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HandOff Project Proposal

In 2014, over 250,000 people in King Country were food insecure, meaning they had limited access to nutritionally adequate food[1]. Many of these people rely on local food banks for assistance. As seasons and demographics change, these food banks may find themselves in need of particular items that are not being donated regularly. Some food banks and shelters post these needs on Facebook or on their websites, as illustrated in Figure 1. However, unless community members are following these updates, they might miss an opportunity to contribute. The HandOff mobile application seeks to close the communication gap between community members and food banks, shelters, and local non-profits in need of supplies by allowing people with extra or unneeded supplies to connect with local organizations which need those particular supplies. HandOff will provide a better alternative to the current process where organizations post their needs to social media or the internet, which reaches only the community members who follow that organization's social media. With HandOff, organizations can reach community members who might not otherwise see their requests and community members can engage with organizations they might not have known existed previously.
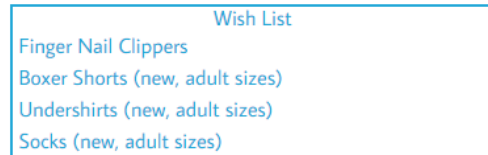

Figure 1. A screenshot from the website of Roots, a shelter for young adults in the University District of Seattle, showing their most needed items[2].

Figure 2. Illustrates use case. NewDay Food Bank uses HandOff to post a request for needed supplies.
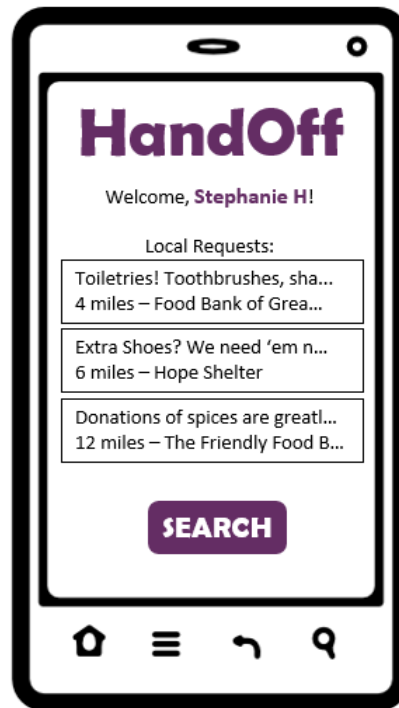
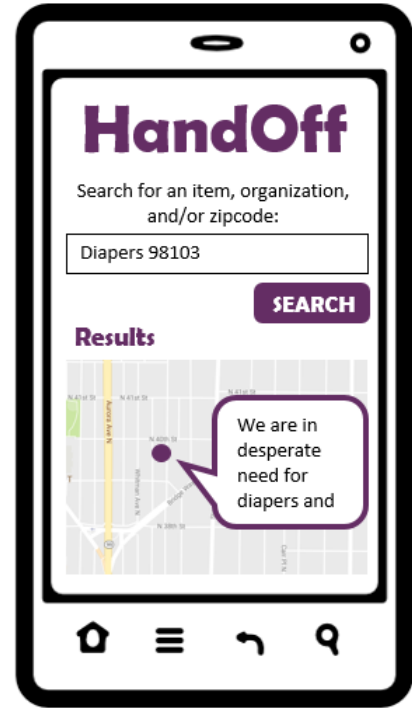*Figure 3. Illustrates use case. Stephanie logs in to HandOff to find a place to donate extra diapers.*

Figure 4. Illustrates use case. Stephanie searches for an organization near her that needs diapers.

Local organizations will be able to log-in to HandOff, create a profile with their mission statement and location, and post requests for specific donations (Figure 2). Community members can log-in to their own profile and browse requests from organization local to them. They can also search the requests by item they want to donate or by organization to which they want to donate. Additionally, they can subscribe and be alerted when their local organization posts a new request. Stretch goals could include gamification of donation, where community members receive in-game badges after certain donations, or improvements to the social interaction between organizations and community members through messaging.

At a high level, HandOff will require a compelling user-interface for two different types of users, access to the phone GPS in order to show organizations which are local to the community member, a back-end which supports log-in capabilities for the different types of users, a database which can be queried for donations efficiently, and the ability to provide push notifications for users subscribed to an organization. The proposer suggests developing this application using Android mobile development tools, including the Google Maps Android API to display local organizations, React Native to create exciting user-interfaces, and MySQL to facilitate efficient storage and querying of request information.

The biggest challenge to finishing this task in a timely manner will be enabling different user experiences for the two types of users - local organizations and community members. This will require the team to create two different user interfaces and create a log-in system which can provide the correct experience for each type of user. To mitigate this risk, the team should ensure that enough manpower is assigned to the user interface development to develop both experiences concurrently. The biggest challenge to ensuring this app is viable will be to ensure that malicious users won't be able to use this app to spam communities with requests for their own personal gain. An approach to solving this problem could be to create an automatic verification system for local organizations to determine their validity before allowing them to post requests. This could be done by requiring them to link a social media page or website which can be crawled for keywords, indicating their purpose.

If built with an eye towards simplifying connection and communication, HandOff can try to close the communication gap between community members and food banks, shelters, and non-profits and connect available resources to the people who need them most.

Citations:
1. Map the Meal Gap 2016: Overall Food Insecurity in Washington by County in 2014 [PDF]. Feeding America. http://www.feedingamerica.org/hunger-in-america/our-research/map-the-meal-gap/2014/WA_AllCounties_CDs_MMG_2014.pdf

2. Wish List. ROOTS Young Adult Shelter. http://www.rootsinfo.org/