ServiceSearch: An Opportunity Searcher Just For you

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Abstract

Preliminary research has depicted that students that are passionate about certain issues or topics are willing to invest time and effort into opportunities and/or events related to their passions. However, time and transportation constraints prevent them from doing so, and current solutions are limited in catering to the interests and passions of students in varying ways. Our goal is to design a volunteer opportunity search engine, coined "ServiceSearch", that will allow students to find opportunities and events around them that cater to their interests while considering certain constraints that they may have in their educational atmosphere.

Author Keywords

Opportunity; Event; Charitable Organization; Passion; Interests

ACM Classification Keywords

H.5.2. User Interfaces (e.g., HCI): (D.2.2, H.1.2, 1.3.6): User-centered design. H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous

Introduction

For many Cornell students, their only interactions with the wider Ithaca community begin and end with Cornell University. From our research and interviews, we discovered the existence of the "Cornell Bubble", where students feel separate from the local Ithaca community

and find it difficult to become active participants in this wider community without sacrificing their individual constraints as full-time academic students. Our research showed that students aren't necessarily disinterested in engagement, but have been discouraged due to the lack of visible opportunities that work for their schedules, their passions, and their access to transportation. Even surfacing relevant opportunities takes time, energy, and effort.

The resource of students at Cornell can be extremely beneficial for nonprofits and charitable organizations in the local Ithaca area given the volume of students in the area that can be matched with organizations that need voluntary help. Currently, students who are interested in involvement are generally exposed to the most visible opportunities in the area (i.e, Into the Streets, community service events on-campus), but these opportunities do not necessarily take individual skills and passions into account. Each student has a unique set of interests and skills they can offer that can be matched with organizational needs to achieve the most effective impact.

From these insights, we created our central goal: to reduce as many barriers to involvement as possible by facilitating the search and selection process for engagement opportunities. Our work over the semester culminates with ServiceSearch, a mobile application that connects students who want to be more involved in their local community with the most relevant opportunities that work around their unique constraints.

Design Process
Our team used a human-centered design approach to creating a solution for our problem. We began by

conducting user interviews to help refine and focus our problem to a specific audience and gather contextual information for brainstorming our initial solutions. Our later work focused on the iterative design methodology where we received feedback during evaluation from users after each stage of refinement.

Competitive Analysis
After deciding to design a technological solution to help students get involved with service in the local community in a meaningful way, we researched other solutions already in existence that matched users with service opportunities. We discovered a few websites, such as Catchafire and VolunteerMatch (VolunteerMatch), that matched users to service opportunities by search and filtering. However, we found that Catchafire only matched users to opportunities needing highly developed and specific skills that college students were unlikely to have, and it did not engage students in the local community (Cathcafire). While VolunteerMatch displayed local opportunities, it did not match users based on skills they had to offer the organization and was somewhat inefficient to use (VolunteerMatch). Our users were looking for a time efficient solution that engaged them in meaningful ways to the local community based on skills they had to offer, and neither of these sites met our users' needs.

We also looked at the competitive space for mobile applications and found an even more limiting selection of opportunities. The only competitors we found in this space were Golden Volunteer Opportunities (Golden) and DEED App (Deed). Neither application allowed the user to match to volunteer opportunities by skill, and they had a very limited selection of opportunities available in our area. They also had a time intensive
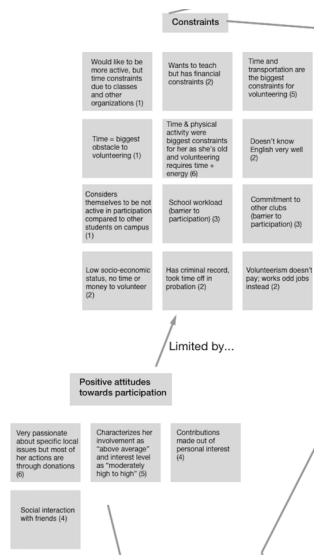
Constraints

Would like to be more active, but time constraints due to classes and other organizations (1)

Wants to teach but has financial constraints (2)

Time and transportation are the biggest constraints for volunteering (5)

Time = biggest obstacle to volunteering (1)

Time & physical activity were biggest constraints for her as she's old and volunteering requires time + energy (6)

Doesn't know English very well (2)

Considers themselves to be not active in participation compared to other students on campus (1)

School workload (barrier to participation) (3)

Commitment to other clubs (barrier to participation) (3)

Low socio-economic status, no time or money to volunteer (2)

Has criminal record, took time off in probation (2)

Volunteerism doesn't pay; works odd jobs instead (2)

Limited by...

