

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.

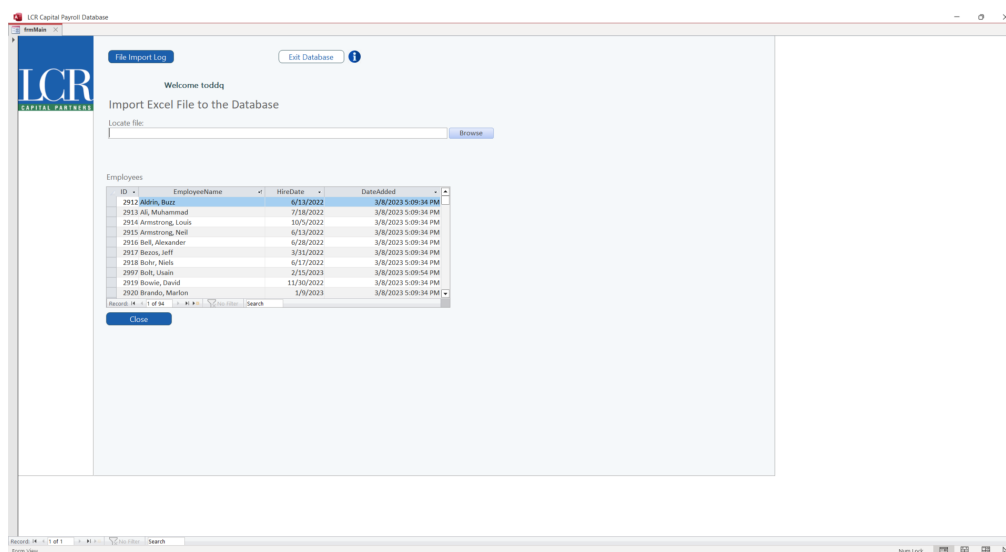
The Challenge

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.

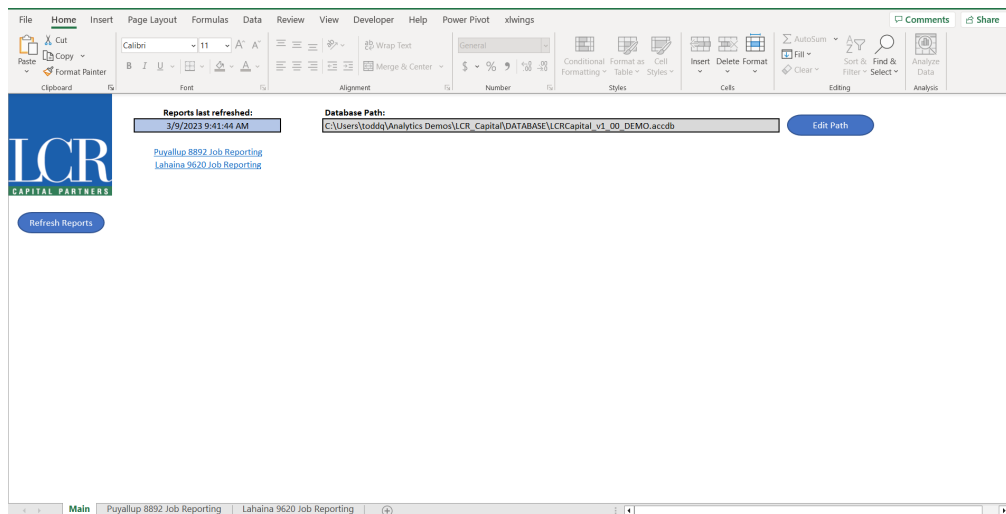
The Solution

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.



