

**View Brigade v.1:** <http://brigade.codeforamerica.org>

## BRIGADE v.1 SURVEY

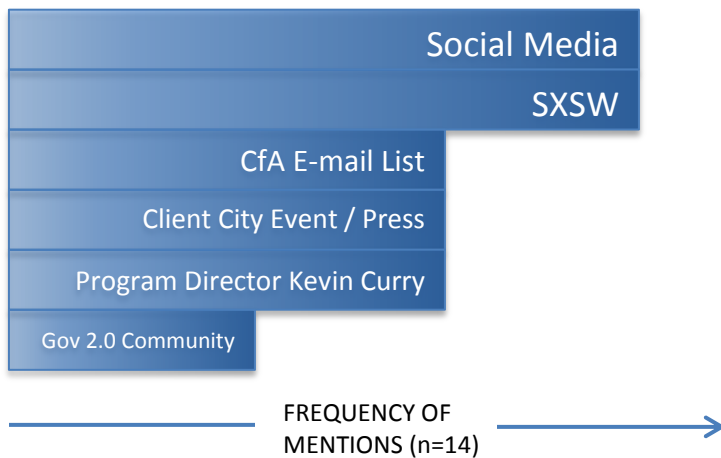
In late April, following the modifications to the site, I developed a short survey of open-response questions to solicit feedback from registered users of the Brigade site on their user experience thus far.

The following questions were included:

1. How did you learn about the Code for America Brigade?
2. What has your experience been like using the Brigade web site? What have you done there?
3. From your experience thus far, what is the most valuable feature of the Brigade web site?
4. From your experience thus far, is there any feature or functionality you feel is missing from the Brigade web site?
5. Any other suggestions for improving the Code for America Brigade web site, program, events, etc.?

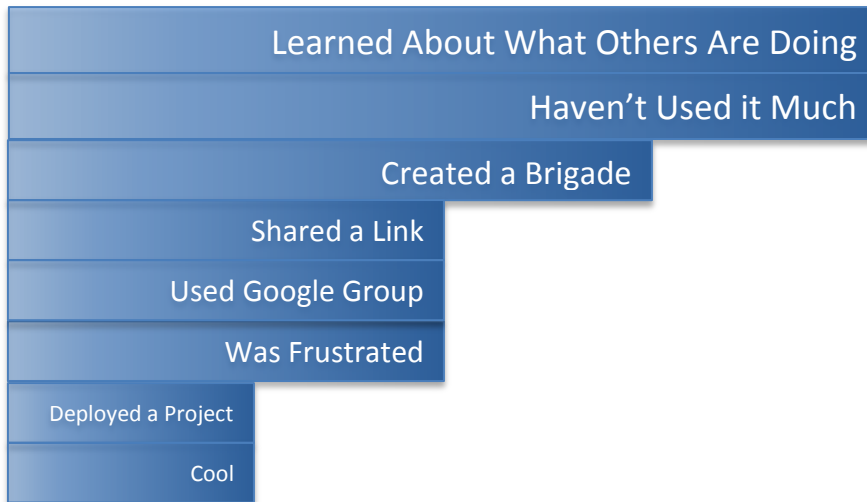
After manually parsing out and categorizing the themes found in each open-ended response, the following bar charts reflect the top themes that emerged in order of frequency of mentions:

### Q1 - How did you learn about the Code for America Brigade?





**Q2 - What has your experience been like using the Brigade web site? What have you done there?**



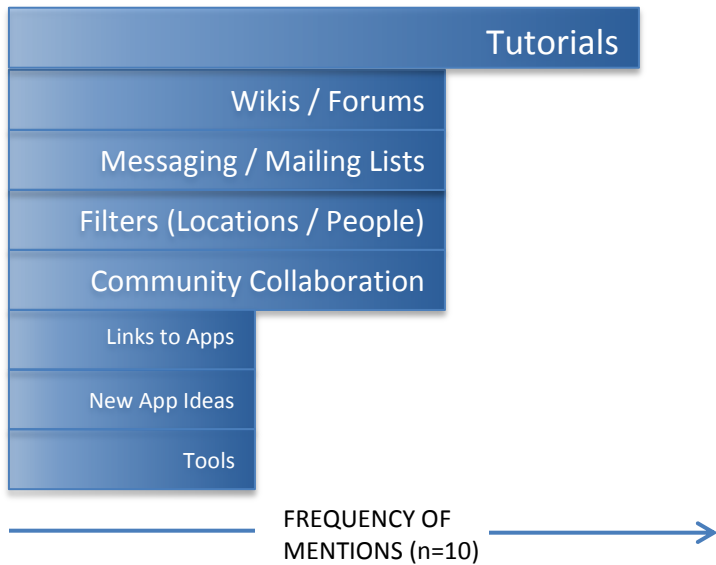
———— FREQUENCY OF MENTIONS (n=14) —————>

