Dynamic Management of Food Redistribution for 412 Food Rescue

Purpose: To provide greater efficiency for 412 Food Rescue's use of volunteers in picking up and delivering donated food to those in need, specifically by designing an on-line scheduling system to develop more efficient ways to use the volunteer resources to redistribute supplies.
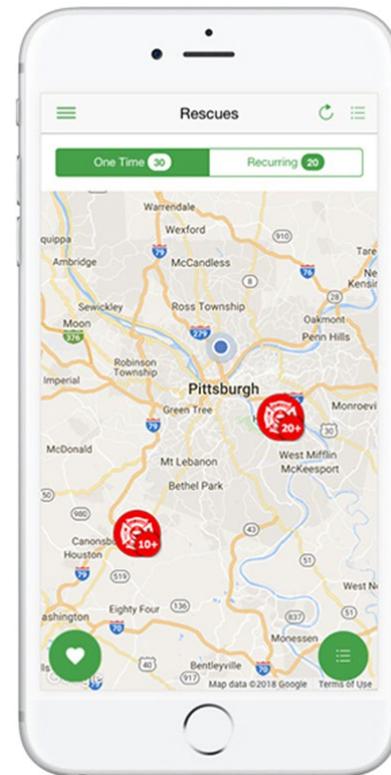
Approach: The team considered the current methods in place to transport donations by volunteers and looked at ways to improve. Using this information the team worked to develop and test an intelligent dynamic scheduling system.

Key Findings: The team reviewed the current process that 412 Food Rescue currently uses to assign deliveries to volunteers:

- Dispatcher is notified of new food donation.
- Dispatcher locates donor and determines potential volunteers for donation pick-up.
- Dispatcher contacts non-profits for donation acceptance.
- Dispatcher enters request into database with details for possible volunteers who have indicated the distance they are willing to travel.
- Volunteers in the proximity are notified of the donation and given the option to accept.
- If no volunteers accepts within 15 minutes, the donation delivery request is sent out to all users in the database and the first to respond is assigned the transportation request.

The team recognized the challenge of this system is that requests can not be filtered to best utilize the available volunteer resources. They then worked on a solution by developing a new app, called FoodGo.

Conclusion: The team determined that there is a tension between having the flexibility and the fluidity of crowdsourcing volunteer resources and making efficient use of them. 412 Food Rescue purposely limits its information requirements on volunteers, particularly on when and where they will be available, in order to encourage participation, but, as a result, they cannot make efficient of them. The proposed solution is to recruit a subset of volunteers that are willing to provide this information and to use FoodGo to allocate them efficiently.

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