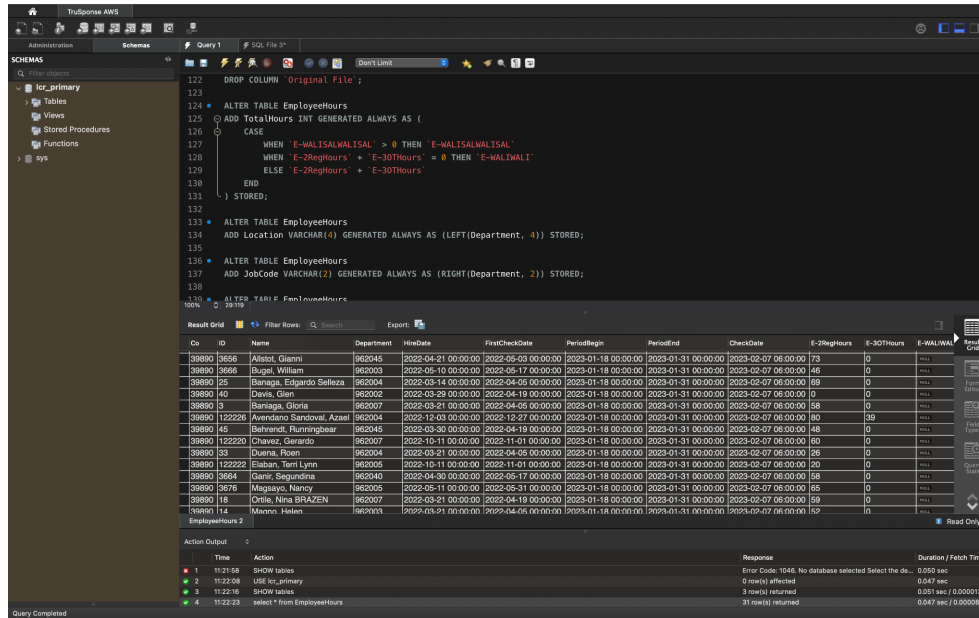
I then created an MS Access database equipped with a User Interface (UI) that enabled users to import this consolidated data into a dedicated database table. Additional tables were introduced to map Department codes to restaurant site locations and job codes to job descriptions. To further automate the 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.



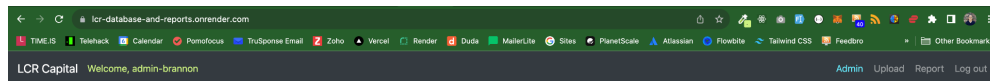
EB-5 DIRECT JOB REPORTING		Check Date					
City: Puyallup		1	2	3	4	5	6
Loc Num: 8892		1	2	3	4	5	6
Job Code	Name	Hire Date	12/14/2022	12/28/2022	01/11/2023	01/25/2023	02/08/2023
1	GM						
	Curie, Pierre	6/22/2022	40.00	40.00	40.00	40.00	40.00
	Grant, Cary	6/22/2022	40.00	40.00	40.00	40.00	25.04
	Pitt, Brad	10/12/2022	60.00	40.00	0.00	40.00	0.00
	Total		3	3	2	3	2
3	Host/ Cashier						
	Bohr, Niels	6/17/2022	20.09	12.19	20.35	13.08	9.81
	Dirac, Paul	6/23/2022	13.90	7.43	0.00	0.00	0.00
	Jagger, Mick	6/18/2022	6.99	11.35	21.97	12.50	13.95
	James, LeBron	2/1/2023	0.00	0.00	0.00	0.00	2.29
	Jobs, Steve	6/28/2022	21.17	13.06	18.49	13.23	18.99
	Newton, Isaac	6/15/2022	5.53	8.10	0.00	0.00	0.00
	Wright, Willbur	6/20/2022	13.59	11.90	24.05	13.41	11.92
	Total		0	0	0	0	0
4	Cook						
	Clapton, Eric	6/14/2022	24.48	11.69	27.85	31.91	33.43
	Collins, Michael	6/15/2022	29.43	24.18	32.24	30.95	32.20
	Cruise, Tom	9/18/2022	14.57	16.64	14.78	13.84	17.81
	DiCaprio, Leonardo	7/18/2022	34.00	34.62	36.54	19.26	19.68
	Earhart, Amelia	6/20/2022	17.38	25.06	23.85	24.21	25.21
	Edition, Thomas	6/16/2022	31.78	33.57	23.85	26.12	2.95
	Total		24.48	11.69	27.85	31.91	33.43

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.



