**Introduction:**

Originally, we had chosen to recreate the virtual map for our school. This project spoke to us personally as each of our first times on campus, we all had trouble locating certain buildings and classes utilizing the old virtual map. But upon further research, we learned that they have already been continually updating the mapping software and now there was no need for a revamped version. So, we decided it would be in our best interest to change project scopes, even though we were already halfway through the semester. We completely changed gears and instead worked with Javita Thompson, the director of the Center of Community and Civic Engagement at Elizabethtown College, to create a functional website and database for the Etown food pantry. With what limited time we had left, we had to keep time management and task efficiency as top priorities.

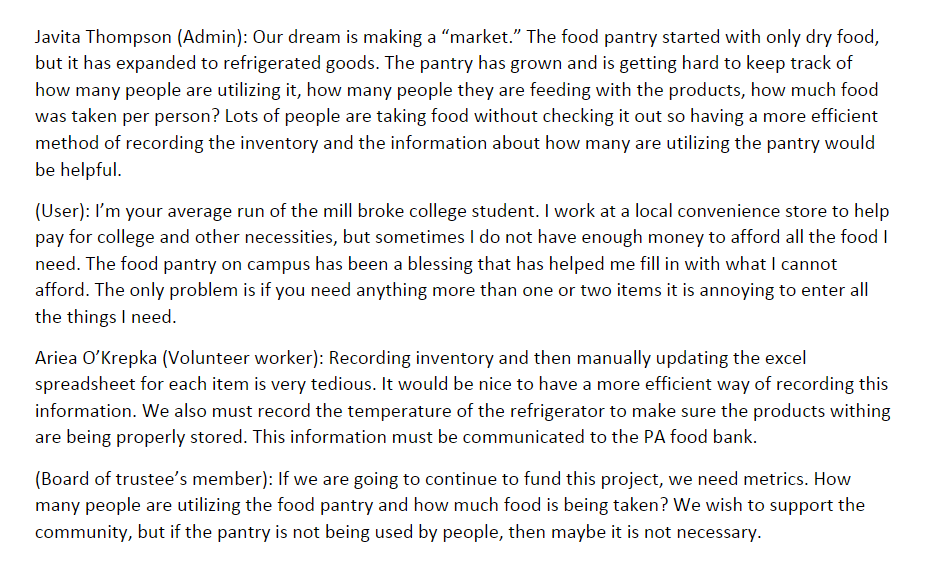
**Purpose:**

The Blue Jay Pantry is a food bank created by Elizabethtown College in order to prevent malnourishment to local residents and current students. The pantry is currently run by Javita Thompson and her very small team of one other person with space allocated by the school. Food is acquired from charitable donations from the community and the Central Pennsylvania Food Bank. Javita and her team wished to have an efficient system for monitoring food items and the ability to allow students to know what items are currently in stock before making the trip in-person. Our team was tasked to design a website that allows for more efficient tracking of in-stock items and their corresponding quantities. She also wanted a cleaner way to collect and display food data over long periods of time to report to the Central Pennsylvania Food Bank and the school board.

**User Stories:**

We divided up our user stories into four prominent parties’, each with varying needs that would be of concern. Javita Thompson, who runs the food pantry alongside Ariea O’Krepka who assists with keeping inventory and recording other important pantry details. All this information was being stored inside a single Excel spreadsheet, which became rather tedious to manage. In regards to students using the pantry, it can be frustrating to walk all the way over to the pantry just to find out the one thing they needed is out. So students would like a system to view the current pantry inventory virtually, before making the hike over in-person. Finally, the usage and other details about the food pantry needs to be reported to the school board and Central Pennsylvania Food Bank who would like to see these metrics in great detail. These metrics need to be reported or else the Jay’s Pantry will no longer be able to receive donations from the Pennsylvania Food Bank.

**Continuation of User Stories:**



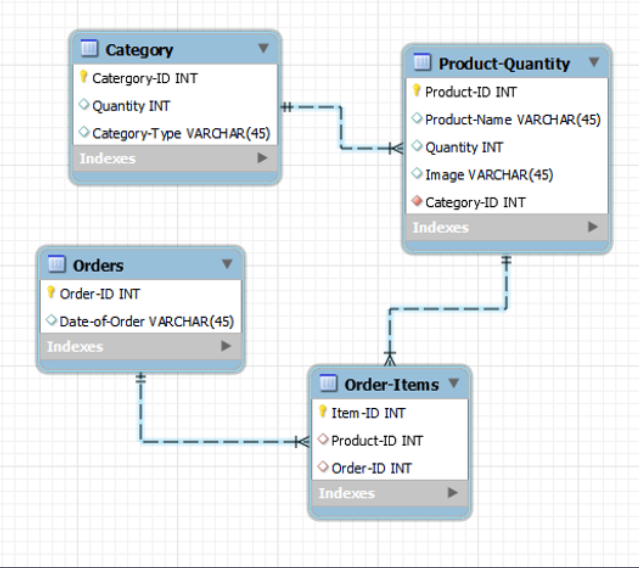
**Key Problems:**

The key problems we faced with this project is recording and editing the inventory of the pantry, a way to report the information, and a way for students to view the inventory. These features would encompass most of the inconveniences the pantry had to deal with.

