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Partner Name: Jon Schubert

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# **Community Partner Background**

**About the Organization**

Greater Washington County Food Bank is a 501(c)3 community service non-profit that provides groceries / nutrition information to food insecure people in Washington county (30 min south of Pittsburgh). The food bank has been running for over 35 years and consists of 21 employees, but anyone can register as a volunteer to help hand out food. The missionof Greater Washington County Food Bank is:

*Form lasting solutions to hunger insecurity through effective food distribution systems; to educate and empower the needy in seeking positive lifestyle changes; and, to create awareness through individual and community partnerships.*

GWCFB’s main goal is to educate citizens on how to become more food secure. Prior to COVID-19, the food bank provided food and other necessities to low-income patrons, but they have now made exceptions for service workers who are no longer able to get work hours. They provide their patrons a mix of boxed items, canned goods, and health products along with meats, produce, and bakery items, resulting in the administering of 40 - 50k pounds of food each week. GWCFB has a well established distribution system to ensure low-income families and community members still have access to healthy and affordable food. The main distribution program is Truck to Trunk, a drive-thru system where pre-registered clients come and pick up their food. The food bank is dedicated to giving Washington County residents a reliable and sustainable to provide food security for themselves and their families.

## **Programs**

The Greater Washington County Food Bank’s main program focuses on providing groceries and nutrition to those who are food insecure in the Washington County area. The food bank is based on a non-traditional program in which it incorporates a range of community outreach programs focused on educating those in need on how to become less food insecure as well as its main food bank. The organization also makes sure they only distribute high quality and healthy food to those in need, following their goal to encourage people to focus on good nutrition. Because of the COVID 19 pandemic, the food bank is focusing on ensuring a safe environment for those who are picking up food, adapting a truck to trunk model that allows for safe, no-contact food pickups.

Aside from its main food bank program, the Greater Washington County Food Bank also offers a healthy habits training center aimed to help those who are food insecure learn about good nutrition and develop healthy eating habits. Prior to the COVID 19 pandemic, the organization also partnered with various other organizations to hold trainings for those in need. These classes included homesteading groups, beekeeping groups, and other structured class settings.

Lastly, GWCFB has multiple hydroponic units and hires interns to learn about and work on these units in order to grow produce locally. The organization then sells this produce and uses the money earned to buy wholesale non perishable items, allowing them to have more food to distribute that can be stored for a longer period of time.

## **Staff**

The organization has a board of directors that focuses on overseeing the entire organization and the financial aspects needed to keep its programs running. Other staff members include truck drivers to deliver food to various locations, a warehouse manager that also handles IT tasks, volunteers to organize and distribute food to individuals in need, and interns that learn and grow fresh produce in hydroponic units. There are currently 25 full time employees working for the organization. The GWCFB also partners with other organizations that come and teach for their various other educational programs.

The warehouse manager as well as IT Lead, Jon Schubert, is the main person responsible for interacting with information systems and is who we focus on working with most directly. He is responsible for keeping track of the amount of food and product that goes in and out of the warehouse using QuickBooks software and Microsoft Excel. However, this method is inefficient and prone to human error. It requires a person to manually enter in every food package which can be extremely time consuming. Most of the staff are not trained to use Quickbooks so Jon Shubert is mainly the only person using the application.

**Technology Infrastructure, Planning and Management**

Jon Schubert (Warehouse Manager / IT Lead) is responsible for managing the organization’s technology infrastructure and making any technology decisions for the organization. He is solely responsible for planning all of the technology used in the organization. This includes going over the inputted data and ensuring that the numbers are correct. The Quickbooks software is posted on a local file server, which is restricted to 3 user licenses and must be accessed through the local network. When multiple users are logged into the system there is a restriction on the operations that they can do. Regardless of this, Mr. Schubert enters 95-98% of the invoice data. The other users of the QuickBooks licenses include members on the board of directors. Most of the problems are reported, solved, handled, and logged by Jon as well. Occasionally, the executive director will point out errors when reviewing over the Quickbooks logs. The equipment used is a standard desktop, which he also maintains. The data entered into Quickbooks is backed up to their local file server. They do not currently have a back up data procedure outside of local storage. Their main security measure is the lack of access to the organization’s information from outside the warehouse. There is no VPN to access the data remotely. The organization has decided to stick with the Quickbooks and Excel system of tracking data since this was the best option they could find with a nonprofit option. Although they are dissatisfied with it, they have not had the time to explore other solutions.

