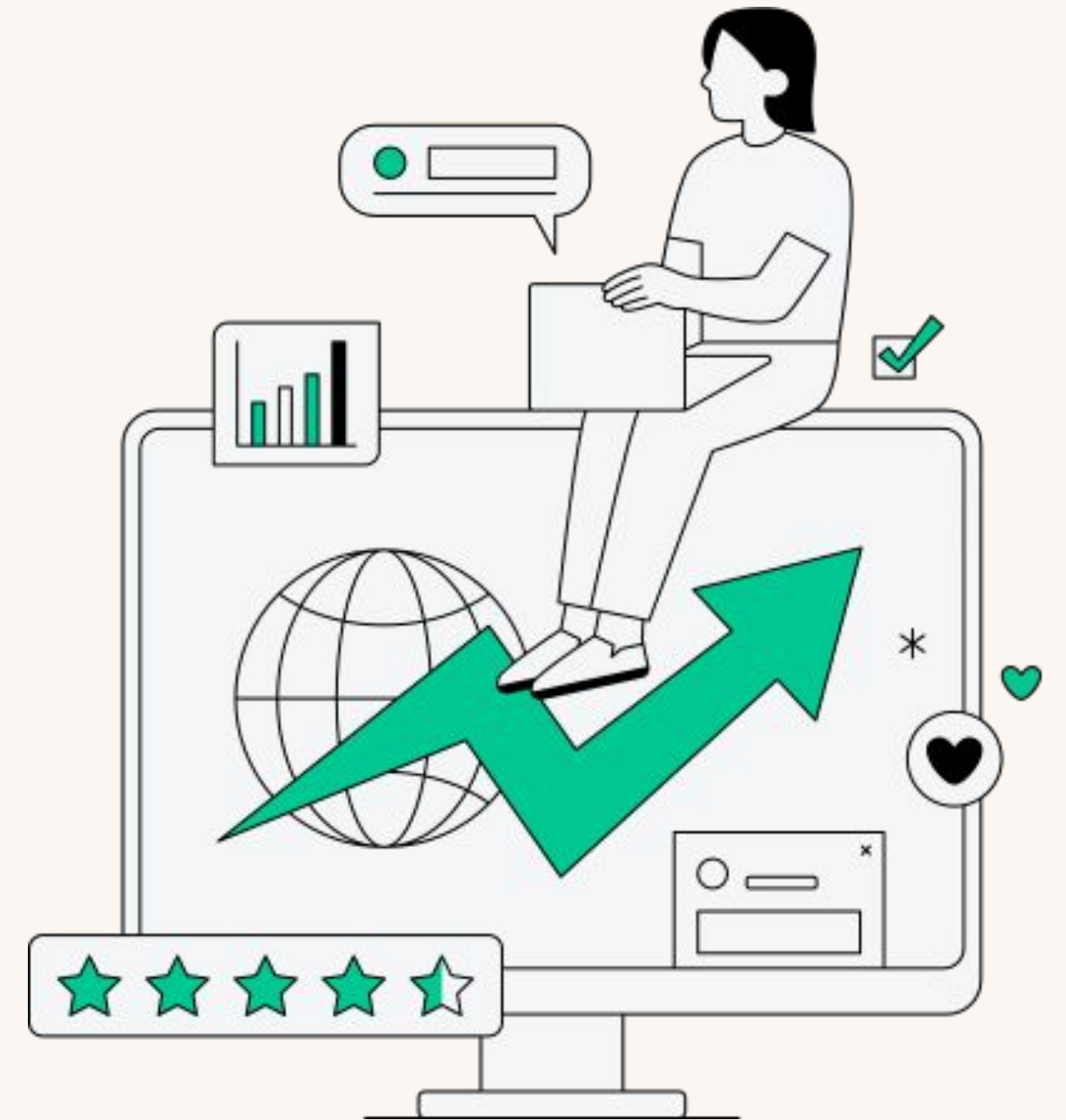


# Database Design

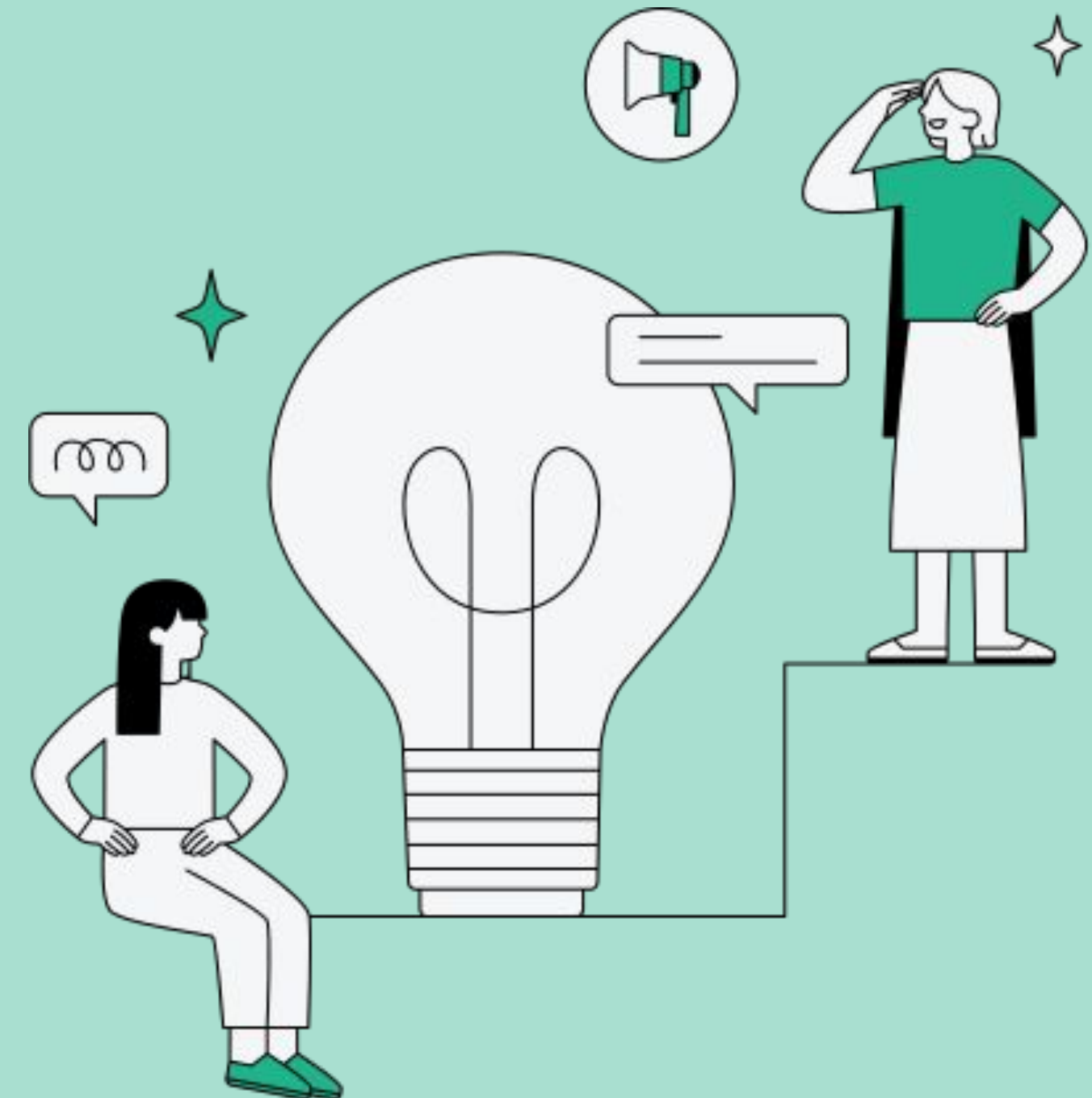
for

*Beaver Technology Solutions*



# Introduction

- Beaver Technology Solutions, is an IT firm, currently uses a single spreadsheet to track all business activities across the organization, however, as the company continues to grow, the tool is no longer sufficient
- Our proposal for the firm is to implement a relational database that can help address their current issues while continuing to support the firm as it grows to build a strong standing company
- Databases help maintain data integrity, keep information more secure, and help businesses make efficient decisions by retrieving important information as needed, allowing for data driven decisions



# Business Problems

*What will a database help us with?*

1. Managers need help matching employees skills with project requirements.

2. Need to track employee workload and performance. It is currently challenging, which has led to inequalities and inefficiency.

