Team 26 eHacks 2022
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MealShip Executive Summary

Problem statement

According to the USDA, more than 38 million people in the United States are food insecure, with these numbers only increasing during the pandemic. Many families that experience food insecurity do not qualify for federal nutrition programs and visit their local food banks and other food programs for extra support. MealShip aims to address two issues that the food-insecure population faces and the current alternatives do not address: decreasing food security and quality, and accessibility of food sources. Welfare programs are not available to everyone who is food-insecure. Food banks and soup kitchens have limited locations, which many do not have access to. Homeless individuals do not have regular access to kitchens or cooking supplies, even if they can get ingredients from food banks. For those seeking food support, there is a lack of choice. Finally, donors can only give prescriptively or indirectly.

Customer Segment

Recipients are individual adults who are experiencing food insecurity in urban areas in North America. Many of the early adopters will be those who are active online who are seeking food and welfare services. Donors are individuals who have spare income and are passionate about social causes. Vendors are affordable restaurants with accessible locations looking to give back to their communities. To make the organization more scalable, partnerships with large multinational chains will be needed. Early adopters will be vendors that are in need of extra revenue opportunities and are looking to boost their brand.

Solution

MealShip is a service that enables donors to provide meals to recipients through vendors. Donors can select the cost and number of meals they would like to provide. Recipients can select the restaurant of their choice once their meal request is fulfilled by a donor, and use their unique QR code to get the meal at the chosen vendor. After fulfillment, they can message the donor to thank them if they choose to do so. Recipients have the dignity of choice, without begging for cash or expending extra effort to transport themselves to a faraway food bank or soup kitchen. Donors have the opportunity to give directly to members of their community, as recipients will be within a selected geographic range. QR codes and in-app geotagging create ease of access for users on both ends.

Channels

MealShip plans to market on social media as well as through traditional physical methods, like posters and billboards. Marketing campaigns will generally target potential donors, relying on brand loyalty (“Share a KFC meal”) and the moral and ethical incentives to give back to the community (“Share a meal with your Paloma neighbor”).

MealShip is exploring government and charity sponsorships. This will not only allow the business to access more financial resources but also reach a wider audience that includes donors and recipients to get access to the application. Negotiating benefits for participating vendors and donors like tax benefits will help incentivize more users to join the platform. Once the platform is finished, service representatives will reach out to interested vendors to initialize onboarding processes to improve the service.

A phased approach will be taken by first opening its service in the Greater Toronto Area. This will serve as a test area to refine the services and the functionality of the app. Once partnerships are formed with national restaurant chains, MealShip will move into cities with extreme income gaps and then other large metropolitan areas across North America.

Revenue, Expenses, and Key Metrics

MealShip is a not-for-profit organization that generates revenue by charging a small percentage per transaction as a service fee from the donor and the vendor. This will be used to cover server costs, marketing budget, and vendor onboarding fees. The key metric to measure financial feasibility is meals donated per month and the month-to-month growth rate. Donor retention rate is another metric that will measure the sustainability of the business.

Tech Stack

For front-end design, we used Figma. We coded our frontend in Javascript, using the React Native framework on the Expo platform. For the backend, we used Express.js REST API for processing sign-up, meal requests, donations, and voucher redemptions. We used a PostgreSQL database. We used Anomaly Detection (Isolation Forest) and Dimensionality Reduction (PCA) to filter and select specific recipients. We used Jupyter Notebooks and the Google Sheets API for the machine learning analysis.

What's Next

Other verticals such as groceries, prescription drugs, housing services, and other essential service options will be explored once a large enough user base is formed. We will also expand into brick-and-mortar kiosks and stores to address the digital accessibility barrier.

Workshop Topics - **Ideating Impactful Solution**

We incorporated the Design Thinking thought process: Empathize, Define, Ideate, Prototype, Test in our solution. Our key focus was empathy: each of us assumed the role of a recipient, vendor, donor, and our solution team staff to think from their perspective, and came up with a decision flow for each of these individuals that helped us to build an interface and define edge cases. We built MealShip as an app that we would be happy to donate to as well as receive from— reports have shown that transparency in the donation process has led to a high donor retention rate, which leads to recipient satisfaction and maximum impact.