

Fantastic Five

P2: Design Alternatives

Wilson Chen

Olufemi Adefila

Yi Chin “Phoebe” Chen

Dhavan “Bittu” Patel

Jose Pena Flores

Group 3 - H06/H08

Project Description and Requirements Summary

Project Description

The problem space of our project aims to improve local community engagement with the food relief organization Urban Recipe. In our Part 1 research, we identified through survey data that community awareness was a limiting factor; an overwhelming majority of survey respondents had never heard of the organization before. Within our scope of increasing interaction between community members and the organization, our general area of application is in bridging the barriers between these two entities and forming a sustainable approach to integrate the organization and its surrounding community. To this end, the intended tasks we wish to support are to incentivize local community members to participate in social work within the community, drive a consistent volunteer force ready to help serve the needs of its neighbors, and reciprocate this behavior between community members to ultimately build these communities up (in line with our *closed loop* principle of ecological design and *Partnerships for the Goals* UN sustainability initiative).

Requirements Summary

Functional Requirements

Outreach:

The overall functional goal of our system is to increase the level of engagement between the local community and Urban Recipe. There are a variety of methods we have considered to accomplish this task (which will be elaborated on in our design alternatives section), as outreach has a very wide breadth of possible design solutions. Nonetheless, the system must aim to increase awareness and recognition of the Urban Recipe brand.

Recruitment:

An important part of increasing engagement between the local community and Urban Recipe is the building up of a strong volunteer base. The system must afford opportunities for local community members to contribute, and foster an environment where community members feel proud to contribute as well.

Non-Functional Requirements

Sustainability:

The system should adhere to UN sustainability principles of No Hunger (2), Sustainable Cities and Communities (11), and Partnerships for the Goals (17), as described in detail in Section 1.1 of Part 1. Furthermore, Urban Recipe should serve as a point of reciprocation between community members. People helping people forms a closed loop (see principles of ecological design) community that feels proud to volunteer at Urban Recipe, and doesn't feel stigmatized for receiving aid from Urban Recipe.

Inclusion:

When designing our interface, a crucial point of consideration is the target demographic that we are performing our outreach to. This project is a community-wide effort to raise awareness of the services Urban Recipe offers, so the design should include as many members of the community as possible. Gathering voices from different income brackets and from diverse ethnic and cultural backgrounds within the area fosters a healthy exchange of perspectives.

Safety:

COVID-19 complicates the logistics of our interface, especially given that volunteering and outreach are traditionally in-person activities. Special care must be taken to ensure that safety guidelines are followed across every step of the system, and certain ideas like in-person outreach events become less feasible due to the pandemic. Additionally, marginalized communities are at a higher risk for COVID infection, complications, and death ([Risk for COVID-19 Infection, Hospitalization, and Death By Race/Ethnicity | CDC](#)). Therefore, it is imperative that our design solution does not produce unnecessary exposure to vectors of COVID spread whenever possible.

Design Space

Process

When exploring ideas for designs and interfaces, we individually came up with 8 design alternatives under the “Crazy Eights” assignment done in 3/10 studio. After laying out our ideas, we categorized them in four primary areas: UI, Incentives, Events, and Advertising. Many of the ideas we had laid out on our collaboration board had overlaps. As we narrowed down our final three selections, we looked at one main factor: how much of the problem space does the design encompass?

For example, we chose to create a design for a mobile application. Some of our other ideas included a calendar update system, a notification system, the ability to refer other users, and an interface that allows users to sign up for volunteering opportunities. We decided to choose a mobile app as we can create most of these systems and implement them as features of the app. However, the main tradeoff we discovered was a lack of attention to certain details. Having multiple components forces us to spread our focus on multiple aspects, whereas having one design without many features allows us to focus heavily on it, but would lack modularity.