Denny's Payroll Data

Payroll Data

#	Co	ID	Name	Department	Hire Date	First Check Date	Period Begin	Period End	Check Date	E-2Reg Hours	E-30T Hours	E-WALI	E-WALISALWALISAL	Total Hours	Location	Job Code	Total Days	Hours Per Day
1	39890	41	BASTON, Sara N	962004	03/25/2022	04/18/2022	01/18/2023	01/31/2023	02/07/2023	65	1		0	66	9620	04	14	4.71
2	39890	3856	Allot, Gianni	962045	04/21/2022	05/03/2022	01/18/2023	01/31/2023	02/07/2023	73	0		0	73	9620	45	14	5.21
3	39890	3666	Bugel, William	962003	06/10/2022	06/17/2022	01/18/2023	01/31/2023	02/07/2023	46	0		0	46	9620	03	14	3.28
4	39890	25	Banaga, Edgardo Sefelza	962004	03/14/2022	04/05/2022	01/18/2023	01/31/2023	02/07/2023	69	0		0	69	9620	04	14	4.93
5	39890	40	Davis, Glen	962002	03/29/2022	04/18/2022	01/18/2023	01/31/2023	02/07/2023	0	0	80		80	9620	02	14	5.71
6	39890	3	Banaga, Gloria	962007	03/21/2022	04/05/2022	01/18/2023	01/31/2023	02/07/2023	58	0		0	58	9620	07	14	4.14
7	39890	122226	Avendano Sandoval, Azael	962004	12/03/2022	12/27/2022	01/18/2023	01/31/2023	02/07/2023	80	39		0	119	9620	04	14	8.50
8	39890	45	Behrendt, Runningbear	962045	03/30/2022	04/18/2022	01/18/2023	01/31/2023	02/07/2023	48	0		0	48	9620	45	14	3.43
9	39890	122220	Chavez, Gerardo	962007	10/11/2022	11/01/2022	01/18/2023	01/31/2023	02/07/2023	60	0		0	60	9620	07	14	4.29
10	39890	33	Duena, Roan	962004	03/21/2022	04/05/2022	01/18/2023	01/31/2023	02/07/2023	26	0		0	26	9620	04	14	1.86
11	39890	122222	Elaban, Terri Lynn	962005	10/11/2022	11/01/2022	01/18/2023	01/31/2023	02/07/2023	20	0		0	20	9620	05	14	1.43
12	39890	3664	Gaur, Segundina	962040	04/30/2022	05/17/2022	01/18/2023	01/31/2023	02/07/2023	58	0		0	58	9620	40	14	4.14

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.

https://lcr-database-and-reports.onrender.com/pivot

TIME/IS | Telehack | Calendar | Pomofocus | TruSponse Email | Zoho | Vercel | Render | Duda | MailerLite | Sites | PlanetScale | Atlassian | Flowbite | Tailwind CSS | Feedbro | Other Bookmarks

LCR Capital | Welcome, admin-brannon | Admin | Upload | Log out

Employee Hours Report

Select City: Lahaina | Filter

Server

Name	City	01/03/2023	01/17/2023	01/31/2023
Quimangan, Eva	Lahaina	-76	76	20
Zelazqui, Camila	Lahaina	0	32	28
Elabari, Terri Lynn	Lahaina	0	0	40
Leyes, Consuelo	Lahaina	0	0	68
Magsayo, Nancy	Lahaina	0	0	130
McCusker, Christopher	Lahaina	0	0	186
Teeters, Bar Langdon	Lahaina	0	0	90
Veinot, Larry	Lahaina	0	0	50

FOH Supervisor

Name	City	01/03/2023	01/17/2023	01/31/2023
Allstot, Gianni	Lahaina	0	0	148
Behrendt, Runningbear	Lahaina	0	0	96
Villanov, Barbara	Lahaina	0	0	180

Cook

Name	City	01/03/2023	01/17/2023	01/31/2023
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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.