



Habit@ - Civic Technology in Practice A Report for the Knight Foundation

I. Goals & Methods

As initially conceived, the Habit@ study sought to investigate the impact of a cluster of civic technologies in a particular community in order to understand 1) how organizations assimilated these new means of fostering participation into their communications and outreach strategy and 2) whether members of the community felt more attended to or more empowered by encountering a cluster of branded civic technology tools, and 3) the differences, if any, between the way youth in the community respond to these new civic tech tools compared with adults . As considerable energy builds around civic innovation, there had been, to date, little effort to frame them within a larger context of localized innovation, which disconnects tools from their local context, limits their reach, and reduces their capacity to introduce systemic change within a neighborhood. To both deepen and broaden the impact of civic technologies, we propose the creation of a local Habit@: a clearly articulated ecosystem of civic technologies deployed simultaneously on a neighborhood scale.

In addition to the implementation of a cluster of tools, Habit@ also involved a multiphased research program, involving multiple methodologies at each phase. Those phases are: 1) **Pre-implementation assessment of communication patterns within DSNI's community, wherein i**nterviews, ethnographic observation, and survey methodologies will be used. 2) **Study of implementation and immediate use, which will involve** ethnographic observation and user analytics of innovations. 3) Post-implementation assessment of communication and engagement patterns in DSNI community, wherein interviews, ethnographic observation, and survey methodologies will be used.

- 1) Pre-implementation assessment of communication patterns in DSNI community. Interviews and ethnographic observation will be used. Interviews with 5-10 partners within community organizations will occur, lasting roughly 1 hour each. Ethnographic observation of 10 hours/week will occur primarily at DSNI, and will focus on observing outreach to the community.
- **2) Study of implementation and immediate use.** Once implemented, ethnographic observation of the tools and how they were implemented and assimilated into the organization's outreach culture took place for as long as they were being used by DSNI. This observation focused especially on staff and culture within the DSNI organization, with an eye toward relationships with community members. Concurrently, user analytics will be gathered from the Textizen, CPI, StreetCred, DSNI touchscreen, and Planning on the Street interventions. Observations of the Planning on the Street, DSNI touchscreen, and visioning cart were made.

3) Post-implementation assessment of communication and engagement patterns in DSNI community. Interviews and ethnographic observation were collected. Interviews with DSNI staff have been a foundational element of this stage of research. Additionally, community members who engage with DSNI and other organizations we have not connected with will be asked to participate in interviews.

Our goals were not only to study the organizational dynamics related to communications and civic technology, but to provide feedback to the organization about their practices. Additionally, there was a fundamental desire on our part to leave our partners at DSNI with tools that they could implement again in the future, giving them the organizational capacity and knowledge to do so going forward.

II. Process & Chronology

Starting in September 2013, the Engagement Lab reached out to the Dudley Street Neighborhood Initiative (DSNI), a community development center in Boston that serves residents of the Roxbury and Dorchester neighborhoods, to be the pilot community for the Habit@ study. DSNI was seen as an ideal partner for this project, since they had previously collaborated in a co-design process with the Engagement Lab and the New Urban Mechanics, the City of Boston's civic technology office.

Although we had hoped to begin planning the first implementation of Community PlanIt in fall 2013, it turned out that there was quite a bit of internal politics to overcome before we could actually get started, which came as a surprise to our team. What we were able to do early on and according to schedule was embed our ethnographer, who would be spending 10 hours a week at DSNI, collecting pre-implementation interviews with the staff and also serving to fill in for any capacity building they may need where he had expertise (e.g., creating flyers, teaching staff to use Photoshop, providing still or video photography at DSNI events, etc.). We also were able to begin meeting with staff to assess the functionality of of the TouchScreens and determine the kinds of apps to begin designing and developing.

October - November 2013

- Organizational ethnography focused on key topics regarding communications philosophy, organizational culture and attitudes toward new technology
- Seek to build the internal relationships necessary to implement tools, especially in relation to Youth Staff and the Director of Youth Leadership and Development and the Senior Communications Manager
- Work with Director of Sustainable and Economic Development at DSNI to identify types of apps for TouchScreens that would best serve the needs of the community (See Appendix A)



December 2014

- Begin planning first implementation of Community PlanIt with Director of Youth Leadership at DSNI
- Coordinate how Youth Staff will be participating in and taking ownership of the outreach process
- Continue organizational ethnography and embedding labor capacity at DSNI
- Continue designing and developing apps for the TouchScreens

January - February 2014

- Collaborate with key staff at DSNI to create content for first implementation of Community PlanIt, weekly hour-long phone meetings
- Weekly 2-hour content development and outreach strategy planning workshops with the 10 Youth Staff dedicated to the Habit@ project at DSNI
- Continue organizational ethnography and embedding labor capacity at DSNI
- Begin wire-frames design and test beta-implementation of TouchScreen apps (TouchScreens turned back on for CPI Launch Event on January 30, 2014) "What is this?" Screen saver and "Walk or Wait?" app.