**Q3 - From your experience thus far, what is the most valuable feature of the Brigade web site?**

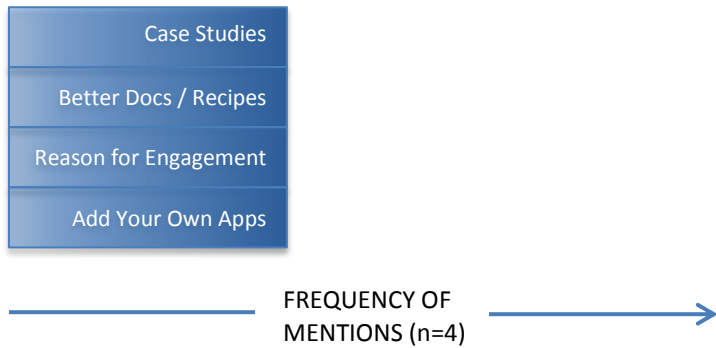


———— FREQUENCY OF MENTIONS (n=13) —————>

**Q4 - From your experience thus far, is there any feature or functionality you feel is missing from the Brigade web site?**



**Q5 - Any other suggestions for improving the Code for America Brigade web site, program, events?**



## ASSESSING THE FEEDBACK

In reviewing the verbatim answers to these questions, several themes emerge about things that are working well about the Brigade and things that could be improved:

### 1. Civic Hackers are excited to be connected to each other through this platform...

"I just checked in and noticed that **there's another person registered in San Diego who I had never met before. That was cool!** There are still a lot of potential collaborators here in San Diego that I need to find, and I hope Brigade can help with that."

"**The directory and ability to connect to people is invaluable...**"

"[The most valuable feature is] **seeing what apps are available and what else is being done around the rest of the country.**"

### 2. However, in some cases they would like a little more assistance in connecting...

"**I'd like the ability to communicate to team members and to have a wiki space / Google Groups space to facilitate team communication across our brigade.**"

"**We need hosted mailing-list functionality for brigades and working groups within those brigades.**"

3. A lack of additional functionality leads some users to feel less engaged...

“My biggest frustration, though, is that **I don't feel very empowered to do anything**. I'd like to suggest other open source civic applications...but there doesn't seem to be a way to do that. I'd like to edit the **Open-Data-Catalog entry** (to add the mailing list), but I don't see a way to do it. I'd like to edit the **deployment checklist**, but I'm not sure how to do that.”

“**Not a lot of stuff on the site that leads to further engagement**. To be honest, I totally forget about this until you guys send me emails, etc. like this survey.”

