

## **Design Proposal Template:**

**School: Jorge Alvarez High School      State: Rhode Island      Division: High School**

**Team Members' Names: Alci Castillo, Bellinda Martinez-Quintana, Fredys Cabrera, Yazan Alothman**

**Project Title:** Readers should have a general sense for what the project is about and want to read more. (20 word maximum)

The Nourish Network:  
Providing Food Banks with Automated Inventory Management, Online Ordering and Logistical Sorting Machines

**Inequity Being Addressed:** Describe the inequity that you will attempt to address with your proposed solution, and why you chose this inequity. Students are able to consider a global perspective related to their inequity. (75 word maximum)

The inequity we are addressing is the difficulties people in low-income communities face acquiring food when needed, due to an inefficient and confusing food bank system. This is our proposed solution for United Nations Sustainable Development Goal 2, Zero Hunger, specifically target 2.1. We chose this inequity because food is a necessity, and while we can't provide the food, we can help those who can provide it do so more efficiently.

**Community Research and User Identification:** Explain the process used to identify the inequity and select your user. Include any research done to identify issues in your community and understand which groups face challenges because of these issues. (150 word maximum)

The process we used to identify the inequity was a team discussion, including the realization that we've all been food insecure and relied upon these services, and that two of us worked in stores where getting food was simpler. This was followed by exhaustive research focused on our peers and community members. We concluded who the users would be by researching who is most affected by food insecurity and catered the app to them, as well as the staff who serve those individuals. Our research included creating multiple surveys, promoting them to the best of our abilities through social media and word of mouth, and performing multiple deep dives into the resulting data, as well as existing data we found from credible sources online (we focused on government data from .gov domains), in order to make sure we understood exactly who needed to be at the center of this design.

**User Profile:** Provide a detailed description of your selected user. Include information about challenges they face, how those challenges impact their lives, and specific project needs based on user feedback. (150 word maximum)

Our app is for both food bank staff and their typical clientele. Both of these groups of people face a great deal of adversity. Staff are typically overworked and under-resourced, and could benefit greatly from any kind of streamlining or automation. Meanwhile, the users seeking food, which seems to come at ever-increasing prices, have to worry about feeding themselves and their families. They also spend time and energy on keeping a roof over their heads, paying bills, and a variety of other challenges, so being able to simplify the acquisition of food and planning their meals ahead of time would be a blessing. Once we began consulting with our partner, Rhody Outpost, a university-based food bank, the director said that instead of using an email and password system, their staff and clients should use university ID to login. Prospective users also made suggestions about order pickup options.

**Project Goals:** List your project goals and explain how these goals will address the inequity. Project goals should define the desired outcomes, not specific features of the proposed solution. (150 word maximum)

The goal of our project is to make food banks more accessible, more efficient, and easier for everyone to use. Employees need to be able to update and manage inventory more efficiently. Their clientele, who rely on resources from the food bank, need to be able to access those resources as expediently and as simply as possible. These goals address the inequity of people not getting enough food in communities of need, because food banks are often underfunded and difficult to navigate. We hope that with the addition of a free app that helps manage inventory and offers ordering services, we can help more people get the food they need when they need it, without expending unnecessary time and energy.

**Proposed Solution:** Describe your proposed solution, including any innovative and unique features, and explain how this solution will address your users' needs and the inequity they face. (150 word maximum)

The solution that we have proposed is an app that allows food bank staff to update and manage inventory and clients to order the things they need. We also plan to develop a piece of hardware and a machine learning model that can actually physically sort through inventory to find the items in a specific order. Anyone with an account will be able to place an order, selecting from only the items available in the quantities currently in stock. That order will be automatically picked from the inventory. Staff will be able to simply bring the items to the client and the inventory will be updated to reflect the new stock quantities. This will address the needs of staff because they will have a centralized inventory tool that largely maintains itself and automatically sorts online orders. Clients will have a low-stress way of obtaining food in the quantities they need.

**Initial Design:** A single graphic of your first design idea with key features adequately labeled. It should be easy to understand and the reader should have a general understanding of how the prototype functions by looking at the graphic. Max size 8.5" x 11"