March - April 2014

- Continue organizational ethnography and embedding labor capacity at DSNI
- Launch "Find a Construction Job" app on the TouchScreen
- Presentation at DSNI Board Meeting to announce full-scale implementation of Community PlanIt
- Bi-weekly 1.25 hour workshops with Youth Staff to produce and promote second implementation of Community PlanIt
- Bi-weekely 1.25 hour workshops with Youth Staff to provide them videography and basic editing suite instruction to help them produce videos introducing the themes for each of the three missions of "The Promise of DVC"
 - o Mission 1 https://vimeo.com/89854078
 - o Mission 2 https://vimeo.com/90478505
 - o Mission 3 https://vimeo.com/91032620
- Launch Planning on the Street Side Walk Chalk prompts to promote CPI:
 The Promise of DVC
- Launch Second implementation of Community PlanIt, "The Promise of DVC"
 March

May 2014

- Roll out various Planning on the Street modalities
- Hold in-person finale event for Community PlanIt: The Promise of DVC at Bird Street Community Center



 Presentation to DSNI Staff summarizing findings from Community PlanIt implementations, detailing preliminary observations regarding Communications strategy and integration of new technology from organizational ethnography, and soliciting input from staff about their reactions in a group setting.

III. Implementations & Outcomes

Community PlanIt

There were two implementations of the Community PlanIt platform in the Dudley Street Neighborhood. Community PlanIt is the one tool implemented which, although highly adaptable, was not co-designed with DSNI. Rather, it is an online civic engagement tool developed by the Engagement Lab that operates as social media game, encouraging public participation in planning and deliberation. The online game allows for a multiplicity of voices to take part in official planning processes, including teens, families with young children and young professionals who may not typically participate in other traditional in-person events such as town hall meetings and focus groups. This intergenerational dialogue has been shown to be one of the great affordances of Community PlanIt. With proper outreach, when junior high and high school students become engaged in a process that includes participation of leaders and other adults in the community, there is mutual benefit Youth express greater sense of safety to express themselves sincerely online and take the process more seriously when adults are participating. Adults model "good" civic behavior and report greater feeling of "hopefulness" about the community when young people participate.

The first of these Community PlanIt games was conceived as a sort of pilot run, in order to familiarize the DSNI, and particularly the Youth Employees with the platform. It was launched in conjunction with the Kick-off of DSNI's 30th Anniversary celebrations on January 30, 2014 and ran for ten days as a single-mission game called "Generations of Change." The mission focused on three themes: 1) specific land-use issues related to two particular lots in the community, 2) the role of public art in community identity and resilience, and 3) community gardening and green spaces in the neighborhood. Content for the Challenge Questions posed in the mission was created collaboratively by DSNI staff and the Engagement Lab. The pilot game offered the Youth Staff the occasion to practice their in person pitch recruiting players to sign up for the game at the launch event. **Results**: Judging purely by number of players, this implementation was a massive failure - only 142 community members registered for the game and, of those, 45 were active players (i.e., responded to at least one challenge question). The great majority of the active players were from within DSNI, that is, they were staff member of DSNI. While our team was deflated by this outcome, to our surprise, there was significant enthusiasm at DSNI after the conclusion of this initial implementation to try again. DSNI felt the platform had fostered internal cohesion among the staff, allowing people to communicate across project divides, which exist even in this relatively



small organization of about 20 full-time employees. They grasped the potential reach of the tool and the kind of outreach that would be required to make a more robust usership of the platform in the community.

The second implementation of Community PlanIt, "The Promise of Dudley Village Campus," was a full three-week, three mission version of the game, running from March 24 – April 14, 2014. In this instance, DSNI was interested in engaging the community across three topic areas correlated to the areas of planning for their "Boston Promise Initiative" federal grant: community health and access to fresh food, the role of arts in the community, and ways for families with children to have access to strong formal and informal education opportunities.

