



CSCI 2020 – Database Fundamentals

Project Deliverable 2: Entity-Relationship Diagram

Deliverable Information

Points Possible:	30
Date Due:	Saturday, March 12, 2022 by 11:59pm
Submission Details:	<ul style="list-style-type: none">• Submit to D2L Project Deliverable 2 Drop Box Folder• PDF Format with the filename specified below.• The body of the file must contain your name, section, and email address, the ER diagram (inserted as an image), and your list of assumptions.<ul style="list-style-type: none">○ Your submission must use the ERD format and notation shown in class. Failure to do so will result in a poor grade.○ No Late Submission Accepted
Filename Format:	LastnameFirstinitial_Del2.pdf (Ex: RezwanaT_Del2.pdf)

Details

Read the following narrative and create an entity-relationship diagram (ERD) using the notation shown in class. Since yED Graph Editor does not provide a shape for weak entities, to specify any weak entities use the annotation option to label the entity as a weak entity. Another option is to use LucidCharts – another ERD tool that comes with more features. Specify all entities (including weak entities), attributes (specify identifiers), and relationships between entities.

LIST ALL ASSUMPTIONS that you make when completing this assignment on a page following the diagram. You should have several assumptions listed that correspond to design decisions you've made. Include every assumption (which could be as simple as why you've made a particular decision about a cardinality, or as complex as why you chose to include a quaternary relationship [hint: don't include a quaternary relationship]).

Narrative

Boon Lake Apartments is an apartment rental company in the Tri-Cities area. While Boon Lake Apartments has been renting out apartments for a while, they have been struggling to maintain information about their properties and day to day activities. The primary reason for this is that most work has been conducted through paperwork so far. The new management has proposed to automate their workflow by creating a website with an underlying database that will maintain their data.

One of the main requirements for the database is to store data about the various apartments in the different areas. An apartment is part of a building and can be identified by an apartment number. Apartments are also characterized by apartment type (e.g., 2BR/1.5 BA, 3BR/2BA etc.), size in square feet, floor (e.g., first floor), floor plan (e.g., Plan A, Plan B etc.), availability status, and rental fee in USD. Boon Lake Apartments has several buildings and the apartment numbers may repeat in each of the buildings. A building is characterized by a unique 4-digit building number (e.g. 1021), location and number of floors.

Interested customers can apply for renting any of the apartments. Part of this process requires collecting applicant information such as name, phone number, SSN, email address, current address, occupation, employer name and annual salary. An applicant can only apply for one apartment at a time and these applications should be recorded in the database. An application has a unique application ID, date, application type (single or joint), application fee, application status (approved/denied/pending) and preferred move in date. An application may be submitted by more than one applicant and each application can reference one apartment only.

Boon Lake Apartments would like to keep records of their current tenants as well. A tenant is characterized by their name, SSN, date of birth, phone number, email address, number of dependents, occupation, employer name, lease start date, lease end date and security deposit. A tenant can lease one apartment only, however, an apartment can be leased by multiple tenants.

Existing tenants can request maintenance checks or repairs for their apartment either by phone or by filling up a maintenance request on their website. A maintenance request must be uniquely identifiable by a request ID. Other data required for a maintenance request are issue type (e.g., HVAC, plumbing, pest control, water damage, appliances etc.), issue description, date requested, date completed and request status (completed/pending). A maintenance request can be submitted by on tenant only. Once a request is received, an employee, specifically someone in the maintenance department should be assigned to the request so that Boon Lake Apartments can track which employee had attended to a maintenance request.

Finally, Boon Lake Apartments would like to store data about their existing and future employees. Each employee will be given a unique employee ID. The employee's name, date of birth, phone number, email address, physical address, salary and job title (e.g., leasing consultant, maintenance consultant, leasing manager, property owner etc.) must also be recorded. Boon Lake Apartments provides health insurance to their employees and their dependents. For this purpose, it is important to keep track of the employees' dependents if any. An employee's dependent is identified by their name, date of birth, relationship (e.g., spouse, child etc.) and home address. A dependent cannot exist without an employee and an employee can have multiple dependents.