Mini-Case Study: Transforming Payroll Reporting at LCR Capital with a Custom Web Application

Introduction

LCR Capital, a global investment and advisory services firm, faced a challenge in efficiently processing and analyzing raw payroll data from a third-party vendor. The firm required a robust, user-friendly solution to convert this raw data into actionable reports.

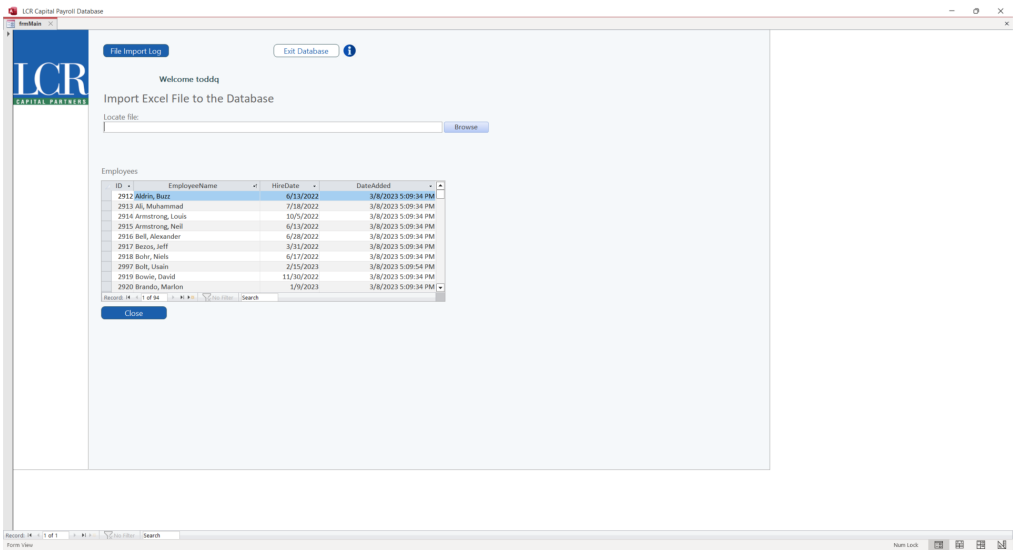
The Challenge

LCR Capital had specific reporting needs that could not be met with off-the-shelf software. They had both raw payroll data and a predefined Excel report template, but lacked an automated, scalable system to transform the data to fit the template. The firm was looking for a solution that would not only cater to their current reporting requirements but also be scalable and flexible enough for future enhancements.

