

Wesley Family Services

Executive Summary

Community Partner

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Background

Wesley Family Services is a nonprofit organization based in **Pittsburgh, Pennsylvania**, dedicated to providing **mental and behavioral health services**. Established in **1948**, the organization serves **over 20,000 clients annually** with the help of **900+ staff members**. Their mission is to support individuals and families through high-quality care and innovative service delivery. They work closely with **government agencies, private donors, and healthcare providers** to ensure accessible care for their clients.

Project Description

Project Opportunity

Wesley Family Services faced a critical challenge in its data transformation processes. The organization regularly received data from various third-party sources, including medical records, ID verification data where these external data sources often provided information in formats incompatible with Wesley's internal systems. Previously, Wesley's staff of 14 IT team members spent significant time manually transforming this data using Visual Studio and custom scripts. This process was not only time-consuming but also prone to errors and created a bottleneck in service delivery.

Project Vision

Our project aims to develop an automated shell scripting solution that will streamline Wesley Family Services' data transformation processes, reducing manual effort by 75% while ensuring data accuracy and security. This solution will enable staff to focus on core service delivery rather than data processing tasks.

Project Outcomes

Our project successfully met all essential functional requirements by delivering a reliable, automated ETL solution tailored to Wesley Family Services' data environment. Built using PowerShell, the script automates the integration of external data sources into Wesley's internal SQL database. The solution reduced manual workload, improved data accuracy, and enhanced the timeliness of internal reporting processes. As a result, Wesley can now access up-to-date data more efficiently, enabling more informed, data-driven decision-making across departments.

Project Deliverables

The primary deliverable for this project is our GitHub repository, titled "shellscriptfunctionality". This repository contains all the necessary PowerShell scripts, configuration files, sample input and output files, and usage documentation required to run and maintain the ETL data extraction and transformation solution for Wesley.

Recommendations

- 1). Wesley should hold two training sessions each year for IT staff to review how the ETL PowerShell scripts work, how to modify configuration files, and how to troubleshoot common issues.
- 2). Future developers should extend the ETL script to support commonly used file formats like ".json" and ".yaml", which were originally included as stretch goals.
- 3). Refactor the current scripts into a unified PowerShell script that automatically detects the input file type and applies the appropriate parsing and transformation logic.
- 4). Include a section in the Wesley IT staff onboarding manual that introduces the ETL script, where to find it, and how it is used in daily workflows.

Student Consulting Team

Ming Glankwamdee served as the Project Manager and one of the primary developers for the team. Ming is a senior majoring in Information Systems and Business Administration. Ming is passionate about technology and plans to pursue a career in software engineering in the future.

Tin Chi Lo was the quality control representative and a core developer for the project. Tin is a junior studying Information Systems and Computer Science. Tin is looking forward to pursuing a career in software engineering in the future.

Kareem Segizekov acted as the team's Point of Contact representative and was also a key developer. Kareem is a junior majoring in Information Systems. Kareem also plans to pursue a future career in software engineering.