Youth Staff were instrumental in the content creation, particularly media, and outreach efforts in the Community. However, as a result, much of the leadership at DSNI saw this particularly through the lens of a "youth engagement," which allowed them to minimize the legitimacy of the platform. We did significant outreach to local schools and youth organizations in the catchment area of DSNI, and the number of youth (under 18) who were active players reflects that. Many staff also took the opportunity to participate. Again, there was a sense that staff was most interested in "supporting the youth" and also hearing what one another had to say within the context of the CPI platform; however there was little follow-through among adult players to use their own social media networks to promote the game. Fundamentally, there was a generational disconnect within the organization about the purpose of the platform. While some understood the potential value, too many relegated it to a "youth project."

Results: Nevertheless, fully 263 registered for the game and of those, 184 were active players. That made for a 70% participation rate, quite high compared to past implementations of Communit PlanIt in other instances, which average around 25 - 30% participation rate. The total number of coins pledged was **77,562**, an average of 422 per player. Total number of comments left in the game was 3,842, an average of 20 comments per player. This suggests a moderate level of intensity of play. Most

Total number of comments: 3,842

Avg comments / player: 20

Intensity of play: Moderate – most players completed one full mission in the game. This is not atypical from past implementations, where the highest number of active users complete one full mission.

TouchScreens



Our goal was to create some applications for the TouchScreens that would be useful for the community. Since DSNI lacks the technical capacity to maintain their two TouchScreens, (they had not been so much as turned on in several months until the Habit@ implementation), Engagement Lab provided some design and programming expertise to help them to co-design apps that would be useful for their community. They have two TouchScreens, one in the front atrium (indoor access) and the front window (accessible from outside through the glass) of their building at 540 Dudley Street.

Applications and functionality:

- Walk or Wait? This app allowed users to find out the time of the next approaching 45 and 51 route buses in both directions along Dudley Street. Users simply could walk up to the window or in the atrium to find out arrival times, allowing them to decide whether they would wait or had time to run a nearby errand or finish a conversation inside DSNI before going to a bus stop. Using publicly available data from MBTA, Engagement Lab designed an app with an eye toward ease of use and legibility, especially for less-tech savvy users.
- <u>Find a Construction Job</u> This app allowed users to discover major construction sites around Boston where they might contact the foreman to find work. Information from the BRA (Boston Redevolopment Authority) api is pulled into the system, where users are able to click on a map of the city, identify construction sites and then click on any of those sites to find out more information (expected scale and duration of the project, lead construction company, contact information). **(Appendix A, Fig. #)**
- <u>Community updates / promos</u> The screen saver (more below) on the TouchScreen was programmed to intercut between slides of DSNI community members and informational updates, e.g., for upcoming events. We used this feature to promote the second implementation of Community PlanIt and also to publicize live updates from the poll-everywhere questions from Planning on the Street. (Appendix A, Fig. #)
- <u>Screen Saver</u> Some effort was put into creating a welcoming and dynamic screensaver that would function as a way of creating community by giving information about DSNI staff and community members that cycled through a rotation. In addition to navigating to the various apps from the screen saver pages, users could also tap through to find out more about the Habit@ project. (Appendix A, Fig. #)

Planning on the Street

This was a multi-modal approach to community engagement that sought to get the public to give input to community issues outside of the walls of the DSNI building. Implementation consisted of posing questions in various locations around the



neighborhood, ideally where the site of a space for development was nearby. People then had the option to text their response to DSNI facilitated by the Poll Everywhere app using their mobile phone, reply on to a question on a tablet device (we used iPads) which would update through Poll Everywhere, or cast their vote using an old fashioned pen and paper posted on a public bulletin board, the results of which would be manual collated into the Poll Everywhere data by a staff member.

1. Poll Everywhere

We used Poll Everywhere as a means of collecting community input on the street, *in situ*. So, for example, metal signs with cut vinyl type were created and mounted on utility poles near vacant lots in the neighborhood, asking residents to text their answer to a multiple choice question related to the property. (Figs. 1, 2.) At times, Youth Staff accompanies by DSNI staff and our Planning on the Street coordinator would convene at a vacant lot and collect information from passersby on the iPads or by engaging them with the Visioning Cart. Additionally, questions were posted in local businesses along Dudley Street asking patrons to vote on a question related to the neighborhood using Poll Everywhere (Figs. 3, 4). iPads were set up at these businesses, giving patrons live updates on the status of responses to questions. By far the most used modality for engaging with the polling questions was simply a clipboard with a question posted and a pen attached. This was the simplest, most direct way for residents to engage, rather than pulling out their smart phone or responding on the iPad (Fig. 5).