Requirements

From the functional and non-functional requirements outlined in the Requirements Summary, inclusion and safety may be the most challenging to realize. If the main goal of the design is to increase participation and knowledge of Urban Recipe, then there must be a way to communicate with the volunteers through some medium. This communication can be explored through two avenues: online or in-person.

If the communication is done online, then some potential users are lost since not everyone has access to devices that can connect online. This is especially prevalent in marginalized communities, which typically possess fewer electronic devices and decreased internet access ([Marginalized ethnic groups have poorer internet access even in the same country - The Verge](#)). Adopting an online communication approach would have to reconcile with our non-functional requirement of inclusion.

On the other hand, if the communication is done in person, the person is put at risk of COVID. As noted in our Safety non-functional requirement, marginalized communities are at a higher risk of COVID infections, implications, and death. Socioeconomic status, access to health services, and increased exposure to the virus due to essential work are all factors that exacerbate these inequalities. It is evident from research on these two approaches that both have tradeoffs (online decreases inclusion, in-person decreases safety) when fulfilling the various requirements of the system we wish to design.

Initial Design Alternatives



The result of our "Crazy Eights" exercise from 3/10 studio.

Each team member took 8 minutes to brainstorm eight ideas, placing them onto our Miro board. Each color represents a teammate. Once ideas were laid out, they were grouped into the four categories seen here.

Design Alternative 1: School Outreach Event

Description: Urban Recipe visits a school to do a food drive event. The homeroom that donates the most food by the end of a given timeframe will receive some reward from Urban Recipe.

Pros: Schools have many children, and children have family members and guardians. Through making a fun, competitive event at a school, children can learn about what Urban Recipe does, and can spread this information to family members. From one source, a large amount of people can become aware of Urban Recipe's mission.

Cons: The design relies on the students ability to spread the information back to their parents and to also participate in the events. This design does not target volunteers specifically but aims to increase awareness through informing students of the issue.

Design Alternative 2: Video Ad Campaign

Description: A commercial is shot describing Urban Recipe's mission and ways to get involved. This commercial can be distributed over the internet.

Pros: Video only needs to be shot once and can be reused as a site asset and redistributed as long as is needed. Because it is distributed online, it is easy for people to happen upon it through actions like watching YouTube videos. It can also be easily shared through URLs.

Cons: This is a rather expensive and resource-intensive approach. To make a commercial effective, special care needs to be taken when filming to ensure that the end product is professional and conveys the right message. Furthermore, costs of playing the ad may be too much for a smaller non-profit.

Design Alternative 3: Mobile App

Description: A mobile app is developed that allows users to quickly sign up for volunteering events, get information about outreach events, and perform actions like referring users and creating volunteer groups.

Pros: The app would be convenient to access and use from any location with internet access. Certain demographics frequently check their smartphones, so push notifications could be important suggestions for these groups to engage with Urban Recipe.

Cons: An issue with a mobile app design would be availability. Not everyone has a mobile device to receive notifications and sign up for volunteering events online.

Design Alternative 4: Newsletter + E-newsLetter

Description: A newsletter is released in periodical installments on the Urban Recipe website, and through emails of volunteers and other individuals who opt into the service. The newsletter will contain current information about Urban Recipe's volunteering efforts, events occurring soon, and other ways to get involved.

Pros: Newsletters allow for mass communication across everyone on an email list, and can periodically remind subscribers about things that they may want to do.

Cons: Creating periodical newsletters takes a non-insignificant amount of resources in writing content and laying information out. Furthermore, volunteers may get turned off by e-newsletters even if they had opted in, as it may be considered spam for some people.

Design Alternative 5: T-Shirt Design

Description: A t-shirt design is created with Urban Recipe's logo, mission statement, and social media links on the shirt. This shirt is freely distributed to any volunteer of the organization, and can be given out to prospective volunteers and donors at outreach events.

Pros: This option has a low barrier of entry, since anyone can wear the t-shirt without sacrificing anything else. Furthermore, wearing the t-shirt adds a sense of brand loyalty and also serves as a "walking billboard" for bystanders.

