Community-Based Design with Youth Radio

George Hayes
UC Berkeley School of Information

Kate Smith
UC Berkeley School of Information

ABSTRACT

Youth Radio is a national award-winning non-profit based in Oakland that trains young people in journalism, new media, and music production. Supported by the MacArthur Foundation and the National Science Foundation, they recently set up a Mobile Action Lab to teach young people how to design and create mobile applications.

We partnered with the young people in the Mobile Action Lab to teach them the user-centered design process and to work with them and other members of the community to co-create a mobile crime and reporting application.

INTRODUCTION

Community-Based Design with Youth Radio is a project with two central goals: The first was to work with the Youth Radio students and staff to teach them a User-Centered Design process as it relates to mobile development. The second was to use this process to help conceptualize, plan and develop a mobile application having to do with Oakland based youth and their interactions and sometimes confrontations with police. Over a period of four months, we visited Youth Radio and worked with their Mobile Action Lab team. The mission of the Mobile Action Lab is to partner Bay Area youth (high school to college aged students), with local tech companies, engineers, designers and grad students to share knowledge and create mobile applications.

Throughout our engagement, we worked with the Mobile Action Lab on focusing their topic of development, introducing them to the design process and presenting a competitive analysis on the mobile market in relation to their interests. We then went on to teach the basics of user research, facilitated interviews with potential users, partners and stakeholders and from this synthesized the most salient needs into a use case. Lastly we worked with the team to identify a feature set, taught a lesson on mobile prototyping and iterated on a number of interactive prototypes. The result of our work will be a model for them to use User Centered Design techniques in the future, along with an interactive prototype that can be used to further test with users and eventually develop into a fully working application.

BACKGROUND

The Mobile Action Lab was the result of Youth Radio winning a MacArthur Foundation Digital Media and Learning award, along with a sponsorship from the National Science Foundation. They won the grant in the Spring of 2010 and the lab was founded in September 2010. As of the writing of this paper, they are currently engaged in creating four separate mobile applications, including the one discussed here. The method of creation of their applications varies differently from partner to partner. For one project, the team limits their involvement to advising the team

actually creating the application, while for another they act as project managers and for another, as a client. Our approach differs from these other approaches in that our team approached the project from a user-centered design approach; through research, prototyping, iteration, and feedback from users, we were able to narrow down a vague topic to a specific application that was co-designed by Youth Radio.

MOTIVATION

Youth Radio, as a youth-based nonprofit in Oakland focused on journalism, was probably better situated than many news organizations to report on the tragic shooting and death of Oscar Grant by a Bay Area Rapid Transit (BART) Police Officer. Since January 2009 they have been extensively covering both the trial and subsequent sentencing of the now-retired BART officer Johannes Mehserle. In addition to reporting on the trial, they looked at the affect that the Oscar Grant shooting had on the community in Oakland: multiple protests, looting and further confrontation that took place within the community. Youth Radio is also located in downtown Oakland at 17th Street and Broadway, in the middle of where many of these events were taking place. They participated in working with local youth during these protests and the large announcements of the trial and even displayed a large mural of Oscar Grant on their building in his remembrance.

The reason why Youth Radio was so interested in Oscar Grant and how it shaped their interest in creating a mobile application around youth and police is two-fold. First, Oscar Grant was only 22 years old when he was shot by Johannes Mehserle, well within the age-range of many Youth Radio's students, interns and associates. In addition, Youth Radio regularly works with their own students and teaches them to become intermediaries and counselors when it comes with dealing with the police. Some of the young people at Youth Radio have also had their own negative experiences with the police; some are on probation and are sponsored at Youth Radio by City of Oakland mentorship programs.

Most importantly though, as source of motivation for the creation of the Mobile Action Lab, was the way that the public first became aware of the shooting of Oscar Grant. YouTube.com played a prominent role in the way that many people came to find out about what really happened at the Fruitvale BART station on New Years Eve 2009. Many people on the platform that night filmed what happened on their cameras or mobile phones and uploaded it immediately to YouTube for the world to see. One of the people who witnessed and filmed Oscar Grant's tragic death was Karina Vargas, who testified in the Mehserle trial and was subsequently interviewed by Youth Radio. While a mobile application may not be the solution to mitigating such situations, it is clear that it could be a powerful tool in alleviating tension or leveling the playing field between youth and police.

Our motivation for working with Youth Radio was based on being able to participate in a project that was socially relevant and involved giving back to our community. Having worked as designers in many capacities and environments at large companies, agencies and for ourselves in graduate school, we have had little opportunity to work on a

project that could have such a positive social effect. This was a chance to both educate and evangelize our chosen field and methodologies to a group of young people and assist them in creating something that they or any of their peers could potentially benefit from. It was an opportunity that we could not pass up.