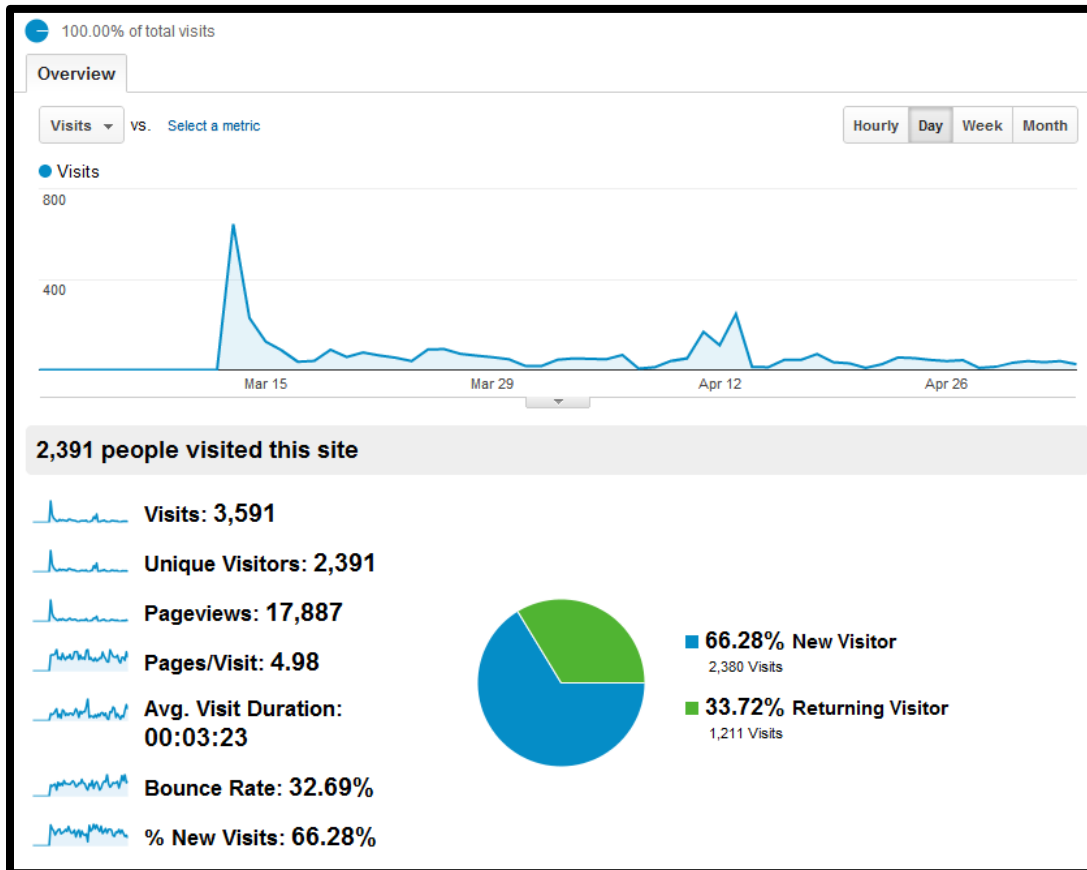
4. Crowdsourced documentation or wikis and/or curated case studies or tutorials are popular suggestions to improve the user experience...

“**More case studies would be especially helpful**, including approaching stakeholders, identifying opportunities for civic technology solutions, and specific citizen benefits that resulted... **the more the civic hacker community can share experiences, the more effective we can be in improving communities.**”

## GOOGLE ANALYTICS

While it is still quite early to put too much stock in the results of Google Analytics data, from the overview statistics you can see we have had a fair amount of traffic, spiking during the SXSW launch (644 visits) and continuing on at a slower pace since then with an average of about 50 visits per day.

### OVERVIEW



### ENGAGEMENT

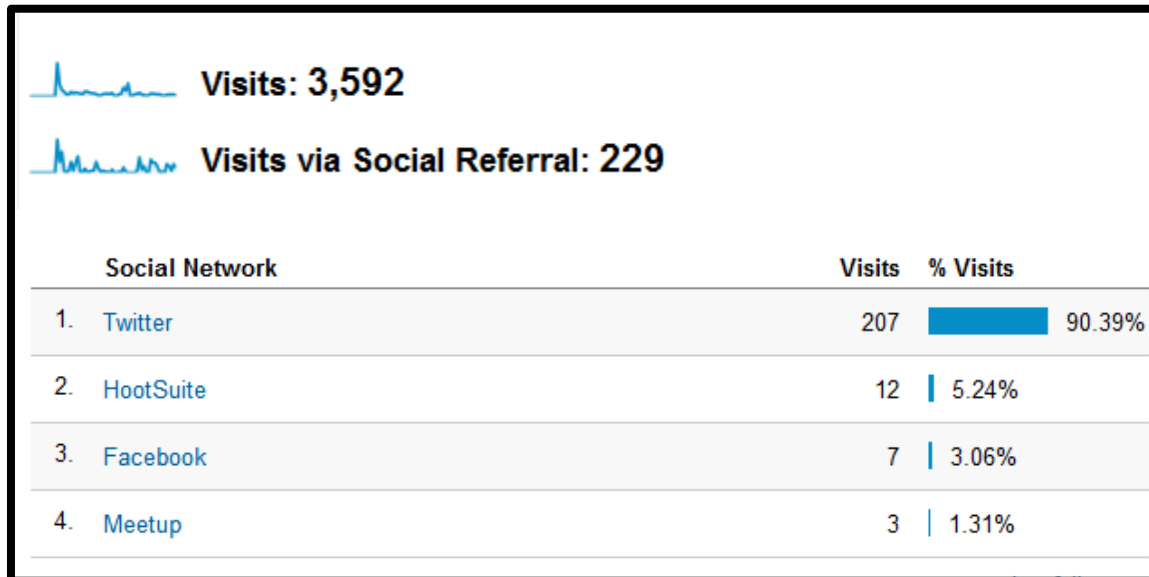
In terms of engagement, we could certainly do better if we are interested in making the Brigade site a hub for activity—currently the vast majority of users are exploring the site for a brief period of time and they are not returning to the site very frequently.