Cons: The main tradeoff of this design is that since it focuses more on raising awareness, it is less easy for it to directly create an impact on volunteers' participation in Urban Recipe. Even if it does directly lead to a new participant, it is also hard to measure the extent of the effects of this design.

Analysis and Final Design Alternatives

We ultimately concluded with Design Alternatives 1, 3, and 5 (School Outreach, Mobile App, and T-Shirt Design) as the three interfaces we wished to explore further. We chose these three design alternatives out of practicality of implementation when compared to the alternatives.

Design Alternative 2 (Video ad campaign) required too many resources in video production and monetary spending that may be infeasible for a smaller non-profit entity. Design Alternative 4's newsletter model requires constant upkeep and faces a similar issue of content creation resources as the video ad campaign.

Our school outreach event (Design Alternative 1) is a nicely scalable solution. For each school, the organization only needs to contact one school official in order to begin the process. One difficulty may be in getting a school to agree to host the event.

With a mobile app (Design Alternative 3), we can utilize our skills as CS/CM students to develop a solution that complements our skill sets nicely. Furthermore, the mobile app allows for modularity of features (as described in the Process section), and serves as an efficient vector for engagement through notifications. One resistance point may be getting volunteers to download the app for the first time.

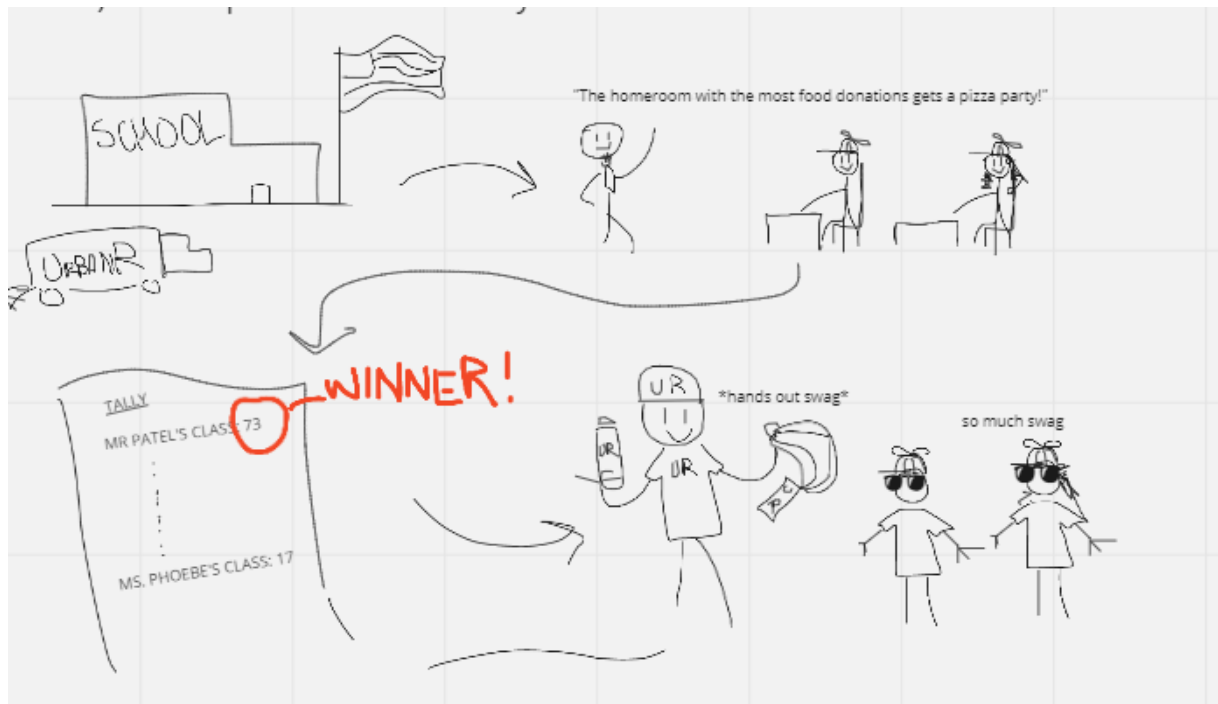
For our t-shirt design (Design Alternative 5), we sought to expand our scope within the problem space to a physical item. T-shirts offer great affordances; they can easily be lettered and imprinted with graphics, and t-shirt wearers can be public billboards for representing an organization. Furthermore, giving every volunteer the same t-shirt design could increase team camaraderie, building on our sustainable effort to integrate Urban Recipe with its community. Cost may be a factor, although buying in bulk may ease the overall cost to an extent.