**Designing the Data Model:**

We started to design our model around the idea of having products and categories where each item would be part of a product type and category type. We wanted to have individual ids and names for both category and products since each would be unique. The amount of products was important to include because it would display directly on the website how much was available. In the products table, images of the products themselves would be displayed for the students to see. Next, we focused on implementing orders with items being specific to an order. We designed a table called, Order\_Items, that would keep track of all the items in a specific order. Another table, Orders, would keep track of all the orders created, with the date of that specific order. The category table and product table had a 1 to many relationship since every product was part of a category and many products could be part of the same category. The products table would have a one to many relationship with the Order-Items table, due to multiple of the same products being in the same order. The Orders table has a one to many relationship because many people can have items in a single order.

**ER Diagram:**



**Division of labor:**

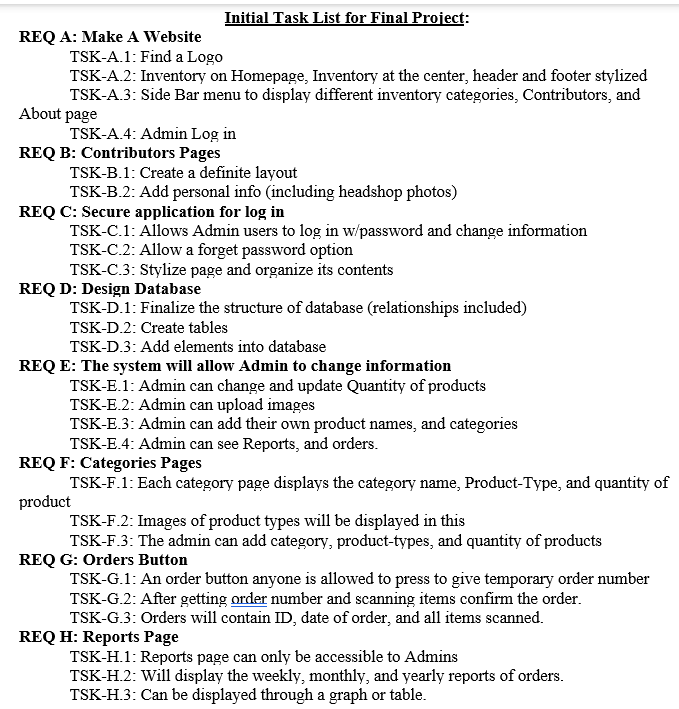
In order to finish a project in an organized and timely manner, dividing the labor evenly and efficiently among your team is essential for success. When we first started our project, none of us knew a significant amount of php, html, css, or javascript. Aiden and Alex are in a web development class using the languages previously mentioned so initially we figured they could handle the overall web design, Matt had previously taken database systems so we figured he could handle the database, and Adam had the disadvantage of taking none of these courses so we had Adam doing a lot of the documentation. We soon realized that this division of labor would not be sufficient due to everyone focusing on their own subsection of the project. This meant that other group members would not overlook someone else's progress, due to their workloads never intersecting. When we began this project, we immediately wanted to ensure that everyone would be able to contribute to the site in an impactful way and avoid having one person hog all of the tasks. Although Adam had no background in php, we gave him the task of creating pages that would allow for Javita Thompson to view reports on items leaving the food pantry. Matt, as previously mentioned, handled the creation of the database and making pages that would allow Javita to edit the inventory of the pantry. Alex handled making some simple pages about the team and the Jay Pantry, as well as making the homepage that displays pictures of all of the products from the database. Aiden was tasked with creating a secure application for the admin to login, and making sure that our passwords were stored properly so that our admin functions could not be compromised.

**Discuss the biggest challenge:**

The biggest challenge was our lack of previous web development knowledge, whether that be html, css, js, or php. Adam and Matthew had no prior web development experience. Whereas, Alex and Aiden were taking both database systems and web development alongside tackling this software engineering project. This led to multiple instances of modifying or even removing previous code after learning about a more efficient way of handling problems in class. Furthermore, we also lacked considerable knowledge in data modeling and databases, which led to numerous changes to our database and subsequent tables. This lack of initial knowledge coupled with only half the original project time, due to switching projects mid-way through the semester, caused an inevitable panic to finish as many features as possible before the end of the semester.

**Highlight key features:**

The key features that we dealt with include but are not limited to, database design, database implementation, a secure admin login, and of course making the website itself. The database functionality allows students to view the current inventory from the homepage using the category tabs. It also allows logged in admins to edit and add items to the database as well as view the reports page. The orders feature allows students to scan out items they are taking from the pantry in order to keep an up-to-date record of the pantry’s inventory.



