John Davis, Zachary Horine, Michael Huang, Thomas Korsness
CS340 - Introduction to Databases
ER Diagrams
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Requirements:
Students can register with their name
Owners can register with their restaurants address and their own name
Restaurants are displayed in order of highest ranking
Restaurants can be filtered based on various restaurant attributes
Students can write reviews on specific menu items
Once a restaurant is clicked on the three best and three worst menu items are displayed

Rules:
Students can only register a single account
Students can edit their restaurant reviews
Students can review multiple different menu items at a restaurant
Each restaurant can only have one owner
There can only be a single restaurant at any given location
Only restaurants in Corvallis are considered
Only owners can add menu items
You must be signed in to write a review
You do not have to be signed in to read reviews

Description:
The ER diagram models the requirements and the rules of the model. Based on the requirements, queries are available to meet the requirements. Additional attributes for elements may be added at the time of development in order to allow more sophisticated queries. In terms of the cardinalities, it matches the rules that limit the number of accounts a student can have, the number of items they can review, and the number of owners a restaurant can have. Furthermore, all the attributes necessary for the current rules are given in the ER diagram (more could be added in the future). In conclusion, this ER diagram, when developed will have the full capability needed to build the service effectively.

Owner
owner_ID
owner_name

Restaurant
restaurant_ID
restaurant_name
address
owner_ID   (FK)

Review
Review_ID
rating
item_ID   (O)
description   (O)
date
student_ID   (FK)
item_ID   (FK)
restaurant_ID   (FK)

Student
student_ID
student_name

Item
item_ID
item_name
restaurant_ID   (FK)

Entities and attributes:

Owner: owner_ID (underlined), owner_name

Restaurant: restaurant_ID (underlined), restaurant_name, address

Item: item_name, item_ID (underlined)

Student: student_ID (underlined), student_name

Review: Review_ID (underlined), date, item_ID (O), description (O), rating

Relationships:

- Owner —|=— **Owns** —<— Restaurant
- Restaurant —|=— **Serves** —>|— Item
- Item —|— **Has** —>o— Review
- Student —|— **Writes** —>o— Review
- Restaurant —|=— **Has** —o<— Review