Prototypes

Design Alternative 1: School Outreach Event

A large part of our research in P1 was understanding the role Urban Recipe plays with its community. We found through survey data that Urban Recipe had no name recognition to an overwhelming majority of our sample population. Our problem space seeks to increase engagement between local communities and Urban Recipe, and a high school environment is a great vector for informing people about Urban Recipe's existence and mission. Over half of students attending Fulton County public schools are eligible for free/reduced meals ([Free and Reduced Lunch Eligibility | Fulton Performance \(fultoncountyga.gov\)](#)), and a school provides a convenient place to disseminate information for these populations and their guardians. By adding a competitive nature to the event, students and teachers have incentives to get involved, and the product of the efforts gives Urban Recipe greater amounts of food items to use for its own food security initiatives. The addition of Urban Recipe-branded merchandise provides a permanence to the event; after the event is over, kids may continue to carry Urban Recipe water bottles and wear their t-shirts. Information about volunteering links printed on these items may persuade a percentage of these students to volunteer in the future.

Illustrations of the design



User Scenario

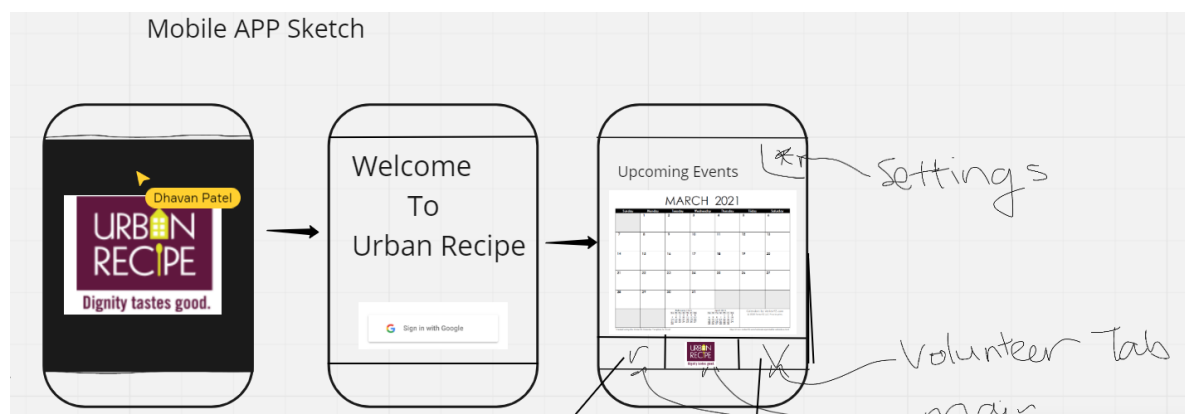
Little Timmy, 17, comes to his school one day like usual. One morning, the principal announces a fundraiser to increase food insecurity awareness in the local community. Timmy gets excited because there are prizes announced for whichever homeroom collects the most canned goods during the following week. Timmy goes home and tells his parents about Urban Recipe and the issue of food insecurity. His parents have some canned soup in the pantry that they hand to Timmy. Timmy takes the cans to school and gives four soup cans to his homeroom teacher. After the event comes to a close, an Urban Recipe representative talks to his homeroom because they won. The representative explains the issue in more detail and thanks the classroom. Prizes and cards are handed out giving information about further ways to engage with Urban Recipe.