3. Next, BTS wants to expand their locations, but lacks the needed data driven insights. Implementing a database would help them address this problem through query design and more

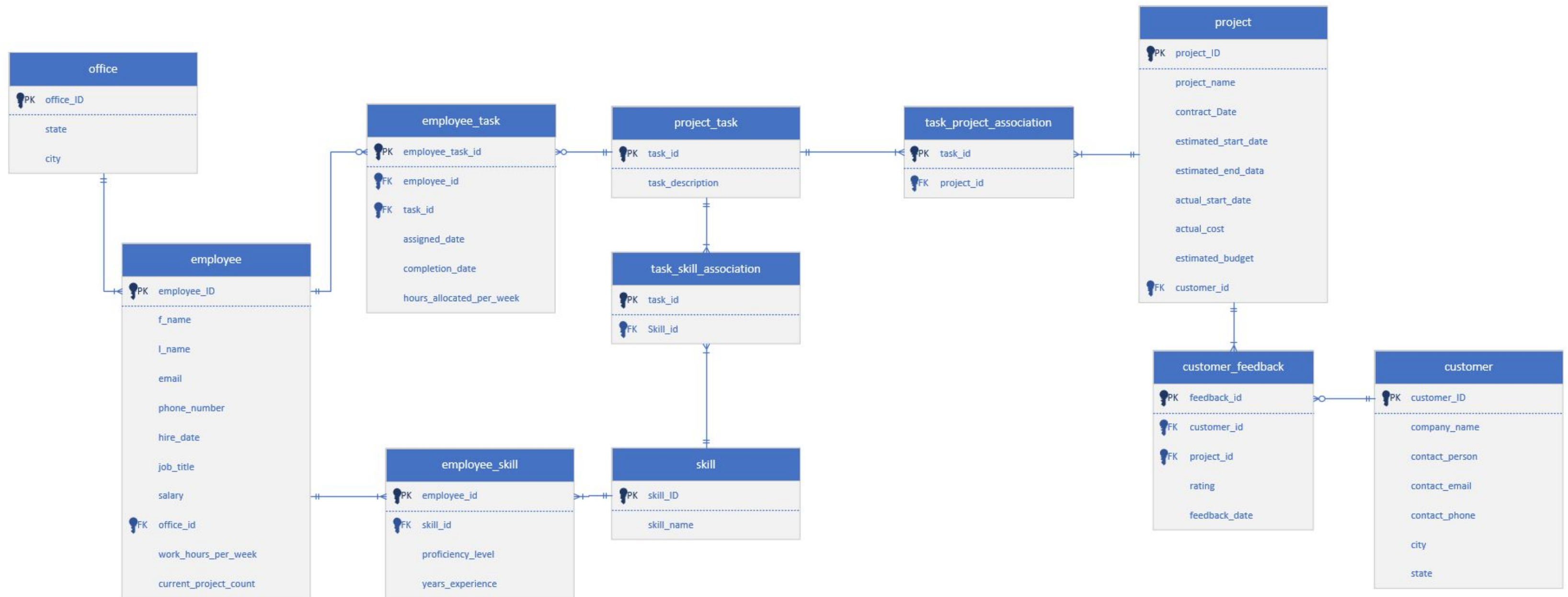
4. Customer service - BTS was to enhance their customer satisfaction and potentially implement progress reports, flexible payment plans and improved ongoing technical support.

# Information Needed

- Data to inform our 4 goals:
- Employee Background Data
- Employee Skill Data
- Employee Work Load Data - Efficiency
- Project Task Data
- Customer + Customer Review Data



# Conceptual Design





# Implementation Overview

01 Wrote SQL code to create database tables based on entities in ERD

02 Sample data entered to show database functionality

customer_feedback				
feedback_id	customer_id	project_id	rating	feedback_date
f001	C001	P123	4	4/12/2009
f002	C005	P124	5	4/13/2009
f003	C001	P125	4	4/20/2009
f004	C004	P126	3	6/1/2009
f005	C002	P127	4	8/2/2009
f006	C003	P128	3	9/1/2009

employee										
	employee_id	f_name	l_name	email	phone number	hire_date	job_title	salary	office_id	work_hours
+	E196	Clara	Williams	cwilliams@gmail.com	183-821-8924	2/13/2010	DB Designer	67,000	O364	40
+	E243	Sophie	Miller	smiller@gmail.com	801-284-1033	9/22/2010	Systems Analyst	110,000	O055	35
+	E273	John	Smith	jsmith@gmail.com	379-819-1973	12/21/2009	Systems Analyst	93,000	O282	40
+	E352	Dave	Moore	dmoore@gmail.com	481-931-0183	10/19/2013	Project Manager	102,000	O236	20
+	E683	Lauren	Anderson	landerson@gmail.com	971-792-2910	3/12/2013	DB Designer	43,000	O282	40
+	E971	Matt	Davis	mdavis@gmail.com	103-928-8085	11/4/2011	Systems Analyst	85,000	O364	40