Fig. #1





Fig. #3



What kind of business do you want to see here? Ki Tipl di Negdeiu bu kre Origi ii, n'es Lugar? ¿Qué clase de negocio quieres ver aqui?

Test a cools s 2233 — Dant meyories en Petitivesvékeni Restaurant & Coffee Shoph Relatorant.

Supermarkédu-Supermeradad-Supermera

Fig. #5



2. Visioning Cart

Another tool co-designed during the Harvard GSD class in the Spring of 2013, this clear plexiglass board (approx.. 4' x 6') mounted on a rolling metal frame was a community favorite. In fact, it had been "rolled out" on so many occasions that the frame needed some repair and reinforcement. We provided this, and made the cart usable again. It was regularly used at outdoor events to imagine how empty lots might be developed to better serve community needs.

3. Community Bubble

A portable structure designed to draw attention to opportunities for community input and deliberation, constructed from low-cost materials. The inflatable bubble – made from light-weight plastic and kept aloft by a small floor fan directed by plastic tubing into the space – would serve both as a kind of public spectacle, drawing attention to the event and occasion to



interact but also a space in which to convene to discuss issues away from a brick and mortar structure (Figs. 6,7).





IV. Lessons Learned

While our initial research goals centered on community reception, the longer we worked with DSNI, the more clear it became that our primary line of inquiry and intervention needed to shift from the end-user to the organization deploying the tools. While leadership and other staff at DSNI expressed great enthusiasm for the potential of using new means of gathering input and fostering deliberation among their constituents, in practice there were certain organizational hurdles to overcome in order to effectively launch and assimilate new tools:

1) Apacity - Knowledge, Staff, Adaptability

- Even if staff and leadership are excited about the prospect of incorporating new tools particularly digital tools -- efficacy is potentially inhibited by the capacity (read: man-hours) to become familiar enough with the tools to share with other staff and effectively promote it in the community. We overcame this by quite directly by increasing organizational capacity at DSNI, having an embedded member of our team present for several hours a week at DSNI. This was critical in terms of trust-building, but also just staffing up their operation, giving them some additional man-hours. Such capacity building in terms of staffing is not always possible, but we saw it as essential to meeting project goals
- New tools for community engagement often means an influx of new kinds of data. The organization's capacity to effectively engage with that data and report back to the community meaningfully about findings is another capacity issue. There is a fundamental need to be able to help the organization to manage data in two specific ways: first, to set benchmarks and evaluative goals prior to embarking on a new engagement strategy. (E.g., According to what terms will success be measured? How will we reach the right members of the community to get meaningful input? What tools will be most effective for getting the kinds of data need or the



engagement process the organization wishes to foster?) Second, organizations may need guidance or assistance making sense of data in ways that are translatable to a broad audience. Reporting back to the community about outcomes in ways that the community can understand is another key capacity issue.

2) A Cohesion - Assimilation, Integration, Transformation

- Codesigning civic tools with community organizations means finding ways to build on or improve existing communications structures. Integration of tools across the organization is something that can pose a challenge, particularly for more horizontally-structured organizations, where individual staff are empowered to bring new tools into their work, but often not well understood by the rest of the team. This can lead to a silo-effect across projects. We found both an internal and external communications strategy was as integral to a successful implementation of a tool as the public outreach campaign.
- Another way that civic tools can become siloed or entire outreach campaigns siloed from over-arching organizational goals is prestige. While new civic tools particularly digital tools carry an aura of prestige tied to "innovation," they foundered or languished without the right champion at the organization. For example, there may be a tendency to want to draw youth into civic processes by engaging with them using online tools; however, if these kinds of engagements are only or primarily seen as "youth projects," this can devalue their overall impact within the organization, regardless of the import of the data collected.
- In addition to this internal organizational cohesion among civic tools and existing structures and methods, our implementations suggested the need for a rigorous understanding of outward cohesion. That is, whether the community served understand the new tools as in line with their perception of the organization's goals and the constituents' own roles in participating in those goals. Our work suggests that some in-built time for trial and error, so that community members can assimilate new tools is critical. Room to experiment, i.e., fail, assess, and try again, is necessary, but often not possible given contraints of staff time and budget.