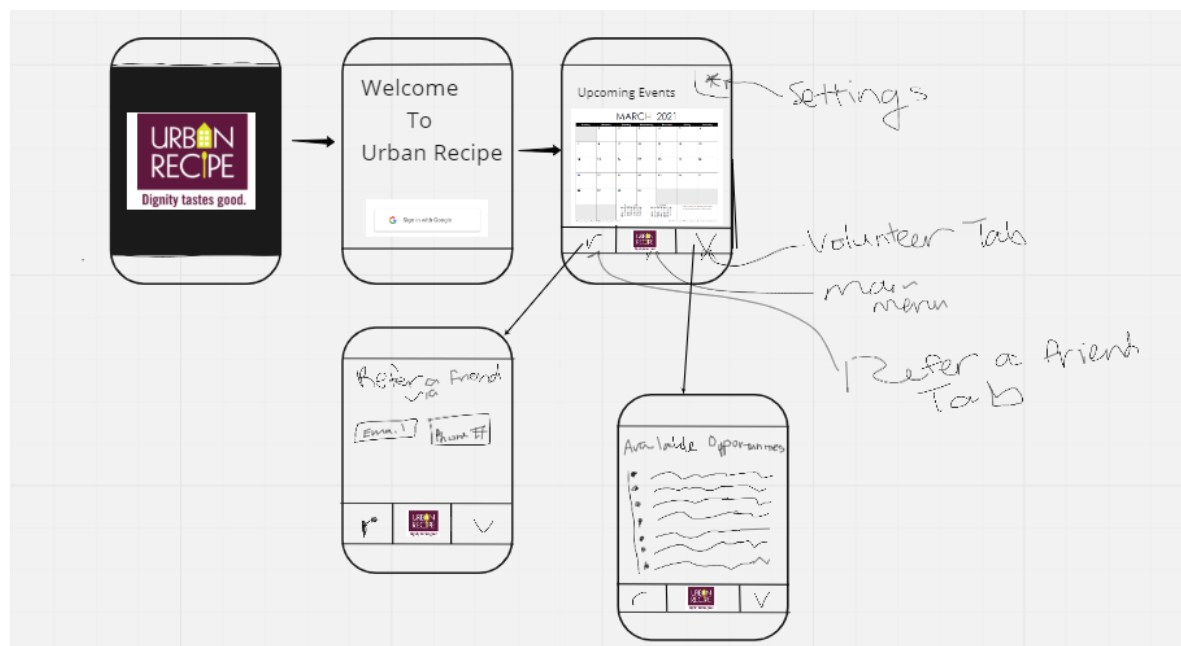
Design Alternative 2: Mobile App

A mobile app provides a quick and easy way for participants to register for volunteering events and be reminded of important dates and days that they have signed up for. Because a mobile app is installed on a user's phone, it is easy for them to potentially send out information to other possible participants and friends that they have in their contacts or on social media apps that they already have. According to the survey that we sent out for our first project deliverable, most of the participants would prefer to be contacted through either text or email. Both of these forms of communication can be used through a mobile device. It could potentially be a convenience for the user since registering for volunteering and informing others could all be done on the same platform at the same time.