# Business Reports

**How our database can streamline business  
processes**

# Addressing Business Problem #1

Employee ID ▾	Employee ▾	Skill ▾	Proficiency Level ▾
E196	Clara	Python	Intermediate
E243	Sophie	Python	Expert
E273	John	Python	Beginner
E683	Lauren	Python	Intermediate

- Displays employees and their skills to know who may be best for certain projects
- Allows assessment of proficiency
- Can help determine where additional training is needed



# Addressing Business Problem #2

Employee ID ▾	Employee ▾	Working Hours ▾	Total Workload ▾	Remaining Available Hour ▾
E196	Clara	40 7		33
E243	Sophie	35 0		35
E352	Dave	20 0		20
E683	Lauren	40 6		34
E971	Matt	40 1		39

- Addresses employee workload and who may be most available or best for the job
- Ensures no one is stagnant
- Enables managers to know who may need support

# Addressing Business Problem #3

city ▾	average_rating ▾	total_feedbacks ▾
Chicago	3	1
Las Vegas	3.5	2
Portland	4	2
Arlen	5	1

- Addresses customer satisfaction in city, helps determine areas of improvement and business expansion possibilities
- Helps managers prioritize areas that need customer service efforts, and can offer ways to improve their services.

# Addressing Business Problem #4;

company_name	city	state	rating	feedback_date	project_name	f_name	l_name	task_description	CountOfproject_id (PK)
CricketUnlimited	Las Vegas	Nevada	3	6/1/2009	cricket_web_design	Matt	Davis	DB Quality Assurance	1
DeeBirdLLC	Chicago	Illinois	3	9/1/2009	deebird_reorganization	Clara	Williams	Customer Updates	1
Markus&Sons	Las Vegas	Nevada	4	8/2/2009	markus_rebrand	Matt	Davis	DB Quality Assurance	1
ReynoldsLLC	Portland	Oregon	4	4/12/2009	reynolds_customer_identification	Clara	Williams	Statistical Analysis	2
ReynoldsLLC	Portland	Oregon	4	4/12/2009	reynolds_customer_identification	John	Smith	DB Design	2
ReynoldsLLC	Portland	Oregon	4	4/20/2009	reynolds_rebrand	Clara	Williams	Customer Updates	2
StricklandLLC	Arlen	Texas	5	4/13/2009	strickland_web_design	John	Smith	DB Design	1

## Customer Service

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- Has customer information
- Shows feedback on a scale from 1-5
- Shows employees associated with each project



# Results from query 1

	company_name	city	state	rating	feedback_date	project_name	f_name	l_name	task_description
	CricketUnlimited	Las Vegas	Nevada	3	6/1/2009	cricket_web_design	Matt	Davis	DB Quality Assurance
	DeeBirdLLC	Chicago	Illinois	3	9/1/2009	deebird_reorganization	Clara	Williams	Customer Updates
	Markus&Sons	Las Vegas	Nevada	4	8/2/2009	markus_rebrand	Matt	Davis	DB Quality Assurance
	ReynoldsLLC	Portland	Oregon	4	4/12/2009	reynolds_customer_identification	Clara	Williams	Statistical Analysis
	ReynoldsLLC	Portland	Oregon	4	4/12/2009	reynolds_customer_identification	John	Smith	DB Design
	ReynoldsLLC	Portland	Oregon	4	4/20/2009	reynolds_rebrand	Clara	Williams	Customer Updates
	StricklandLLC	Arlen	Texas	5	4/13/2009	strickland_web_design	John	Smith	DB Design

# Results from query 2

company_name	CountOfproject_id (PK)
CricketUnlimited	1
DeeBirdLLC	1
Markus&Sons	1
ReynoldsLLC	2
StricklandLLC	1