Positive attitudes towards participation

Very passionate about specific local issues but most of her actions are through donations (6)

Characterizes her involvement as "above average" and interest level as "moderately high to high" (5)

Contributions made out of personal interest (4)

Social interaction with friends (4)

Figure 1: Affinity Map depicting findings from user interviews

Positive Attitudes Towards Participation:

- Passion towards specific issues
- Contributions made out of personal interest

Major Constraints Towards Participation:

- Time and Transportation constraints

learning curve to set up and use the applications. By focusing on time efficiency and allocating users' skills and areas of interest within the local community, we were able to differentiate our solution from the competition and create a useful solution for our target audience.

User Research & Persona
Our user research consisted of interviewing local Ithaca residents, which included Cornell students, to determine the biggest problems our potential users had with finding ways to engage in meaningful local service opportunities. From our research, summarized in *Figure 1*, we discovered that we could make the biggest impact by designing Cornell students who had an interest in getting involved with service in the local community in a meaningful way. These students are largely constrainted by time, transportation, and lack of exposure to opportunities due to learning about said opportunities mostly via word of mouth; students therefore are currently limited in the information about opportunities that they receive by individual network. Furthermore, students feel best about volunteering when the opportunity revolved around a specific interest of theirs or put to use a skill of theirs that could be discovered by others.

Product Requirements
From our user research, we determined that we needed to design a simple solution that takes time efficiency into account for the user, as that is one the users' greatest constraints. We found that students did not have a lot of access to the wide range of volunteer opportunities available in Ithaca, so we wanted to design a solution that would offer all of these opportunities to students in one place. We also chose to take into account transportation availability for the user

as well as interests and special skills when designing our solution to offer specific, relevant volunteer opportunities to the user. The concept of our entire design was based around simplicity to account for the user's lack of time and cognitive resources taken up by being a busy student. Our solution specifically caters to Cornell students looking to get involved in local Ithaca organizations to create engagement between the students and community, as many students we interviews said they felt disconnected from the local community and like they existed in their own "Cornell bubble".

Proposed Design Solution
In our design, we implemented key features that we decided was significant based on two iterations of user feedback. Our first key feature is a simple, 4 question on-boarding process (exemplified in *Figure 2)* in which the user answers questions about their volunteering interests, transportation, and time availability. We chose four simple questions because our users expressed that they wanted to see opportunities based on topics that they were interested in. Furthermore, our user testing revealed that the biggest barriers to volunteering for local students were transportation and time, which is why we included those two questions in the onboarding questions.

The second key feature we implemented was the news feed *(exemplified in Figure 3)* that lists opportunities based on what you filled out in the questionnaire. This way, the information is completely relevant and personalized to what the user puts in. From user research and looking at alternatives online, we saw that a lot of options allow you to search or filter through opportunities but are not necessarily personalized to
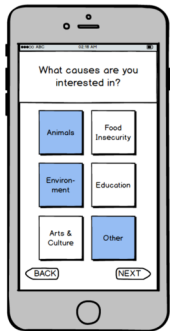
Figure 2: Balsamiq Prototype, depicting the Onboarding process used to gauge the user's interests and constraints
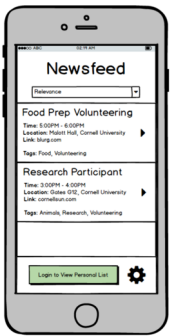

Figure 3: Balsamiq Prototype, depicting the Newsfeed page that presents opportunities catering to the user's answers from the Onboarding process

both your interests and your time/transportation convenience. For example, some of our users stated that the main way they would look for events is through a Google search or browsing through Facebook events, but none of this information is tailored to your interests and preferences.