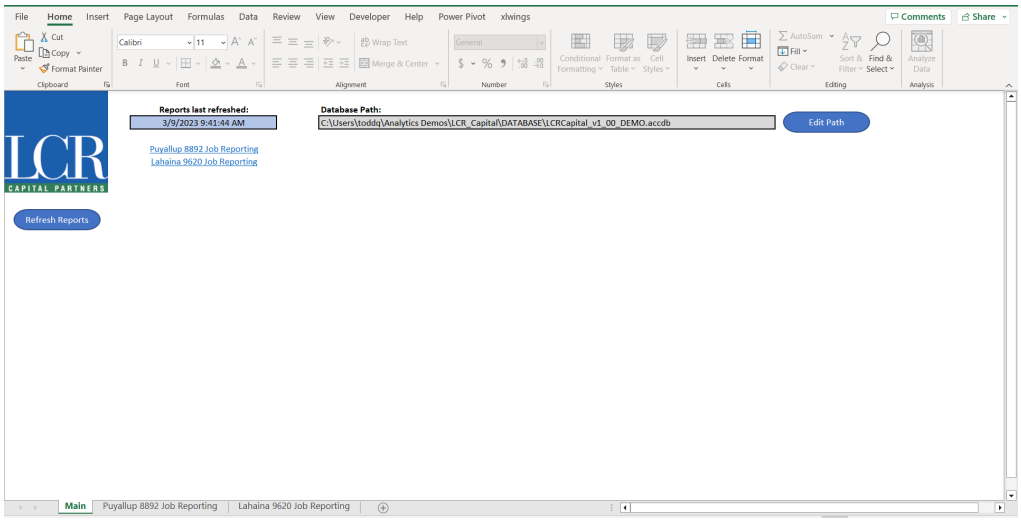
The Solution

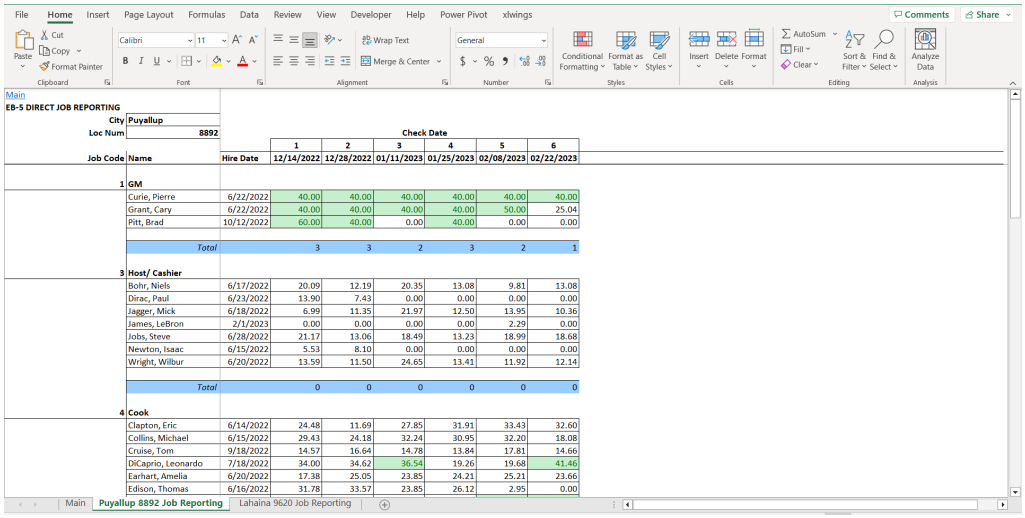
Phase 1: Initial Development

After meticulously documenting LCR Capital's requirements and constraints, I initially developed a Python script capable of performing Extract, Transform, Load (ETL) operations on the raw data files. This script consolidated the data into a single, formatted import file.



I then created an MS Access database equipped with a User Interface (UI) that enabled users to import this consolidated data into a dedicated database table. Additional tables were introduced to map Department codes to restaurant site locations and job codes to job descriptions. To further automate the process, I incorporated Visual Basic for Applications (VBA) code and embedded SQL queries. This allowed seamless extraction of necessary data from the database for insertion into the predefined Excel report template.