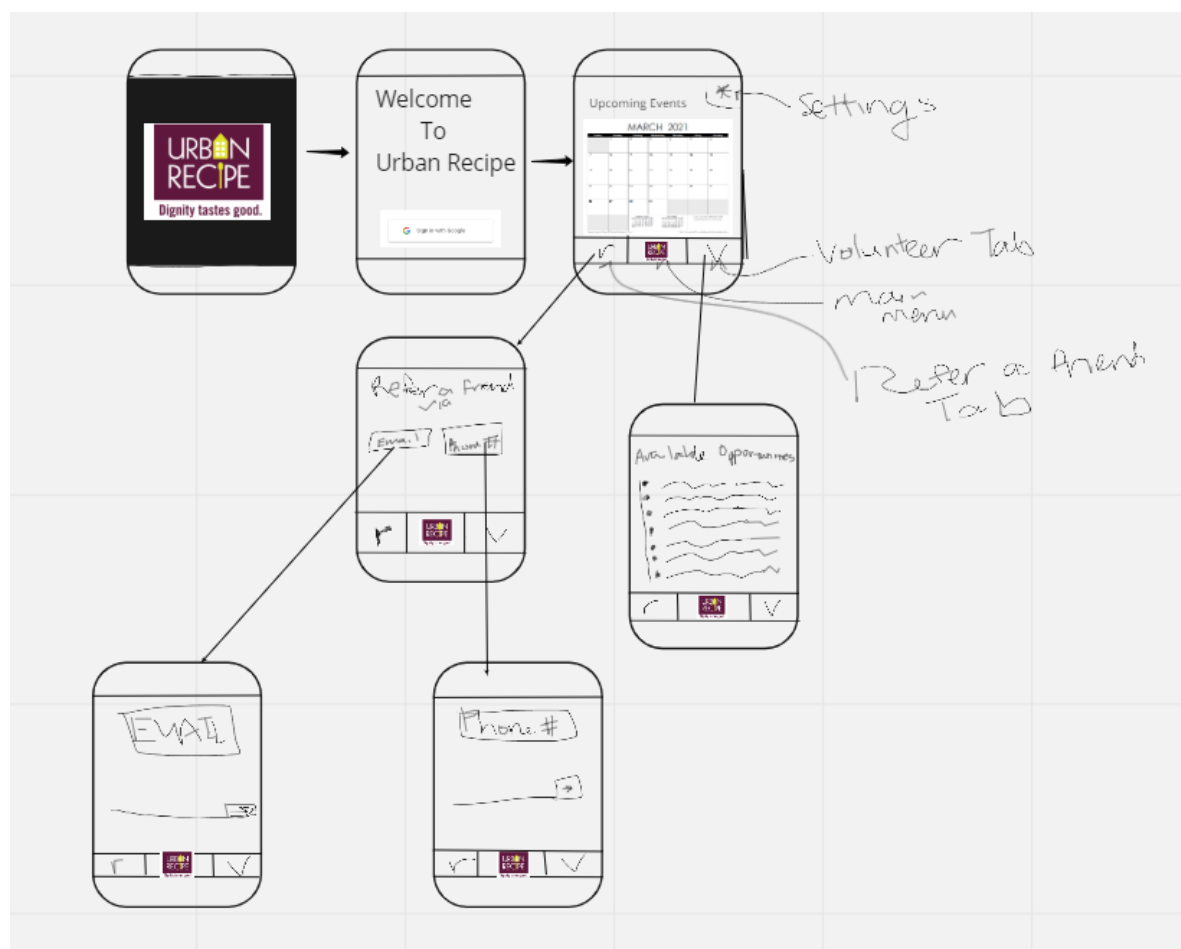
Illustrations of the design

- Show calendar for signup days





- User Notifications + Refer a Friend



User Scenario

Little Gary, 18, is a rising senior in high school. Gary loves volunteering and helping others on the weekends and is very tech savvy. He knows about different organizations that combat food insecurity and has worked with them in the past. Gary particularly enjoys helping in this area because he was once food insecure. After scouring the internet and sites such as ACFB.org, Gary becomes frustrated that there are no available opportunities for him. However, he discovers Urban Recipe. Quickly, he goes to the website where he sees a link to a mobile app download. After downloading the app on his phone, he logs in and begins searching for upcoming volunteer opportunities. After signing up for an upcoming role, Gary feels a surge of happiness. Having friends who also enjoy volunteering, Gary refers his friends to the app so they can all volunteer together.