TEAM

The Mobile Action Lab consists of over 20 people who include Youth Radio staff, associates, and interns along with many technology professionals and graduate students from around the Bay Area. For this project, we were working with Elisabeth Soep, Research Director of Youth Radio, and who also directs the Mobile Action Lab; Laura Pieroni, a project manager for the Mobile Action Lab and a graduate student at Carnegie Mellon's Entertainment Technology group; and six interns: Asha, Austin, Christian, Darylnisha, Dontae, and Marcellus. The interns are between 16 and 20 years old, and range in education from a sophomore in high school to a sophomore in college. They are all Bay Area native residents, and brought great insight into the design process. The interns regularly participated in our lessons, meetings, research and design exercises. Along with our core team, we regularly included educators and staff across Youth Radio to get feedback to get input into our project.

THE DESIGN PROCESS

While the members of the Youth Radio Mobile Action Lab were excited to start the project, they had limited or no experience with user-centered design methodologies. The project was scheduled to last four months, but due to the schedules of the interns, we were only able to meet with the group once a week for one to two hours at a time; this meant that each session with them was carefully balanced between explaining and understanding the methodologies and theories of user-centered design with designing the crime/reporting project.

User-centered design is characterized as a process that takes the needs, expectations, and behaviors of product users into account, rather than relying exclusively on the opinions and assumptions of the designers. Potential users are involved as much as possible throughout the design process in order to improve the quality of the design. Open-ended interviews, focus groups, participant observations, and ethnographic studies are all techniques that are widely used to develop user requirements. User-centered design also emphasizes iterative design and rapid prototyping while incorporating user feedback and testing.

For this project, we attempted to actively involve representatives of all stakeholders in the design process in order to help ensure that our mobile application was designed to be an appropriate tool and meet our users needs. In this case, stakeholders were identified as: youth, law enforcement officers, lawyers, and community and youth activists. While not all stakeholder representatives were involved at every stage of the project, we included some stakeholders at every stage. In addition, the Mobile Action Lab interns were considered to be both co-designers and stakeholders.

The project was broken up into two parts: 1. Research and 2. Prototyping. However, the division between the two was fluid and blurred due to the fact that

in user-centered design, research and prototyping are a part of an iterative process, where research leads to prototyping - which then leads back into more research.

We began the project by brainstorming, creating wish lists, and talking about existing products, generating over 50 ideas of what our application could be or do. While we covered a wide range of ideas, we unanimously agreed that this app should be a positive tool, one that could share knowledge and increase positive communication.

Taking the ideas that the group had talked about, we then researched existing products currently out in the marketplace, finding both mobile applications and web sites that dealt with the same concepts. While there were many interesting and useful (not to mention, controversial) products out there, we found plenty of opportunities to improve and explore in that space.

In addition, we looked into what made a product successful or unsuccessful, and identified several patterns and assumptions. While there are a wide variety of mobile apps and web sites that deal with crime, police, and citizen reporting, most suffer from some major fundamental flaws:

• lack of support
• lack of focus
• lack of follow through
• lack of critical mass

Next, we focused on identifying needs: we knew that we could not answer that question on our own, and in order to make this application the best it could be, we needed to talk to more people. We began by identifying project stakeholders: the people who would

potentially use this app or be affected by it in some way. The group decided to talk that we needed to talk to more youth, to people who worked with youth, to law enforcement professionals, and to lawyers.

While we were creating an interview guide for our interviews, we had a lively discussion about the appropriateness and ethics of asking personal questions about crime and police interactions, and how the word "victim" should be used. Our team clearly recognized that while it was important to understand the problem space that we were working it, it was also vitally important to be sensitive to the issues and the people that we were working with. Each member of the group continued doing interviews over the following weeks, ultimately interviewing 15 people (representing all members of the stakeholder groups that we had previously identified).

After reviewing our interviews, we broke out five themes that had been consistently referenced:
1.   Prevalent use of texting by youth
2.   Lack of knowledge about rights
3.   Need for youth to have an ally or help
4.   Badge number tracking
5.   Addressing tension between youth and law enforcement

We used those themes to inspire a brainstorming session: using large Post-Its, we had everyone in the room draw five to ten application ideas. Despite drawing ability (or lack thereof), we quickly ended up with a wall full of ideas. As a group, we went over each idea, giving each one a label and clustering them thematically.

We were beginning to refine and

winnow down our ideas. Our brainstorming design exercise had led us to focus on the three ideas that we found most interesting as a group:

1. Phone locking, due to the recent court cases that allowed police officers to view the contents of a mobile phone
2. Passive audio recording of interactions between youth and law enforcement
3. A way for the user to contact or notify an ally when interacting with law enforcement

Based on those ideas, we developed a potential use case involving three characters: the user, a member of law enforcement, and a potential ally. The group gave feedback about the scenario, and made suggestions about how to improve it. While the scenario was simple, it provided a framework to focus our ideas.

Meanwhile, our group had grown with three new interns; they quickly came up to speed with what we were doing and started giving us great feedback.

Next, we discussed prototyping and the advantages of quickly designing and testing prototypes in order to optimize our app. We covered different methods that can be utilized to effectively prototype, emphasizing mobile technique and the appropriate uses of low-fidelity prototypes (sketching and paper prototyping, wizard of oz techniques, video prototypes) as compared to high-fidelity prototypes (interactive prototypes).

