**Lab 2: Entity Relationship Modeling**

**Assignment: Problem #7 from Chapter 4 of the textbook. The case study is United Helpers.**

With the use of Microsoft Visio, draw YOUR entity relationship diagram (ERD) using Crow's foot notation to indicate entities, relationships, optionalities, connectivities and cardinalities.

In addition, be sure to include a heading on your ERD with a brief descriptive title, your name, and a date.

It is suggested that you write out business rules but the rules do not need to be submitted.

Attach your Microsoft Visio file to a submission for Lab #2.

**Chapter 4 Entity Relationship (ER) Modeling**

**7.** United Helpers is a nonprofit organization that provides aid to people after natural

disasters. Based on the following brief description of operations, create the appropriate

fully labeled Crow’s Foot ERD.

* 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 require many volunteers. A volunteer might be

in the system without having been assigned a task yet. It is possible to have tasks

that no one has been assigned. When a volunteer is assigned to a task, the system

should track the start time and end time of that 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,” a description of “answer the telephone,”

a type of “recurring,” and a status of “ongoing.” Another task might have a code of

“102,” a description of “prepare 5,000 packages of basic medical supplies,” a type

of “packing,” and a status of “open.”

* For all tasks of type “packing,” there is a packing list that specifies the contents of the

packages. There are many packing lists to produce different packages, such as basic

medical packages, child-care packages, and food packages. Each packing list has an ID

number, a packing list name, and a packing list description, which describes the items

that should make up the package. Every packing task is associated with only one packing

list. A packing list may not be associated with any tasks, or it may be associated with

many tasks. Tasks that are not packing tasks are not associated with any packing list.

* Packing tasks result in the creation of packages. Each individual package of supplies

produced by the organization is tracked, and each package is assigned an

ID number. The date the package was created and its total weight are recorded. A

given package is associated with only one task. Some tasks (such as “answer the

phones”) will not produce any packages, while other tasks (such as “prepare 5,000

packages of basic medical supplies”) will be associated with many packages.

* The packing list describes the ideal contents of each package, but it is not always

possible to include the ideal number of each item. Therefore, the actual items

included in each package should be tracked. A package can contain many different

items, and a given item can be used in many different packages.

* Each item that the organization provides has an item ID number, item description,

item value, and item quantity on hand stored in the system. Along with

tracking the actual items that are placed in each package, the quantity of each

item placed in the package must be tracked as well. For example, a packing list

may state that basic medical packages should include 100 bandages, 4 bottles of

iodine, and 4 bottles of hydrogen peroxide. However, because of the limited supply

of items, a given package may include only 10 bandages, 1 bottle of iodine, and

no hydrogen peroxide. The fact that the package includes bandages and iodine

needs to be recorded along with the quantity of each item included. It is possible for the organization to have items that have not been included in any package yet,

but every package will contain at least one item.