The third key feature was the ability to bookmark opportunities to your own list. The user can endlessly scroll down the news feed with opportunities, and the bookmark tool affords the user with the ability to come back to any favorite events or organizations to to their own page. We wanted users to be able save a few opportunities because the personalized news feed will continue to change thus we found it important for users to save the ones that they particularly like and want to contact later.

The fourth key feature is contacting the event organizer directly from the app. After finding the opportunities that a user is interested in, the next logical step is to contact the organization and figure out where to go from there. We wanted to make it easy for the user to do so and not simply list an e-mail because they may be less likely to open up a new window and compose an e-mail immediately, so we afford the user the ability to e-mail the organizer directly from the app.

Evaluation Results

Over the course of developing our app, ServiceSearch, our team went through two rounds of iterations and testing. From our evaluations over the course of the semester, our team came to develop several insights that we incorporated into our app. From going through multiples rounds of user evaluations and testing, we noticed patterns and repeated comments/ideas that

came from these iterations that helped us come up with key insights for our work.

One of those insights was that many of ours users enjoyed the simplicity of our design and the usage of the app. Users emphasized how simple and easy it was for them to go through our app and be able to complete the tasks. This was critical for us because when developing a design for a topic such as finding volunteering opportunities, the app should be somewhat simple so that users (mostly college students) would not have to spend a lot of time or energy in order to find volunteering opportunities around their local campus. We did not want to develop something that was complicated and took time to use as many of our testers and interviewees mentioned how time was a big factor in looking for service work.

Another insight was the idea that this app was not just to help connect students to local organizations and events that happened on campus or off campus, but also for local organizations and institutions to have a medium to get into contact with students. We noticed from our evaluations that our users and interviewees would mention that it's difficult to find something they would want to do, but we noticed that street goes both ways. That's why we thought of having an app that could allow for local services of any kind to get the word out to interested students on what can be done in the local community.

Final solution: ServiceSearch

ServiceSearch is a smartphone application that allows for users to find events and volunteer opportunities around Cornell's campus and the Ithaca proper that align with their interests or passions.
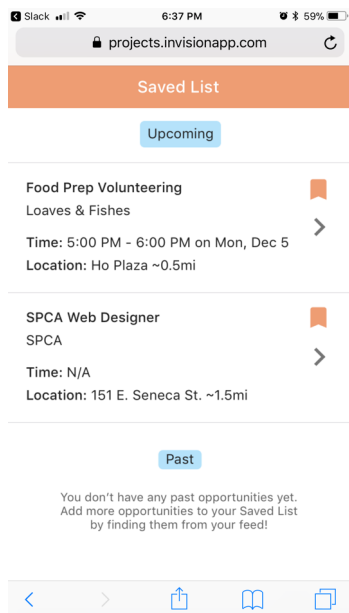
Figure 4: Final Saved Page – logged-in users are able to keep track of bookmarked events, divided between upcoming events and those that already passed.

Upon entering the application, users are prompted to answer four questions; this process is coined as the "Onboarding" process. Each of these questions serve to gauge the user's interests, time and transportation limitations, and where their passions lie. ServiceSearch will then proceed to evaluate which events and opportunities around Ithaca the user would most likely be interested in attending and present the results on the "Newsfeed page. Users by default are allowed to view the results of the Onboarding process and change their answers from the Onboarding process to alter their search results on the "Settings" page, should it be necessary. Users are also allowed to view more information about an event or opportunity by clicking on the event and reading a short description; users can view additional details such as location, time, and a link to a separate URL such as a Facebook event or a webpage related to that event. Should users want to bookmark certain events for future reference, they must create an account on ServiceSearch that stores the user's name and email; logged-in users will be able to bookmark events and view these bookmarks on a "Saved" page (*Figure 4*). Logged-in users will also be able to contact the organizations holding or sponsoring opportunities via the application's Contact feature on every event/opportunity description page.