Design Alternative 3: T-Shirt Design

A t-shirt is a great medium to spread a campaign slogan/message when given out for free. There is a relatively small barrier for people to be willing to receive it, and people who receive will likely wear it and, as a result, spread the message on the t-shirt to other people. The people who personally wear the t-shirt will likely take the message on the t-shirt to heart as well. Given the qualities of a t-shirt mentioned above, we decided that a t-shirt design would be a great tool for community outreach.

Based on our survey, we found out that while many people have had volunteering experience, very few of them are aware of Urban Recipe's existence, not to mention its lack of a social media presence. A t-shirt would be a direct and physical way to directly tackle these issues. Given that many people on college campuses have experiences volunteering, they will likely be willing to volunteer when introduced to a new volunteering opportunity, whether they look up Urban Recipe proactively or passively remember Urban Recipe's name and recognize it later on. A t-shirt helps effectively inform the existence of the organization in a local setting, raise awareness about Urban Recipe, as well as promote various events hosted by Urban Recipe.

Illustrations of the design



- Our T-Shirt design will be a left chest and full back combination.
- The left chest is the classic place to put Urban Recipe's logo; the backside contains Urban Recipe's slogan and social media links.

User Scenario

Amanda, 19, is a second-year college student who received a T-shirt from a giveaway on her college campus. She reads the promotional message on the T-shirt and keeps the name Urban Recipe in mind. A few days later, Amanda decides to wear the T-shirt to school. On campus, she was stopped by a person who is interested in volunteering in general and asked Amanda about her shirt. Amanda replies that she knows that the organization deals with food insecurity but hasn't actually volunteered there personally. Both of them decided to search Urban Recipe up on the spot and end up signing up for the same volunteering event in the upcoming weekend.

Design Assessment

1 - Worst 2 - Middle 3 - Best

	Design 1 - School Outreach	Design 2 - Mobile App	Design 3 - T-shirt Design
Communication (.2)	$3 \times (.2) = 0.6$	$2 \times (.2) = 0.4$	$1 \times (.2) = 0.2$
Efficiency (.1)	$3 \times (.1) = 0.3$	$2 \times (.1) = 0.2$	$1 \times (.1) = 0.1$
Convenience (.15)	$3 \times (.15) = 0.45$	$2 \times (.15) = 0.3$	$1 \times (.15) = 0.15$
Inclusiveness (.1)	$3 \times (.1) = 0.3$	$1 \times (.1) = 0.1$	$2 \times (.1) = 0.2$
Scalability (.1)	$2 \times (.1) = 0.2$	$3 \times (.1) = 0.3$	$1 \times (.1) = 0.1$
Cost (.2)	$2 \times (.2) = 0.4$	$3 \times (.2) = 0.6$	$1 \times (.2) = 0.2$
Sustainability (.15)	$3 \times (.15) = 0.45$	$2 \times (.15) = 0.3$	$1 \times (.15) = 0.15$
Total	2.7	2.2	1.1

When creating our table, we added three additional usability goals to the four that we had initially covered in Report 1. These three new goals are scalability, cost, and sustainability. These goals were added to expand the breadth of considerations and add more perspectives to view a given design from. Scalability was added in order to account for how the system might adapt and change if the organization's resources grow. Cost is also a consideration, as a non-profit has limited resources to draw from to achieve their outcome and a cost-benefit analysis provides a data-based perspective towards evaluating effectiveness. Finally, sustainability is included to measure how well a system interacts between Urban Recipe and the community to form the closed-loop bonds that help attain self-sufficiency.

Considering that raising awareness and engagement was our primary problem space, we decided to make communication worth 20% of our criteria. Consequently, because of the small scale, low staff, community driven identity of urban recipe, it was also important to prioritise low cost as this would determine if our solution was implementable. We also made the cost worth 20%. We went on to rank convenience next because unlike with large enterprises or companies

who have incentivized staff, convenience is important in maintaining commitment from volunteers and members. In a similar manner, developing a symbiotic relationship between Urban Recipe and its supporting community members represents a sustainability goal that helps keep the community self-sufficient and welcoming. With this in mind, we gave convenience and sustainability a 15% share of our criteria. Efficiency, inclusiveness, scalability, effectiveness were all given 10% based on how important they were to achieving our goals.