They have access to Quickbooks through a third party, called TechSoup. TechSoup’s main objective is to help nonprofit organizations with their technology needs for a lower pricepoint and allows for the organization to purchase QuickBooks at a lower price. Currently, the Quickbooks software package they use costs $150 for the administrator fee .

**Communication**

Information is shared throughout the organization mainly through email communication as well as in person meetings. The organization relies heavily on word of mouth and email to share most of their information. Each paid employee has a staff email address. Furthermore, they are in contact with their donors through email. The paid employees have a weekly stand up meeting in person to discuss major changes and updates. There have been no challenges so far with this method since there are so few employees and they have to be present at the warehouse for other tasks as well. Since Quickbooks data is not often shared, they only use the three licenses which have access to review data. The organization has a working website that is regularly updated. They are starting to rebrand, meaning that they are also going to launch a new website under their umbrella organization, Food Helpers. While the website is meant for general information regarding their programs and eligibility, they communicate new updates regarding distribution and the pantry operations with patrons via Facebook posts.

## **Information Management**

The current system GWCFB has in place uses QuickBooks accounting software and Microsoft Excel. Each transaction (either donation or distribution) requires a series of documents for accurate reporting and to balance the inventory in QuickBooks. Their state and federal government funding mandates they keep accurate books to report back on the distribution of their donations. Depending on the source the food or donation is coming from, the distributions that result are either unrestricted or restricted to that agency’s definition of “food insecure.” Each item donated has its own item number and a letter code to indicate where it came from. This composite key is used to build inventory assemblies for each distribution based on the income guidelines for that particular distribution.

When the organization receives an item, they must create a purchase order and build an item number in QuickBooks to identify the incoming item. They can then receive inventory with a bill so they can “pay” the vendor. However, though GWCFB does not pay for most of the food they receive, they use an account (required by Quickbooks) to balance out the transaction for valuation purposes as required by the QuickBooks software. Once they have created the bill, they can then physically receive the inventory. The customer (either a food pantry or a distribution location) is given an invoice (required by Quickbooks), even though the customer in this case is also not paying for the commodity either. This exchange deducts the units from the total quantity in the software for goods stored in the warehouse. Since all of these transactions are inputted manually, a single misstroke of a key can create a large error in the bookkeeping. Because Quickbooks is mainly targeted towards for-profit organizations, the software requires a transactional amount for each entry.

They use a Microsoft Excel spreadsheet to create assemblies for a given distribution. They keep a count of how many of each item they have and what restrictions exist for each item. They then input the number of boxes they are aiming to make for that particular distribution and the spreadsheet calculates how many of each item need to be put into each box, allowing for specially donated items to be placed in as well. They keep tally of each box in terms of weight, so the calculations help maximize the number of items that can be placed in each box without going overweight.

The QuickBooks software they use is not meant for nonprofit transactions where no money is exchanged. The GWCFB is forced to go through multiple extraneous processes that are non-applicable to their transactions simply because QuickBooks is meant for business transactions of money for goods. It is also almost entirely manually inputted, which wastes time both for data entry and fixing errors retroactively. They also use paper pallet tags to mark each item in the warehouse. These tags have all the necessary information for that item including product ID, description, unit weight, quantity, expiration date, and restrictions. This is incredibly inefficient since it requires being physically close to the pallet to know all necessary information, risking the tag falling off and the item not having an indicator.