A digital prototype is available in the URL below:
https://invis.io/VPEPYLS3X#/266751560_Start1-0Home

Discussion
One of the biggest design alterations we had made was to improve accessibility and emphasis of login and sign-up opportunities on ServiceSearch's homepage, after the Onboarding process, and when users attempt to

bookmark events when logged out. User testing had revealed that users had a hard time figuring out that logging in was required to save bookmarks. To make sure that users were aware of this critical function, pop-ups were added that note that users had to "Log In" or "Sign Up" to access the function they were attempting to use. Previous iterations had left this somewhat unclear due to uncertainty as to whether if this extra functionality was required in the app's design. To streamline this process, a bookmark icon was added to each event on the Newsfeed page (*Figure 5*). Originally, the bookmark icon was only visible on each event when users were logged in and thus users were confused as to how to bookmark events, only to realize that they had to log in when attempting to access the "Saved" page as a last resort.

Additionally, the ability to contact organizations hosting events directly via the "Contact" button was an added feature that originally was present in previous iterations of our prototype but did not serve any function at those times. User testing had revealed that users assumed that the Contact button would allow them to compose and send an email to the organization, while other users, when logged out, assumed that the button was a method of bookmarking due to the lack of visual indicators that show how or if events were bookmarked. This only shows that the Contacts button plays a crucial function in the user experience and its functionality may expand to include additional functions.

Future Work
Further considerations and user testing need to be done to make the app more cohesive for both the users looking for volunteering opportunities and for
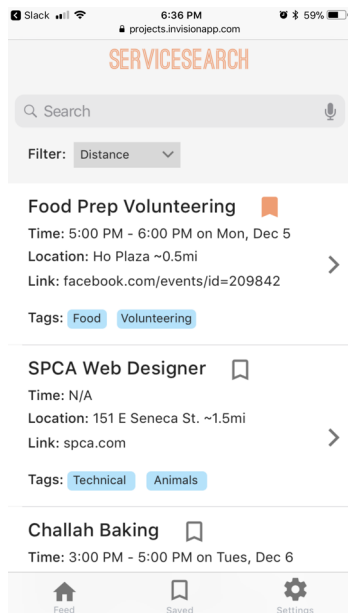
Figure 5: Final Newsfeed Page – icons are now used to indicate bookmarked events, and users can interact with these icons to automatically add or remove bookmarks from events

organizations to add events. For example, we will include adding ways for organizations and nonprofits to submit opportunities on the app in the form of general openings, events, or short-term/long-term work. Additionally, we would also consider additional functionality to user accounts to alter or update their email, name, and password. This would make the user feel more in control, and it makes sure that volunteer coordinators can contact users on their most recent contacts. To improve functionality and user experience, we also need to convert upcoming bookmarked events onto the user's Google Calendar or Apple Calendar. This keeps users updated with information outside of the app because it will be translated into events on their personal calendars. We also will consider an additional page that reorganizes the results on the newsfeed into a calendar format rather than the current newsfeed's list format. This enables the user to plan ahead her schedule and evaluate if certain volunteer opportunities are a good commitment given time commitments and scheduling preferences. Lastly, our future work includes designing a desktop version of the app so the design is responsive on different platforms.

Conclusion
Volunteerism is an invaluable and philanthropic way to expand one's network, build upon one's passions and skillsets, and give back to others. Our team recognized the obstacles that made it difficult for Cornell students to volunteer outside campus. Living physically and socially in a "Cornell Bubble", our research found that the key reasons for students' rate of volunteerism weren't so much due to lack of interest. Rather, major obstacles were lack of information and transportation, time, money, and other constraints typical to a college student.

Over the course of the semester, our team designed and improved "ServiceSearch", a smartphone app that helps students quickly find volunteer opportunities that suit their interests, skillsets, and constraints. The app's key features aim to improve user experience/user interaction and cater to the needs and goals of students. The app gives feedback to tell the user that all the onboarding responses are saved, and there is no need to refill or sign up. This streamlines the user experience to achieve their goals, to find well-suited volunteer opportunities, quickly and efficiently.

Overall, our team's research and design framework was based on a human-centered design approach to help Cornell students learn of volunteer opportunities and community outreach programs outside the "Cornell Bubble". Through design, we hope that users will be able to better engage with the greater Ithaca community and leverage their unique interests and skillsets to give back to others beyond campus.

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