**Testing Plan:**

Our plan for testing involved another team testing our site with specific directions on how to test it. We only wanted working features to be tested rather than letting people test the site on their own. First we had them test our login to see if our password was secure and safe but still working with the correct credentials. Next, we had them test our items displaying when a user clicks on a specific category. Third, they tested the reports page to make sure the appropriate graph would display when the user chooses. Lastly, we had them view the home page to look at our amazing design and to see everything displays. Afterwards we had them give us feedback so we could possibly make any changes that were important.

**Use Cases:**

**Use Case 1: Log-In**

**Related Reqs:** TSK-C.1

**Initiating Actor:** Admin

**Actor Goal:** open the log in page and successfully log into the page

**Participating Actors:** admin, log-in page

**Preconditions:**

**Postconditions:** successful login popup

**Flow of Events:**

1. Admin will navigate to the Home Page

2. Admin will select “Admin Login”

3. Enter an incorrect login and the site should show an incorrect error.

4. Correct login should display a success message.

Username: jayspantry

Pass: food4free!

**Use Case 2: Displaying Items**

**Related Reqs:** TSK-A.2

**Initiating Actor:** Admin or User

**Actor Goal:** display pantry inventory on the page

**Participating Actors:** user, database inventory

**Preconditions:** home page is blank

**Postconditions:** successful display inventory on the page

**Flow of Events:**

1. User will navigate to the home page

2. The user will select any of the category tabs spanning across the page (fresh foods and snacks display pictures of group members)

3. Site will display items and pictures

**Use Case 3: Viewing Reports**

**Related Reqs:** TSK-H.1, TSK-E.4

**Initiating Actor:** Admin or User

**Actor Goal:** display pantry reports graphs

**Participating Actors:** user, reports

**Preconditions:** home page is blank

**Postconditions:** successful reports on the page

**Flow of Events:**

1. User will navigate to the home page

2. The user will select the Reports tag

3. The user can select any of the graphs from the drop down menu

4. The page will display the Data

**Use Case 4: Viewing Cart (Does not work!)**

**Related Reqs:**

**Initiating Actor:** Admin or User

**Actor Goal:** display cart

**Participating Actors:** user, cart data

**Preconditions:** user has selected one of the category tabs

**Postconditions:** cart successfully shows items in cart

**Flow of Events:**

1. User will navigate to the home page

2. The user will select one of the category tabs

3. The user will add an item to the cart

4. The user will select the cart icon in the top right corner of the page. 5. The cart will attempt to display

**Use Case 5: Edit Inventory (Does not work!)**

**Related Reqs:** TSK-E.1, TSK-E.2, TSK-E.3

**Initiating Actor:** Admin or User

**Actor Goal:** edit inventory of page

**Participating Actors:** user

**Preconditions:** home page is blank

**Postconditions:** successfully added an item

**Flow of Events:**

1. The user will navigate to the edit inventory page from the home page

2. The user will select the add inventory button

3. The user will enter the information and submit

**Use Case 6: Explore the Page**

**Related Reqs:**

**Initiating Actor:** member of FUS

**Actor Goal:** view team, about, and contact pages

**Participating Actors:** user

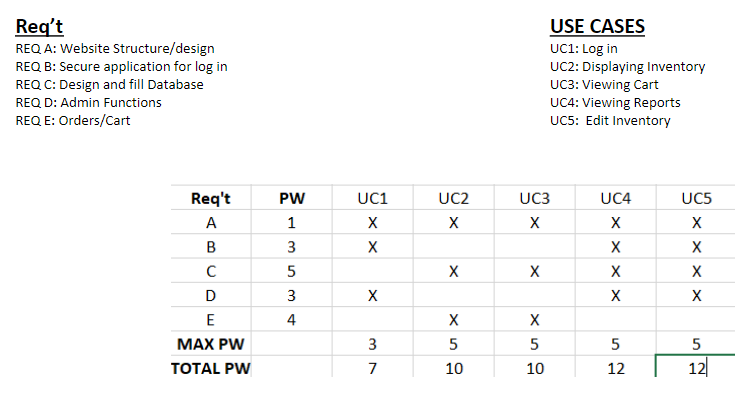
**Preconditions:** home page is blank

**Postconditions:** think our page looks totally awesome despite some of the features not working

**Flow of Events:**

1. The user will navigate to the “Our Team”, “About”, and “Contact pages” and take in the beautiful design.

**Traceability Matrix:**



**Conclusion:**

In conclusion we were able to create a website for the pantry that will meet the basic needs for the students at Elizabethtown College and Javita. We have a couple of working features, starting with a database that holds all our data and using that to display the available products, and admin log in that allows for Javita to look at the reports page to see the data collected over time. There were some key features that our team wished to complete for the website such as: add items and edit items. This add cart feature would allow students to directly choose items they want with the website updating automatically. Whereas, the edit items feature would add functionality for the admins to make any necessary changes to the database. We couldn’t get these features fully functional due to a lack of time. As a team we greatly enjoyed pursuing this project and all contributed to many parts. We had some obstacles and challenges along the way that slowed us down, but we were still able to produce a solid website. We all learned many new things from working on this project and getting experience within software engineering. In the future hopefully someone else can take on what we started and either finish what we started or create something different that could also be useful.