**Business Systems**

The organization uses a combination of Quickbooks (accounting software) and Microsoft Excel to manage invoices, purchase orders, and distributions. Each invoice is given to the donor for the amount of food received. Then a purchase order is created so the organization can physically take ownership of the goods. Each distribution assembly is made using Microsoft Excel, and then transferred to Quickbooks to deduct from the total quantity of each item. Frequent and accurate reports are mandated by their state and federal grants, and are extremely inefficient to fix if a human error occurs at any point of data entry. This is costing the organization an immense amount of time currently, since the transition of data from Microsoft Excel to Quickbooks leaves room for many errors. This process can be greatly simplified and reduce human error by combining the two different software applications used into one streamlined application. Alternatively, the data transfer process time could be reduced by creating a front-facing module that would take in the Excel data and automatically input it into Quickbooks.

# **Community Partner Project Opportunity**

# **Project Opportunity**

Greater Washington County Food Bank would like a simpler way to manage their food inventory and make distribution easier. The main problem that they currently have is that they do not have a streamlined software meant for the transactions they do and not enough time to find another one. Currently Jon Schubert (Warehouse manager) is storing the transaction information on an Excel sheet and then manually transfers the data into the QuickBooks software. Another issue that occurs in the software is that after food is packaged into an assembly (box of food), the quantity left must be updated. Not only must this be done manually, but if the staff member makes a mistake, this results in negative numbers for the quantity of that item. Clearly, this is wrong and causes issues when needing to track inventory. Since the food bank receives funding and donations from the state and federal government, they are required to give reports for the distributions those donations ended up contributing to. However, their current system relies on mostly manually inputted data, which amounts to multiple human errors. Each of these errors costs the staff even more time when it comes to submitting reports, since they then need to go back and find the source of each error and rectify it. Solving this problem is necessary in order to improve the food banks ability to distribute food.

As a result, the organization wants us to develop an inventory tracking system that will work with their existing QuickBooks software. This system would generate a report based on the invoices entered by paid employees in the form of an Excel sheet. This Excel sheet would then be imported into the QuickBooks software. With a proper tracking system where information can easily be updated, GWCFB can prioritize the distribution of food without worrying about misinformation regarding their inventory which will save time, food, and money.

**Proposed Project Vision**

The goal of this project is to improve food acquisition and distribution

accounting methods, saving time and effort for GWCFB staff and streamlining

reporting for funding agencies. To accomplish this, the project will decrease

the number of human data entry errors and speed up the data entry process for

food donation and distribution. The proposed solution is to develop standalone software for inventory tracking. Our stakeholders are the Greater Washington County Food Bank and its employees, the residents of Washington County, donors of the foodbank, and volunteers. Our solution would save the food bank time, limit human errors, and help reduce food waste from untracked, expired donations. The donation agencies they receive food and funding from would also be able to keep more accurate records of their contributions. Since our client entered the conversation with a desired outcome, we did not discuss another solution to this particular problem. Although we talked about implementing a new scanning system for the warehouse, a new tracking system served a greater and more time-sensitive need.

**Expected Outcomes**

Metrics used to measure success:

1. Time saved during the entire data entry process (going from building assemblies, to invoices, to Excel, and finally to being entered into QuickBooks)
   1. Measure how long it currently takes and compare to time taken after we implement the scanning solution
      1. Time taken should decrease
2. Number of individual tasks required to complete the data entry process
   1. Measure current number of individual tasks required and compare to numbers of individual tasks needed after we implement our solution
      1. Number of steps required should decrease
      2. Number of employees able to carry out the process should increase

User stories (ranked from most to least essential):

1. As a GWCFB volunteer, I want to save time with the scanning process so that I can keep track of the food we’re distributing without needing to run around the warehouse.
2. As a warehouse manager, I want an automated inventory system so that I can spend less time inputting data and more time improving GWCFB’s information systems to expand with our mission.
3. As an organization board member, I want accurate records from our distributions so that we can make sure funds continue to be allocated to our organization.
4. As a grocery store owner donating food to GWCFB, I want a simple invoice system so that I can write off the donations on my taxes and balance my own inventory tracking.
5. As a GWCFB employee, I want to reduce the amount of expired food that goes unaccounted for so that we can reduce the waste from our donations and purchases.

