Christopher's Kitchen

Executive Summary

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Background

Christopher's Kitchen is a 501c3 non-profit organization founded by Joni D'Allesandro after the tragic death of her stepson, Christopher. She then established this organization after volunteering and seeing the hardships that parents experience with their sick children at UPMC Children's hospital of Pittsburgh. Christopher's Kitchen is local to Pittsburgh and closely tied with UPMC Children's hospital of Pittsburgh, with the office located at 7218 Church Ave, Pittsburgh PA. The mission of the organization is to provide food to patient caregivers who are accompanying their children at the hospital.

Project Description

Project Opportunity

We boiled down the problem to two different issues. The first issue is that there aren't convenient methods to identify and add items into a database. Carol and Joanne tried using an app called "My Pantry Tracker," which had them scan items' bar codes to add to the database. However, the database wasn't up to date and often didn't recognize UPC (Universal Product Code) barcodes, and hence needed manual work to input information. The second issue is the lack of accurate estimations for the price of donations. Inaccurate estimations can result in undervaluing the amount of in-kind donations on CK's financial statements.

Project Vision

Our product involves implementing an Excel sheet stored on the shared cloud drive of Christopher's Kitchen. The spreadsheet will serve as a simulated SQL database storing donation information that is simple to view, modify, and share to non-technical people. The spreadsheet will be separated into several tables: food category table that stores each food category together with their unit prices (which will be calculated from the top 3 brands/products from each category). Our solution will allow for a faster and more accurate method of documenting inventory, saving a lot of time and frustration.

Project Outcomes

With our solution installed, one outcome is efficient food donation processing, leading to time saved for both our CP and their volunteers. During our test runs, our product was shown to not create unnecessary overhead for the volunteers. Our CP approximately spent 15 minutes completing the downstream tasks with the information collected by the volunteers, which is a reasonable addition to the existing workflow since the CP did not have a value estimation stage when processing donations. In addition, Christopher's Kitchen is now also able to obtain more accurate donation value estimation. They can do so by using the newly implemented database that takes the form of both paper sheets and an Excel spreadsheet. Another important outcome is that Christopher's Kitchen is now better enabled to use their existing technology. During initial stages of this project, we found that our CP was not well-equipped with the knowledge to fully leverage their existing technology, such as Microsoft OneDrive, Office 365, and Excel. We were able to enhance CP's skills in these aspects through methods such as weekly Q&A and thorough documentation. Lastly, with the solution, Christopher's Kitchen can start making data-driven decisions to optimize their operations.

Project Deliverables

The project deliverables include the volunteer paper list, the spreadsheet solution for donation information (that also encompasses the robust error detector), the data visualizations, and the documentations.

Recommendations

Although the team has created a solid foundation for Christopher's Kitchen, our team has recommendations to sustain growth. We recommend using our visualization when making decisions regarding operations such as what items to buy. The visualizations are meant to enable quick and data-driven decisions. We also recommend using the Error Checking Script we built into the spreadsheet solution when operations increase and there is significantly more data. This script speeds up the process of detecting errors, so less time and people is needed to guarantee accuracy of the data.

Student Consulting Team

Ke Hao Chen served as the quality assurance lead. He is a third-year student majoring in Information Systems with an additional major in Statistics and Machine Learning. He is interning at a startup this summer and is looking forward to a career in software development.

Kyle Chen served as the project manager. He is a third-year student majoring in Information Systems with an additional major in Human-Computer Interaction. He is interning at Epic this summer and is looking forward to a career in user experience design.

Steven Shou served as the technical lead. He is a fourth-year student majoring in Information Systems with an additional major in Statistics and Machine Learning. He is interning at Amazon this summer and is looking forward to a career in Software Engineering. He will return to CMU after the summer for a fifth-year Master's program in the Machine Learning Department.