

Energy Experts

Mid-Semester Project Presentation

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Progress

- Revised specifications based on feedback
- Designed multiple iterations for the relational schema
- Continuously updated GitHub repository as progress was made
- Designed Entity Relationship (ER) Diagram for the data we want to use
- Created Mid-Semester Project Report

Use Case #1: Select Month

Determine the approximate cost of energy for a campus building in a chosen month.



SQL Pseudocode for Use Case 2

```
SELECT PropertyName,GrossFloorArea,  
BuildingAge,BuildingType,YearBuilt,  
PropertyType,ApproxEnergyType;  
FROM Building
```



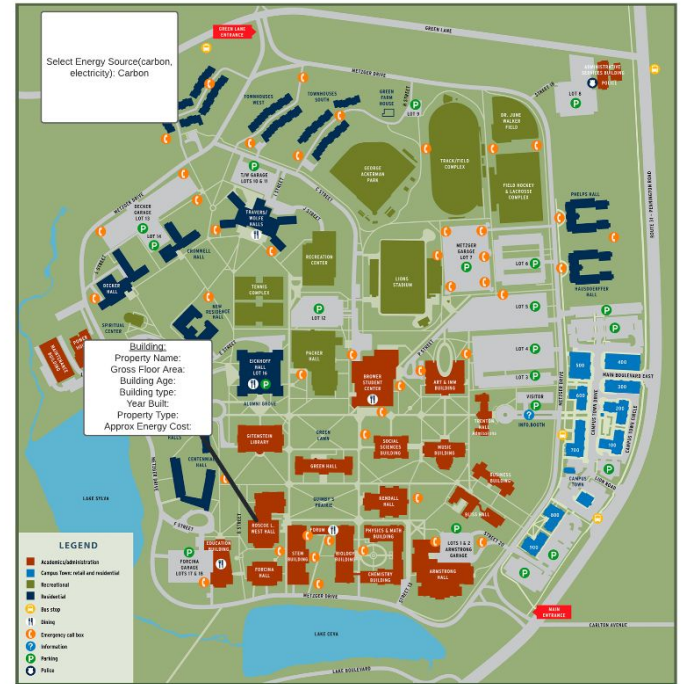
Use Case #2: Select Energy Source

Determine the approximate cost of energy for a campus building given a chosen energy source.



SQL Pseudocode for Use Case 3

```
SELECT PropertyName,GrossFloorArea,  
BuildingAge,BuildingType,YearBuilt,  
PropertyType,ApproxEnergyType,  
FROM Building
```



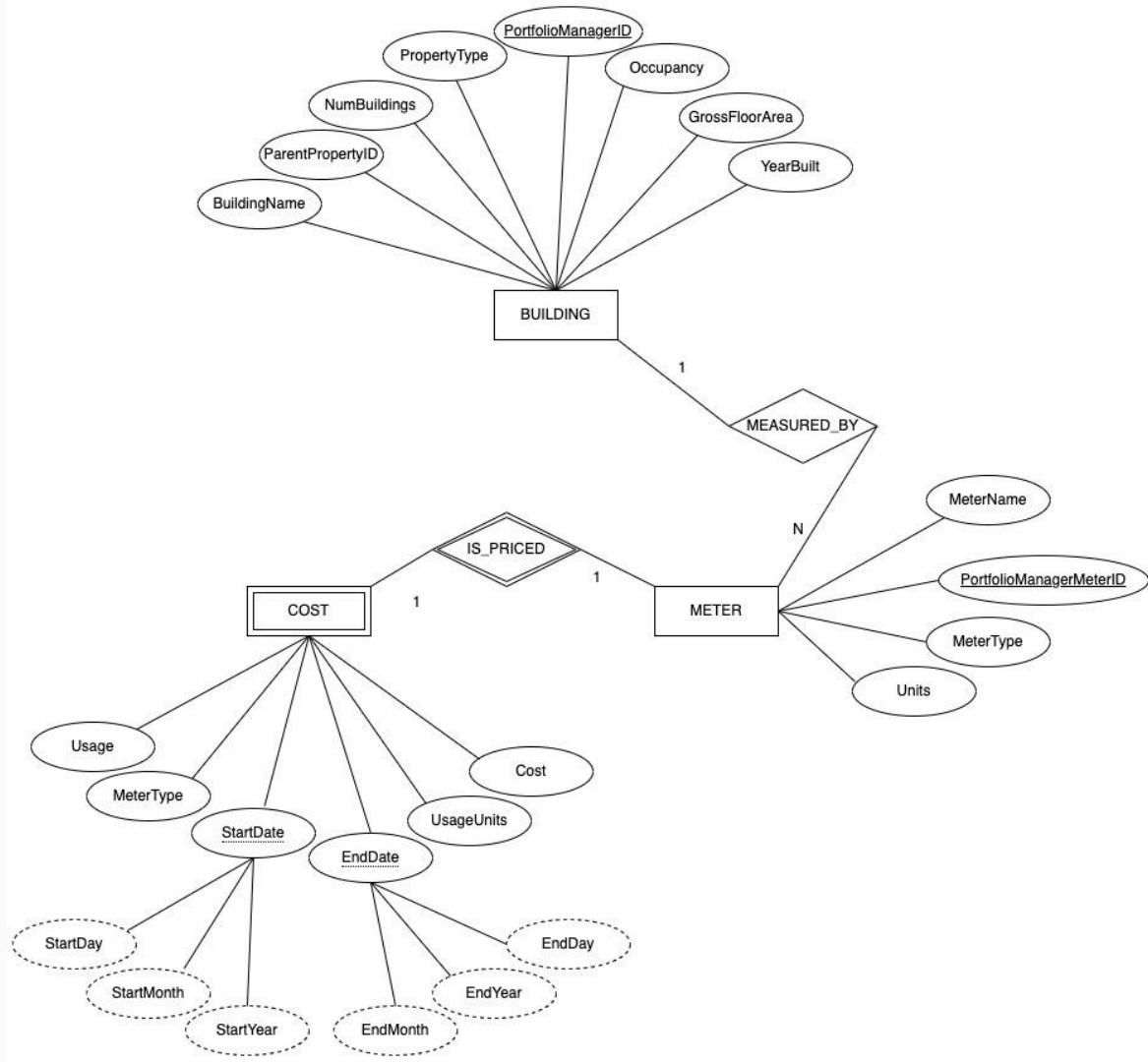
Entity Relationship (ER) Diagram

Three entities:

- Building
- Meter
- Cost

Two relations:

- Measured_by
- Is_priced



BUILDING

BuildingName	<u>PortfolioManagerID</u>	YearBuilt	PropertyType	GrossFloorArea	Occupancy	NumBuildings	ParentPropertyID
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MEASURED_BY

<u>PortfolioManagerID</u>	<u>PortfolioManagerMeterID</u>
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METER

MeterName	<u>PortfolioManagerMeterID</u>	Units	MeterType
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IS_PRICED

<u>PortfolioManagerMeterID</u>	<u>StartDate</u>	<u>EndDate</u>
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COST

<u>StartDate</u>	<u>EndDate</u>	Cost	MeterType	Usage	UsageUnits
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Initial Database Statistics

Initial Database Size:

Monthly data from 6 electric meters 15 natural gas meters from 07/2014 - 02/202 yields about 1470 rows.

21 meters yields 21 rows.

47 buildings yields 47 rows.

Total: about 1538 rows.

Types of Searches:

Search for: building specifications, energy types, monthly cost, & yearly cost.

Average Number of Searches:

Comparing limited number of buildings based on type, one query for each building. Could be about 10 searches.