- Users spend the most time on the 'Applications' and 'Users' pages
- Approximately 90% of visitors spend less than 5 minutes on the site
- Approximately 85% of repeat visitors have visited the site 5 or fewer times.

## TRAFFIC SOURCES

In terms of traffic, most visitors (87%) are coming from 'Direct Traffic', meaning that they either typed `brigade.codeforamerica.org` directly into their address bar, or more likely, Google Analytics simply cannot track where they are coming from. There is also the possibility that a significant number of those visits are coming from us—the Brigade team—since we are constantly typing the URL directly into our browsers to check the site.

In any event, it is currently difficult to find any salient information in terms of traffic sources via Google Analytics—except for one—Social referrals:

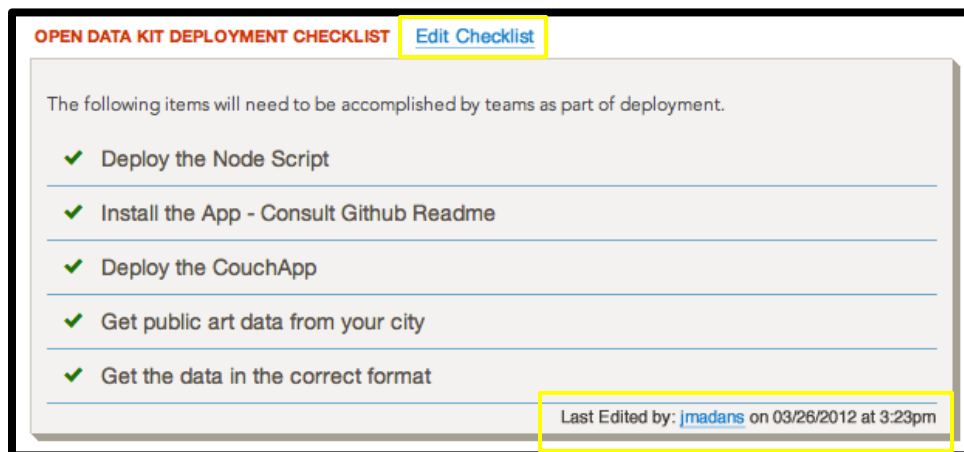


With the amount of social activity that Code for America successfully generates around their projects, we can certainly do better with regard to increasing visits to the Brigade from social referrals.

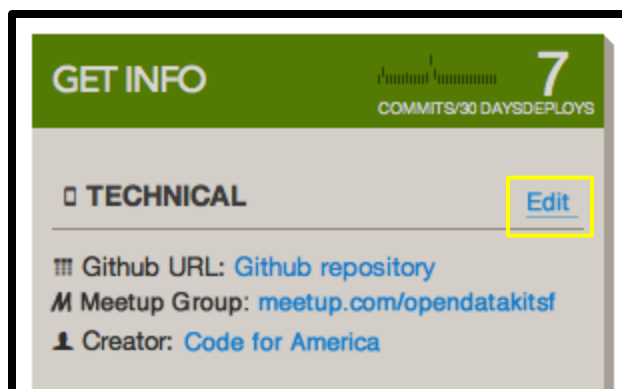
## BRIGADE v.2 DESIGN RECOMMENDATIONS

Based on the findings from the feedback survey, as well as informal feedback from users prior to the survey and a cursory look at the Google Analytics statistics, I offer the following recommendations moving forward:

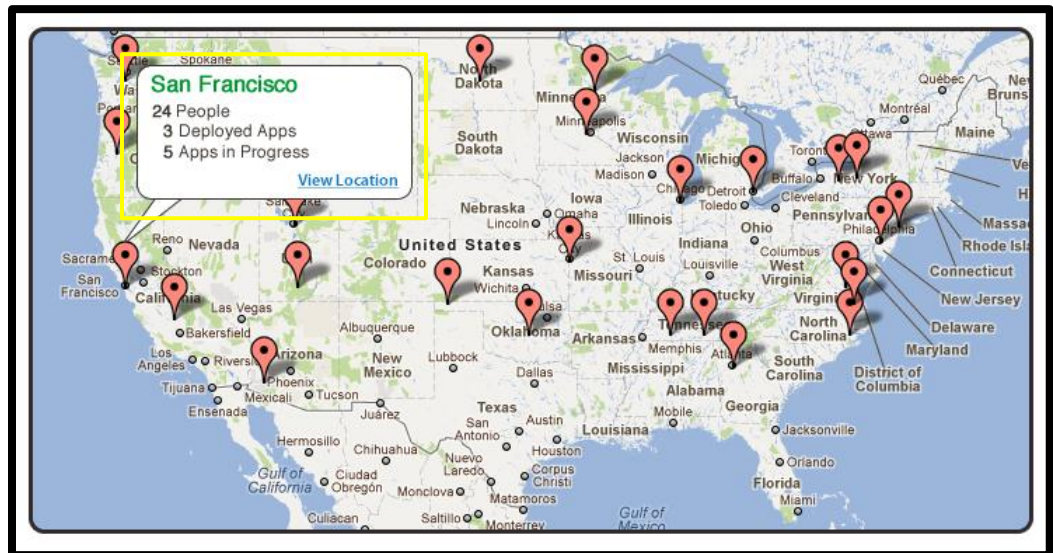
- **Add the ability for users to submit content—this will increase the level of engagement and the feeling of ownership over the platform by Brigade members**
  - Add wiki-style editing functionality to the ‘Recipe’ checklists for deploying apps



- Provide users the ability to update their own ‘Technical’ information on the individual ‘Brigade’ and ‘Deployed Apps’ pages



- Improve the functionality for discovering site content based on location
  - Consider adding a map of Brigade locations on the 'Brigades' page



- Consider adding faceted filtering by location on the 'People' page

- Visually highlight the existing features that allow users to share site content via social networks



- Consider adding a Brigade blog and curating entries by individual users documenting their experiences standing up apps locally



## CONCLUSION AND FUTURE CHALLENGES

In just over three months, the Code for America Brigade platform has successfully signed up over 250 registered members in over 80 locations, forming nearly 40 separate brigade teams. They represent budding communities of civic leaders within cities across the U.S. who are inspired by Code for America's work, and are using the Brigade platform to come together, share their skills, and deploy apps. By connecting individual people to groups within their communities, and individual groups to a national movement of civic app development, Code for America Brigade aims to galvanize the sporadic work of isolated civic hackers into a larger, all-inclusive movement.

The Brigade platform, like the civic hacker movement itself, is young and full of promise—if we engage our users through continual research and iterative design to improve their experience, both the platform and the movement will grow in a positive feedback loop. For a non-profit like Code for America, even the small set of recommendations made in this report will entail a significant commitment of resources to implement. With a growing number of users connecting to one another via the current site, some may question the need to build out additional features at this time. I think this perspective should be addressed through a few key considerations of where we are currently at and where we can go from here:

1. The most active users of the Brigade are currently from groups who have connected their existing communities to the platform. However, there is a large opportunity to recruit people from outside of these communities via the Brigade site if we do a better job of helping them find one another and connect.
2. Our current focus on offline engagement through events, hangouts, conference calls, etc. is vital to building solid relationships, but it is not scalable for building a national movement—we need to at least document, if not embed, some of the value of those interactions into the online platform.
3. We have yet to expand beyond the core audience of Github-savvy users who can fork an existing app and deploy it themselves. We will not maximize return on Code for America's "enthusiasm surplus" until we find a way to engage the non-developer segment of designers, community organizers, etc. through the Brigade platform. As we learned through our

preliminary research, one of the key factors in ensuring the sustainability of a volunteer movement is maintaining the level of interest and enthusiasm necessary to drive the real work—these are the people who can provide it.

Fortunately for us, the open-source ethos of Code for America means that our users are also part of the answer to the question of how we will get this work done. With the Brigade site code available for forking on Github, who knows what direction the community will take itself? If I have learned anything from my experiences participating in a few hackathons, it's that with some free pizza and a little help from your civic hacker friends, you can accomplish more than you ever thought. It is an exciting time to be a part of the Brigade movement—a living, growing thing.

## **THANK YOU**

I'd like to sincerely thank the following people for their guidance and support throughout this project:

- My advisor Prof. Robert Glushko
- Everyone at Code for America, but especially my immediate contacts Kevin Curry, Jack Madans, Abhi Nemani, Ryan Resella, and Dan Melton (2011)
- My original ISSD Team: Gilbert Hernandez (MIMS 2013), Jamie Kong (MBA 2012), Karen Rustad (MIMS 2012), and Meng Wang (MIMS 2013)
- And to the national Civic Hacker community for inspiring me and letting me join them in this effort—thanks for showing me a new way to be a citizen