3) Sustainability - Maintenance, Growth, Innovation

• New technology, while appealing to the desire to present an publicfacing image of "innovation" and "transformation" does not always lend itself to easy long-term adoption. Indeed, if there is a learning curve to gaining proficiency and understanding of the tool – as there most likely will be – then it goes somewhat at cross-purposes with the coincident desires for ease of use and remaining on the "cutting edge." Staff will have to learn the new platforms or devices, become



- proficient enough to be able to make good use of them, and be able to promote the use of these technologies among their constituents. On more than one occasion, staff in interviews lamented the fact that it was difficult to keep up the latest thing, which lead to frustration, entrenchment, a reluctance to adopt anything new.
- If civic tech tools or platforms are to succeed, there needs to be some plan in place for sustainability and growth. Technology does not live in a vacuum, but rather requires almost constant maintenance and updating, especially when it is being heavily used. Ensuring that there are funds in the budget to contract someone with expertise or a staff member with the skills to maintain and support the hardware and software is essential.
- Ultimately, without the capacity for sustainability in relation to new civic technology, innovation will be stymied. When codesigning with community groups, it is vital to build sustainability into the long-term plan: who at the organization will take up the role of maintaining tools and software? How will institutional knowledge about the technology be preserved? Without these, projects risk being one-off implementations, which isn't necessarily a bad thing all the time, but when significant staff time and budget have been invested in technology, it seems preferable for organizations to be able to maximize their use of it. Iterating on previous implementations, adapting to the needs of the organization's public, and keeping up with the internal structure of the organization are all pieces that make innovation possible.



Appendix A

TouchScreen - DSNI Touch, a project by DVC Habit@ and DSNI

APPS

Current apps:

- 1. find a construction job (BRA site)
- 2. walk or wait? (google map with bus stops)
- 3. explore your community (google map with local landmarks)
- 4. what's this? (info about touch screen project and DSNI)
- 1. Components of current apps that work/don't work
 - a. design
 - menu should be on home screen, not on a bar
 - directional buttons within each app on R side
 - menu should err on the side of more than less info to

communicate

b. content

- 1. Job app is most often the one left open people want that service. Need mtg with Travis and Jason to further clarify but as understood: goal is to provide info about ongoing union construction sites that may have work. Currently, people walk/take transit/drive in search of sites and daily work, no database exists. Some workers are already in unions, some are trying to get their first union work both can benefit from app. App can have map of construction sites at least, can provide foreman contact info to call and ask for jobs, or can provide daily updates on jobs available at each site at most. No day laborer centers have been found to date in Boston, but this could be a significant help to all local workers. Partnership with Civic at MIT seems natural. At minimal, populating a map with the available BRA construction site data would be helpful. Their website doesn't make sense for this type of use, too many leaps for users to make.
- 2. useful. Look into existing apps, keep focus on local area only.
- 3. useful. Would like to add video content to map, showing area changes over time. Already has some videos available.

c. usability

- 1. Seeing the list of sites is already somewhat helpful, but doesn't alleviate the need to drive to locations. Confusing to select sites, return buttons too small
- 2. Bus info is critical, but bus stop symbols are too small to tap. A list rather than map might be easier.
- 3. No specific complaints



2. Who uses the touch screen?

Mostly adults who notice it passing by and are curious.

"Performance" element is prohibitive to many - how to make it more ok to tap a window? In vestibule, kids wait for bus in winter, and are eager to touch but no kid-specific content available.

Updated apps:

The two touch screens are identical in functionality

- 1. Functionality
 - a. what do we *need* screens to do? (worst case scenario)
 - · Current apps all relevant, should function better.
 - b. what do we *want* screens to do? (best case scenario)
 - add d, e below
 - c. audience who is going to use each app function?
 - · mostly adults, some kids
 - d. will they use them alone or in groups?

App ideas

- a. job resource
- b. more user-friendly bus app, no ads, local stops only
- c. explore your community map with videos of community before/after DSNI
 - d. civic connection to City: Citizens Connect, Textizen, Street Cred, etc.
 - e.updates on DSNI, including featured web articles, info on 3 program

areas

- f. kid-friendly game with Charter School wait until round 3
- g. local advertising?