Using these weights, we evaluated each of our three main design alternatives with a score of best (3) to worst (1) on each usability criteria, as shown in the table above. The school outreach event scored highest marks at 2.7, with the mobile app in second at 2.2 and the t-shirt design idea at a 1.1 in comparison. From this systematic evaluation of the product through usability criteria comparisons, we can conclude that the school outreach interface is the design alternative we want to move forward with.

Reflection

Initially, we mistakenly began our design journey by focusing immediately on solutions we felt were needed, as opposed to observing what our user's needs were. We had initially planned on redesigning Urban Recipe's website, focusing on highlighting upcoming events and calendar activities. However, after switching our approach to a more holistic and iterative process of design, we discovered the need for more empathetic and community-driven solutions as this is the foundation on which Urban Recipe was founded. We brainstormed ideas that were generated individually, rapidly and with no deliberation, allowing us to amass both good solutions which split into groups, and bad solutions which we subsequently filtered out together.

We had a series of requirements for our design: communication, efficiency, inclusiveness, and scalability were all initially selected during phase one of the design process. Subsequently, we added cost, efficiency, and convenience, as these are also very important factors for determining both the feasibility and necessities of our design. A costly design would not be implementable, an inconvenient design would exacerbate problems we are trying to solve, and an ineffective design would just be a waste of time.

Upon completion of our brainstorming, filtering, and grouping process, we settled on three top design solutions; a school outreach event to foster the small community while simultaneously increasing awareness and donations, a mobile app that addresses all the technological weakness we discovered in their digital presence, and finally, a t-shirt design offering the simplest form of advertisement and incentive. Consequently, we weighed these designs based on how much they fulfilled the initial requirements we had stated.

Looking back on the entire process, one of the biggest takeaways was how we had to constantly try to see things from the perspective of our users. This was also our biggest challenge. Due to us having limited access to current Urban Recipe members and employees, we couldn't accurately measure how effective our solutions are in comparison with the current status quo. Nonetheless, we painstakingly assessed each design, weighing its pros and cons, comparing perspectives and avoiding subconscious biases which would flaw the design. Our current next step is receiving feedback during the poster session in order to further correct and update our solutions.

Appendix

Sources:

UN Sustainability Goals

[THE 17 GOALS | Sustainable Development \(un.org\)](https://un.org/sustainabledevelopment/)

Risk for COVID-19 Infection, Hospitalization, and Death by Race/Ethnicity

[Risk for COVID-19 Infection, Hospitalization, and Death By Race/Ethnicity | CDC](https://www.cdc.gov/covid19/race-ethnicity/)

Marginalized ethnic groups have poorer internet access even in the same country

[Marginalized ethnic groups have poorer internet access even in the same country - The Verge](https://www.theverge.com/2020/4/2/21244444/marginalized-ethnic-groups-poorer-internet-access)

Fulton County Free/Reduced Lunch Eligibility

[Free and Reduced Lunch Eligibility | Fulton Performance \(fultoncountyga.gov\)](https://www.fultoncountyga.gov/2019/05/01/free-reduced-lunch-eligibility/)

Ideations:

3/10 Ideation Studio:

[3_10 Studio Participation Assignments-1.pdf: Fantastic Five \(instructure.com\)](https://www.instructure.com/3_10_studio_participation_assignments-1.pdf)

Crazy Eights:

[H06/H08 Ideation - Google Sheets](https://docs.google.com/spreadsheets/d/1H06H08Ideation/edit#)

Miro Board:

[Fantastic Five Miro Board, Online Whiteboard for Visual Collaboration](https://miro.com/app/board/o9J_gKzYnDQ=)