

CPSC 4620 – Homework 1

Entity-Relationship Diagrams

Due: Thursday, May 23rd at 11:59 pm

100 pts

For this assignment, you will use the following prompts to create the conceptual models of these mini-worlds. You will use Entity-Relationship diagrams to represent the conceptual models, and you will submit the ER-diagrams for this assignment. You will need to use the EER notation discussed in chapter 4. This is an individual assignment, you may not work with a partner. You should create your diagrams electronically. I recommend using draw.io, but if you have another diagramming tool you like feel free to use that.

The Mini-worlds:

1. Consider an insurance company. An insurance company needs to be able to track information about all of its policies, drivers and their cars. Cars have a VIN, Registration (number and state), year, make, model and colors. Drivers have a name, address, license (number and state), phone number(s) and email. Policies have a policy number, property damage liability, bodily damage liability, collision coverage, medical payments coverage, uninsured motorist coverage, comprehensive coverage, medical deductible and damage deductible. It is also important to track the insurance agent for each policy. The agent has a name, employee number, commission rate, email and phone number. A driver can have many cars, and a car can have many drivers. A policy can cover many drivers and cars, but a car can only be covered by one policy, and a driver can only have one policy. An agent can sell many policies, but a policy can only have one agent.
2. Consider a football tournament. You need to track information for the players, the teams, the matches and the tournament. The tournament has a name, date and time, and a status (in-progress, waiting to begin, over). Each player has a name, a unique id number, a phone number, a position, and an email address. A player can be either an offensive player or a defensive player, depending on their position. They cannot play both offense and defense. If a player is a defensive player, then we want to track their career stats for sacks, interceptions, forced fumbles, fumble recoveries, tackles, and passes defended. If the player is an offensive player we need to track their career stats for passing yards, rushing yards, receiving yards, and touchdowns. A team has a team name, and unique id number. Each match has a round number, time, and location, and a status (in-progress, waiting to begin, over). A player can play for many teams (as this database will capture data over a long period of time) and for each team they play on they have a jersey number. A team is made of many players. Two teams compete in a match, and the database should track how many points a team scores in the match. When the match is over, one team will be declared as the winner. Teams will play in several matches. The tournament has several matches in it, but a match can only belong to one tournament. Many teams can play in a tournament, and they have a placement in each tournament (1st, 2nd, etc). Teams can play in several tournaments.

Submission:

You will submit an electronic copy of your assignment on Canvas by the due date. No late assignments will be accepted. You must use a diagramming tool to create your diagrams (such as draw.io). Hand drawn diagrams, even if scanned in, will not be accepted. Make sure to submit either a PDF (if diagrams are not cut off going from one page to the next) or a jpeg file. Do not upload the Draw.io save file. No late assignments will be accepted.