Actions Moving Forward:

1. We need to perform market research for other accounting and inventory systems that would fit the needs of our client
   1. Outcome: We would have more information about possible preexisting solutions for GWCFB or determine if we need to build one ourselves.
2. All of these solutions would be compared to one another in a risk analysis.
   1. Outcome: Jon Schubert would receive a comparison of the possible solutions and could make a decision on what solution would be the best fit for the organization’s needs.
3. We would need a deeper understanding of the logistics of Quickbooks to understand how to link a possible solution back to their current Quickbooks system.
   1. Outcome: Either we replace their Quickbooks system all together, or we create an external module to supplement their current system. We would need to understand the capabilities and shortcomings of Quickbooks to make this decision.

**Feasibility**

Proposed Tasks (ranked from least to most feasible)

1. Building a system from scratch is unfeasible (Not possible within given time constraints). Therefore we will try our best to find an existing software solution that can be integrated into the existing system (Quickbooks).
2. Integration of all standalone software applications is feasible but very difficult (approximate using the whole semester). These three standalone software would be Quickbooks/similar alternatives, the scanning system, and a software to link them together. We would have to research different methods on how to link different software applications to Quickbooks/similar alternatives. Since Quickbooks isn’t an open source software, it may be difficult / impossible to write code for it, hence the need to research. Speaking to Jon Schubert, he mentioned that their organization has the budget to continue paying for any new software applications if needed.
3. Building a scanning software is feasible, but very difficult (1 month). We will need to research how scanning works / find an existing solution. After implementing this scanning system, we will teach Jon Schubert how to add new items into the scanning system in the case that the food bank receives new goods. Jon should be able to register the new item into the scanning system without issues.
4. Finding a faster and less error prone alternative solution to the current data entry process is very feasible (2 weeks). Since this would be using a pre-existing software for this solution, we would teach Jon Schubert how to use this new application and therefore he can sustain the project after the consultants leave. If we are unable to find a pre-existing alternative solution, we would have to build it from scratch.

**Risk Analysis**

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| **Risk** | **Description** | **Likelihood of Occurrence** | **Potential Loss** | **Early Warning** | **Risk Abatement**  **Strategy** |
| Inability to integrate with Quickbooks | Even if our solution works on test data, it is ineffective if it cannot work in cohesion with Quickbooks | High | High | If our project is past our projected finish date, we run the risk of not having enough time to integrate. | We should start parallel research on the integration of Quickbooks before we finish our solution |
| Overly complicated solution | Other GWCFB employees will not be able to use the solution, and Jon Schubert will fall into the role | Medium | Medium | We have periodic check-ins with Jon where he can determine the usability of our solution | We can run periodic user tests with Jon and other employees so the interface is intuitive enough |
| Minimal net benefit | The existing system is not any more efficient with our solution | Low | Medium | Jon Schubert would express concern about the expected outcome | Run through possible solutions with Jon to choose the most effective from the start |
| Inadequate Budget | GWCFB would not have the financial capability to buy and maintain a solution we find | Medium | High | Exorbitant maintenance costs outside of initial fee | Extensive research on other nonprofits using same software, as well as considering current budget |
| Insufficient Technology | The current technology GWCFB has cannot handle a hefty burden | Low | High | Jon’s computer struggles with current system since it is an older model | Minimize extra load of solution on current infrastructure |
| If Jon disappears | In the event that Jon is unable to continue working at GWFCB | Low | High | He isn’t doing any work for the organization and tells us he is leaving | We get in contact with other people at GWCFB and propose our solution to them. Also teach them how to use our software. |

[1]<http://www.mountaingoatsoftware.com/blog/advantages-of-the-as-a-user-i-want-user-story-template>

Sources:

1. <https://www.foodhelpers.org/>
2. <https://www.gwcfb.org/>
3. <https://www.pittsburghfoodbank.org/>

Cover Page Image link: <https://static.wixstatic.com/media/bc1ad5_6b9c34e3112949daac6e3cd0ce2ca7d4.jpg/v1/fit/w_2500,h_1330,al_c/bc1ad5_6b9c34e3112949daac6e3cd0ce2ca7d4.jpg>