Reviewing our research and ideas from previous sessions, the group identified which ideas that we wanted to see prototyped first, and determined the most effective prototyping techniques to implement those ideas.

After an overview of how and why to conduct user testing, the first prototype was presented. It was based around the idea of how the phone could be of use during an interaction with law enforcement: we designed a simple app that consisted of a passive recorder, a call to an ally for help, and a phone lock so that it wouldn't be accessible to a third party. The prototype, based on clickable PDFs, was loaded onto phones and passed around.

Having a physical artifact in our hands changed the conversation. Instead of talking about the **need** of sending a request for help to an ally, we started talking about **how** that would work. We got feedback on what buttons made sense and which didn't; it was clear that the steps needed to call an ally were confusing to our testers.

Taking the recommendations and feedback from the previous session, the prototype was modified and fleshed out. We broke down the app into five sections:

• Lock – locks the phone for a certain amount of time
• Learn - features videos that are designed to educate users about their rights
• Report – gives the user the opportunity to share abuse or problems with friends or local police
• Recordings – passive recordings made while the phone is locked
• Settings – allows the user to set options for calling an ally

While we had initially focused on the phone locking, during feedback and testing we realized that while it was a

useful tool, it did not fit within our goals of increasing positive communication and reducing tension, and we decided to remove it completely during the next iteration. And while the feedback that we received about the "learning" section was extremely positive, we decided that that design would be better served as a separate application.

PROPOSED SOLUTION

Taking a step back and revaluating our goals and reviewing our research, we decided to redirect the app and focus on doing one thing well. Our third iteration will focus on contacting an ally during a situation, and communicating and recording information until that situation is over.

In our use case, the user will pre-select allies to contacted during a situation. When the app is launched and directed, the ally will be contacted with a brief text or voice message, along with a link to the user's location. That location disclosure will be updated regularly until the user ends the session. Meanwhile, the phone will passively record audio and location until the session is ended.

This design will enable a user to quickly and easily send out an alert to trusted allies in uncomfortable or uncertain situations, giving those allies the needed information to quickly respond to the situation and evaluate what needs to be done. Meanwhile, the phone passively records the audio and location in case that information is needed or found useful.

PROJECT EVALUATION

Overall, our project was successful in regards to both of our projects stated goals: teaching User-Centered Design

and designing a youth and police oriented mobile application. It also ended up being a learning experience not only for our team but for us. In the time that we had with the Mobile Action Lab we taught a User-Centered Design Process through a combination of planned lessons, hands on research experience, design exercises and critiques. Group members who in the beginning of the project may have seriously questioned the value of user research, eventually came around and learned why it is necessary to understand user needs before an application is built. The interns engaged with our lessons, asking many relevant questions both allowing us to question our decisions and give us a more deeper understanding of why we do what we do.

The creation of the youth and police related mobile application was also an effective learning experience. We were able to conduct valuable research from potential users and stakeholders, had a number of idea generation exercises, designed based on a found use case and are now on our third iteration of an interactive prototype. The project is now in a position where we can continue doing user testing and come upon an ideal feature set for the initial launch of this application. The prototypes we have also create a rich enough experience that users should be able to give some valuable feedback before the development process begins.

If we were able to do this over again we would improve upon certain aspects our working relationship with Youth Radio. Our largest restriction was time, especially in the beginning of our engagement. Due to the many projects the Mobile Action Lab has, the many

schedules they have to balance and the lack of hours they may have in a week there was no regular meeting time. Due to this it was difficult to pace the project throughout the last four months, and having a regular schedule every week would have alleviated this. There was also some confusion in terms of who is the real decision maker in our meetings. While the interns clearly had a voice, it was questionable as to how much their opinion was valued versus the research director's. This is something that will come together with time and since this is one of their first projects as a team it was understandable that roles were still being developed.

NEXT STEPS
Our next steps are to complete the third iteration of our interactive prototype. We will then present it to Youth Radio, and at this point it should be possible to come to a decision on a targeted feature set for the first version of the application. With this we could also do some further user testing as to its utility. It would also be advantageous to settle on a name for the application that reflects its core functionality. We would then want to create a detailed specification document along with the prototype and work with some of the engineers that Youth Radio currently has assisting them with other projects to further develop the application. We plan on continuing to partner with Youth Radio as they work on finalizing, developing and testing this application.

CONCLUSION
Overall working with Youth Radio was a positive educational experience. It was an excellent opportunity to test both how applicable and effective much of what we learned about User-Centered Design while in graduate school really is. We were able to take students with very little experience in this field, walk them through complex problems and come upon an interesting and novel solution. It is a real testament to the initial goals of the Mobile Action Lab of partnering young people with technology professionals and allowing their combined creativity to drive innovation. We hope to continue to work on this project and see it through till it is successful, and will to work with Youth Radio and mentor their students in the future.