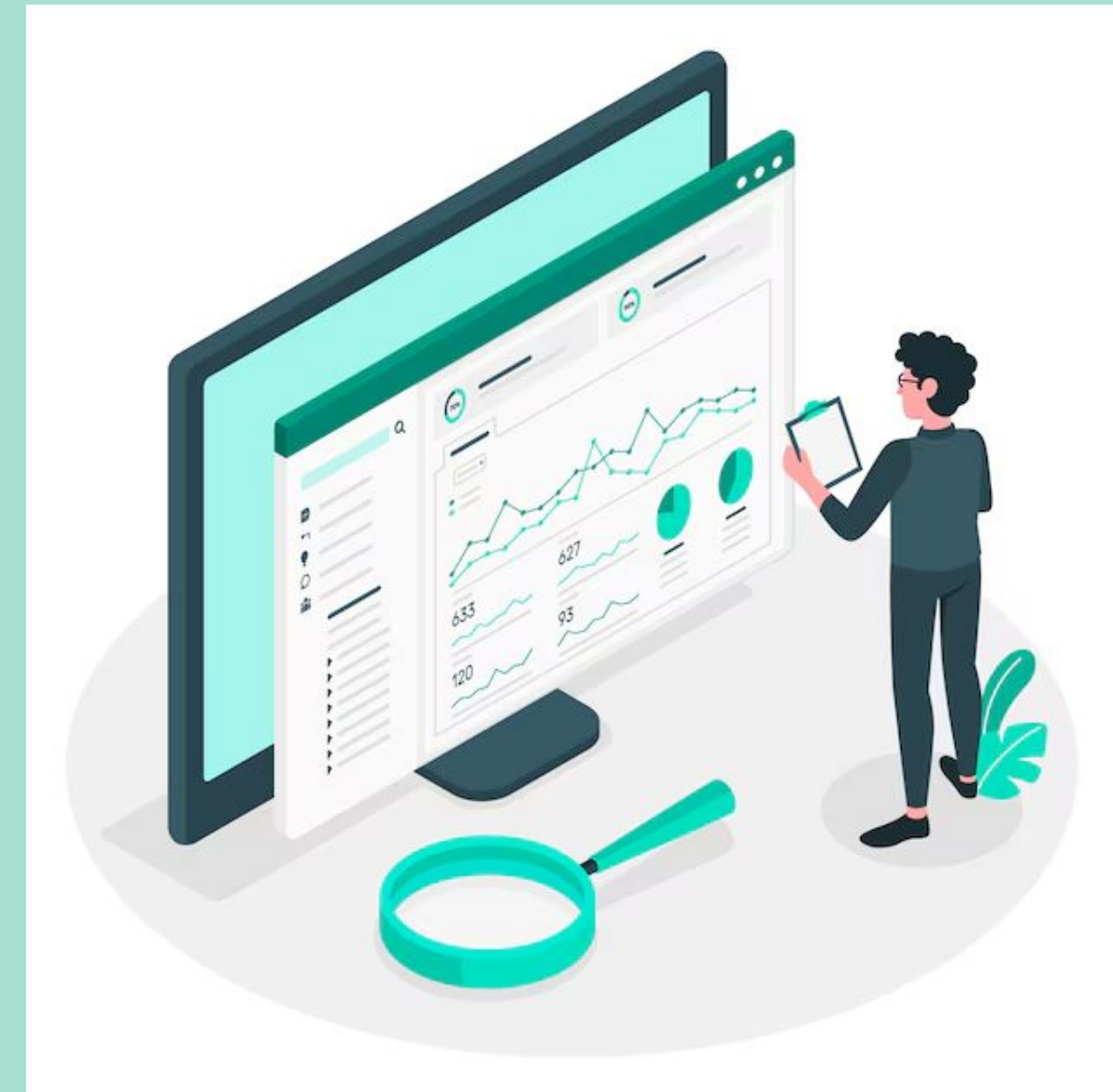
These two queries  
were then combined  
to make the final  
report



# Conclusion

- Query One allows us to assign properly skilled employees to certain project tasks
- Query Two provides information needed to assign employees that have the availability in their schedule to the proper tasks
- Query Three allows us to assess customer satisfaction and the general amount of feedback per location
- Query Four provides detailed information regarding both the employees and the projects that are performing well
  - This also allows us to indirectly see the number of projects per region

Overall, a Relational Database would allow BTS to grow while supporting their goals and maintaining data integrity.



Thank  
you very  
much!

