CSCI UA.0060 Spring 2024

Assignment 4 – Create an Entity Relationship Diagram

Deliverables

Upload the following file to your GitHub repository for this assignment.

A PDF of an Entity Relationship Diagram for United Helpers

Filenames should be FirstInitialLastName-Ass4.pdf. For example, John Smith’s deliverable would be JSmith-Ass4.pdf

Overall Requirements

In this assignment, you will create an Entity Relationship Diagram for a database to support the United Helpers business, described below. The diagram can be created using Visio, Excel or any other tool of your choice, but it must be saved/exported as a PDF.

Specific Requirements for the ERD

1. There must be a title for the diagram
2. The Primary keys for each table must be clearly identified
3. Relationships must be labeled to reflect their function
4. The cardinality of relationships must be shown
5. None of the relationship lines should cross each other.
6. Table names should be lower case. Multiple words should be separated with an underscore.
7. Table names should be singular and not plural (for example, course and not courses)
8. Attributes should be camel case (initial character lower case).
9. There should be no many to many relationships
10. Any assumptions being made should be clearly stated

Business Description

United Helpers is a non-profit organization that provides aid to people after natural disasters.

Volunteers carry out the tasks of the organization. The name, address and telephone number are tracked for each volunteer. Each volunteer may be assigned to several tasks and some tasks may require many volunteers. A volunteer might be in the system without having been assigned a task yet and it is possible to have tasks with no one assigned. When a volunteer is assigned to a task, the system should track the start and end time of the assignment.

Each task has a task code, task description, task type and task status. For example, there may be a task with task code “101”, description of “answer the telephone”, a type of “recurring” and a status of “ongoing” or code “102”, description “prepare 5,000 packages”, type “packing” and status “open”.

For each task with a type of “packing”, there is a packing list that describes the contents of the packages. There are many different types of packages, such as “basic medical”, “child-care” and “food”. Each packing list has an ID number, a packing list name and a package list description. Each packing task is associated with only one packing list. A packing list must be associated with at least one task and could be associated with many.

Packing tasks result in the creation of packages. Each individual package is given its own id and is tracked. The date the package was created and its weight are recorded. Each package is associated with only one task. Some tasks (such as “answer the phone”) will not produce any packages, while others (such as “prepare 5,000 packages”) will be associated with many packages.

Package lists contain the list of items in each package. A package can contain many different items and a given item may be used in many different packages.

Each item that the organization provides has an item ID number, item description, item value and quantity on hand. The quantity of each item included in a package must be recorded. It is possible for the organization to have items that have not yet been included in any package, but every package must have at least one item.

Grading Rubric

See Brightspace for Grading Rubric

Students may be given extra points for delivering outstanding work that goes beyond the stated requirements.