Main

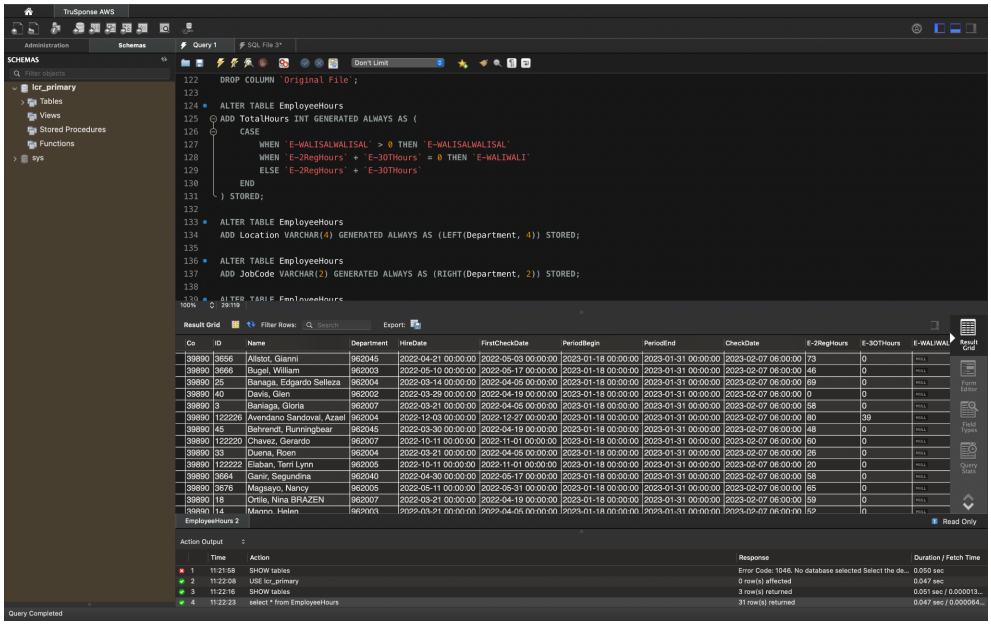
EB-5 DIRECT JOB REPORTING

	City	Puyallup							
	Loc Num	8892			Check Date				
				1	2	3	4	5	6
	Job Code	Name	Hire Date	12/14/2022	12/28/2022	01/11/2023	01/25/2023	02/08/2023	02/22/2023
1	GM								
		Curie, Pierre	6/22/2022	40.00	40.00	40.00	40.00	40.00	40.00
		Grant, Cary	6/22/2022	40.00	40.00	40.00	40.00	50.00	25.04
		Pitt, Brad	10/12/2022	60.00	40.00	0.00	40.00	0.00	0.00
		Total		3	3	2	3	2	1
3	Host/ Cashier								
		Bohr, Niels	6/17/2022	20.09	12.19	20.35	13.08	9.81	13.08
		Dirac, Paul	6/23/2022	13.90	7.43	0.00	0.00	0.00	0.00
		Jagger, Mick	6/18/2022	6.99	11.35	21.97	12.50	13.95	10.36
		James, LeBron	2/1/2023	0.00	0.00	0.00	0.00	2.29	0.00
		Jobs, Steve	6/28/2022	21.17	13.06	18.49	13.23	18.99	18.68
		Newton, Isaac	6/15/2022	5.53	8.10	0.00	0.00	0.00	0.00
		Wright, Wilbur	6/20/2022	13.59	11.50	24.65	13.41	11.92	12.14
		Total		0	0	0	0	0	0
4	Cook								
		Clapton, Eric	6/14/2022	24.48	11.69	27.85	31.91	33.43	32.60
		Collins, Michael	6/15/2022	29.43	24.18	32.24	30.95	32.20	18.08
		Cruise, Tom	9/18/2022	14.57	16.64	14.78	13.84	17.81	14.66
		DiCaprio, Leonardo	7/18/2022	34.00	34.62	36.54	19.26	19.68	41.46
		Earhart, Amelia	6/20/2022	17.38	25.05	23.85	24.21	25.21	23.66
		Edison, Thomas	6/16/2022	31.78	33.57	23.85	26.12	2.95	0.00

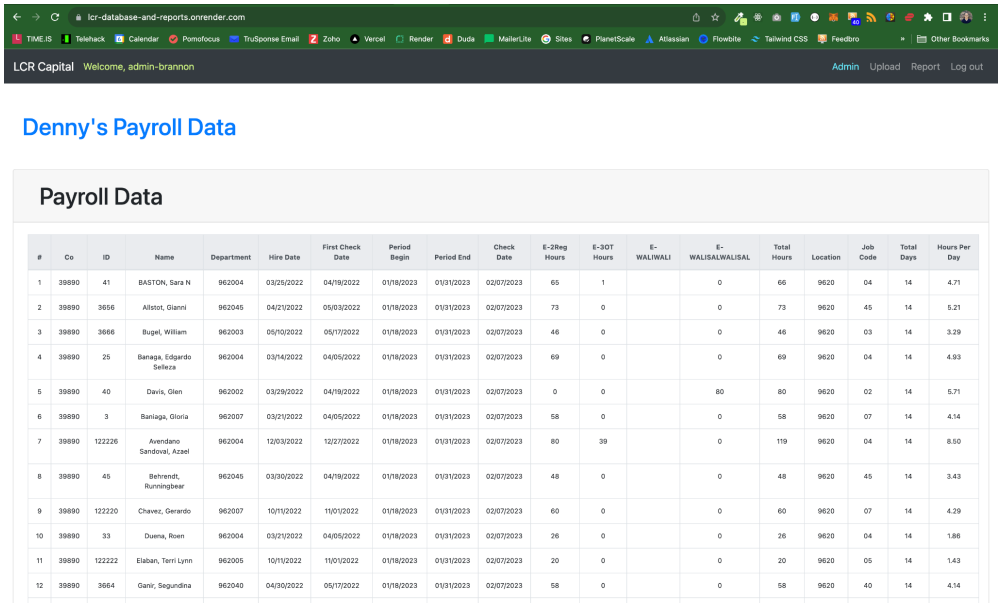
Main | Puyallup 8892 Job Reporting | Lahaina 9620 Job Reporting