Design & Development

- 1. Menu screen
 - a. Design UI/UX of touch interaction, including graphic design of screen saver and menu, and menu prompts to use within apps (Kate)
 - a. framework to which DSNI can keep adding over time
 - b. need developer to code interface
- 2. Apps
 - a. find apps/APIs that provide the info we need and/or GUI we like 1.integrate them into touch interface development
 - b. otherwise app development



- 1. Work with DSNI/other partners (like BRA/construction unions) to aggregate content (Kate)
- 2. UI/UX design
- 3. programming
- 3. Potential developers
 - a. Civic network
 - b. EGL network
 - c. Melinda Green Touch screen manufacturer's contact
- 4. Blurb to send to developers:
- In 2 parts: 1. Coding of screen saver and menu
 - 2. Design + Development of individual apps
- 5. Costs + timeline to determine
 - a. developer (menu + screen saver)
 - b. design per app
 - c. development per app

ENVIRONMENT

- 1. Heatlamp for winter on storefront screen
 - a. cost
 - b. design
 - c. installation
- 2. Visibility
 - a. when will awning be put up? (Jason will check date with landlord and get drawings)
 - b. currently best on foggy, mild days. Summer too hot, too sunny, winter too cold.
- 3. Signage
 - a. locations
 - 1. poles with double-sided aluminum signs in front of building and across the street, and window sign next to vestibule window (update current sign-note fading due to direct sun)
 - b. permitting needed for aluminum signs NUM can help?
 - c. fabrication costs
 - d. design
 - e. installation
- 4. Timeline TBD
 - a. January, 2014 open house

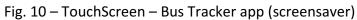


Fig. 8 – TouchScreen Splash page



Fig. 9 – TouchScreen – Bus Track app (screensaver)

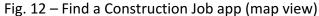












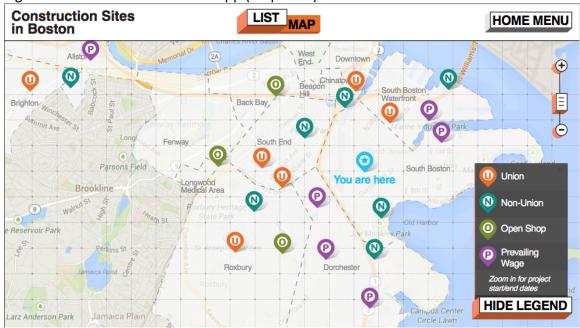


Fig. 13 – Find a Construction Job app (zoomed map view)



Fig. 14 - Find a Construction Job app (list view)

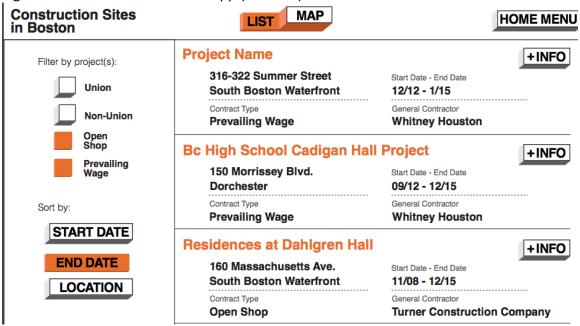


Fig. 15 - Find a Construction Job app (Job detail view)

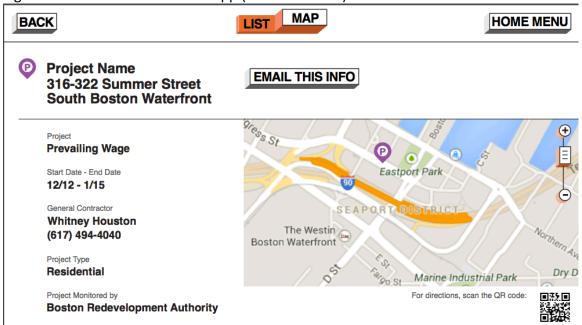


Fig. 16 - Find a Construction Job app (email info page)

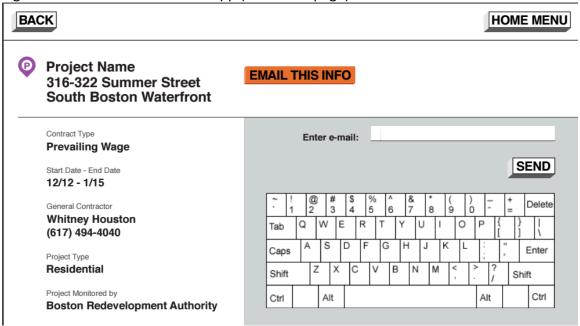


Fig. 17 - Find a Construction Job app (send confirmation / return to home page)

