Computer Reach

Executive Summary

Community Partner
Kyle Spangler
David Mitchell
Student Consulting Team
Jimmy Zeng
Susan Song
Tyler Lowe

Background

Computer Reach is a nonprofit organization that focuses on providing technological access to those left behind in the digital revolution. Founded in 2001, they are based in Wilkinsburg and focus on serving the Pittsburgh area through refurbishing computers and accessible distribution programs. Since 2010, they have delivered over 11,145 devices and positively impacted 33,435 people, and the COVID-19 pandemic has only increased the significance of work as remote work demanded higher technological access for many in the community.

Project Description

Project Opportunity

With a severely constrained staff to handle computer donations, Computer Reach lacks the internal capacity to refurbish devices quickly enough. As such, the assistance from volunteers is imperative to Computer Reach's mission. During a weekly Friday volunteer event, Computer Reach is consistently able to hit 5x their normal production with the extra hands – a necessity to maintain their current operations and scale.

Our project opportunity at Computer Reach was to provide an automated system to handle the volunteer data collection and entry currently done by hand. Such a solution is extremely beneficial to Computer Reach as: (1) It would allow the resource constrained staff to focus on other, more important mission-oriented tasks. (2) It would provide a less error-prone and efficient system for managing Computer Reach's most important asset. (3) It would make volunteering at the organization simpler, opening the possibility for more volunteer days. (4) Lastly, it will streamline the duties of Computer Reach's incoming Volunteer Coordinator.

Project Vision

We envisioned an information system that can automate the manual process of volunteer data collection and entry which plagues the current paper-based system. To guide our design decisions, the project had 5 core goals: (1) Automate 90% of the data collection/entry into Salesforce. (2) Provide a more user friendly interface for data collection. (3) Create a system that will be easily reconfigurable and maintainable by staff. (4) Achieve low running and maintenance costs. (5) Protect volunteer personal information.

Project Outcomes

Our project achieved the following significant outcomes: (1) The development of a volunteer sign-in system, implemented using a new tool provided from Salesforce called Salesforce Flows. With two mobile user-facing Flows for "signing-in" and "signing-out", it automates the collection of information from users and performs edits to Computer Reach's Salesforce database. (2) The reduction of check-in time by 90% and minimization of human errors. (3) The configuration of Computer Reach's Salesforce environment to build, embed, and deploy the Salesforce Flows system. Configurations include obfuscated contact information, a custom, low-permission account to operate the flows, and a volunteer data dashboard. (4) The creation of a maintainable and reconfigurable system. Because Salesforce Flows is a tool pre-baked into the Salesforce CRM platform, the solution we developed has *zero* additional costs to run. Additionally, due to its low-code/flow-code style, Flows allow Computer Reach Salesforce Admins to easily automate workflows with little additional technical or specialized knowledge.

Project Deliverables

The team have curated a Google drive with the artifacts generated throughout the project, the Flows exportable, and both text and video documentation.

Recommendations

As we conclude, we urge Computer Reach to follow these recommendations: Internal Capacity Building, Scalability Refactoring, and In-house Promotion of Volunteering events. Firstly, Computer Reach should continue building its technology capacity internally: though most members at Computer Reach use Salesforce regularly, currently David is the only one knowledgeable enough to maintain and update the system. Second, several design decisions the team made favored ease of use over scalability. As computer reach expands, the Flows must be modified to become more scalable, and Computer Reach must have the technology expertise to carry that out. Lastly, although we had made significant efforts to overhaul Computer Reach's volunteering program, their primary source of volunteers remains unchanged. In order to expand their operations to beyond Pittsburgh, Computer Reach must learn to work without Pittsburgh Cares and promote volunteering independently.

Student Consulting Team

Jimmy Zeng acted as the client relationship manager for this project. He is a third-year Information Systems student with an additional major in Computer Science. He is excited to apply the lessons learned throughout this project to his work this summer with the Ministry of Education in Palau as part of the Tech Consulting in the Global Community program.

Susan Song served as a project manager during this project. She is a third-year student majoring in Information Systems with a minor in Business Administration. She will be interning as a systems risk analyst this summer.

Tyler Lowe operated as the team technical lead and quality control manager. He is a junior Information Systems major also pursuing minors in Software Engineer and Business Administration. He looks forward to interning as a software engineer in Seattle this summer.