Phase 2: Migration to Web Application

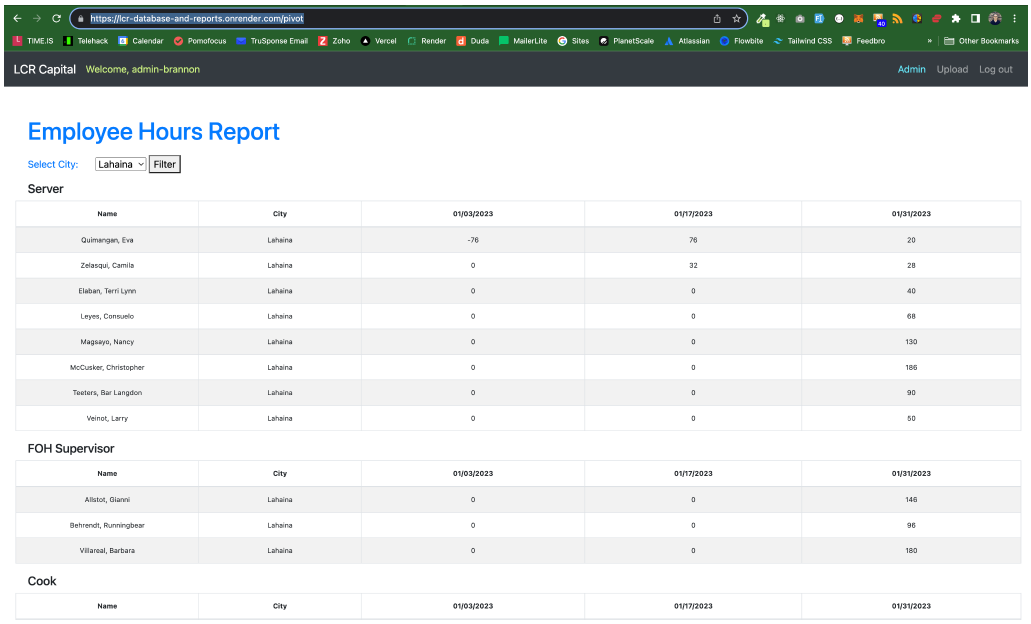
Recognizing the limitations and dependencies associated with Microsoft applications like Access and Excel, the system was eventually migrated to a more versatile web application. This new solution employed a MySQL database hosted in the cloud.



The web application included features like user authentication, supporting various permission levels for better admin management.



It also offered an 'Upload' screen that allowed users to directly import raw data into the cloud database, providing a robust and user-friendly ETL process.



New Features and Future Enhancements

The web application was further refined to include report filtering by location. Planned enhancements include adding search and sorting functionalities, as well as the option to export reports in PDF or Excel formats.

Conclusion

The custom-developed web application provided LCR Capital with a scalable, reliable, and user-friendly solution for their complex payroll reporting needs. It not only automated a previously cumbersome process but also provided the flexibility and robustness required for future growth and changes.