Simplified Term Project Instructions

**Choose your Business Application**

You need to pick an application to design. The project asks for a purchase order system that currently resides on a mainframe application. That may be difficult to find. So, you may use a current business system you are familiar with. You may also design a system for an organization that is doing everything manually. You must meet the following criteria:

* The business must have multiple locations that need to be connected via public communication.
* You need to include the type of industry.
* You need to identify employees per location.

**Part 1 Document the Business Needs**

This must include:

**Process Modeling**

1. **Structure chart** or decomposition diagram.
2. **Context diagram**.
3. Three **dataflow diagrams** (DFD).
4. A **brief description** of your dataflow diagrams.

**Network Modeling**

1. **Location decomposition diagram**-documenting locations to which people, activities and data must be distributed.
2. **Location connectivity diagram**-documents business locations and the connections required between them.
3. A **brief description** of your location connectivity diagrams.
4. **Documentation** for the proposed network configuration.
   1. Who will use, what, where.
   2. Why the configuration was chosen.
   3. Gross costs and the benefits that will justify the costs.
   4. Lan requirements. Primary components- Only major connections need be represented. The costs you report are gross numbers-not researched. For convenience sake, PCs cost $700 each with any operating system, Servers cost $3,000 each, Storage Area Network Servers (SANs) cost $15,000 each, and T-1 lines cost $1,000 monthly. You can come up with other hardware costs, both one-time and continuing. Include server operating systems and the licensing as a one-time or initial cost (do not be concerned with the number of Microsoft Client Access Licenses (CALs) available with your chosen server package)
   5. WAN connectivity requirements. T, T3, POTS (Plain Old Telephone System)

**Project Schedule**

1. **Gannt Chart**
2. **Project schedule**.

**Part 2 Deliverables**

**Database Requirements**

Database Requirements Your team will develop a database to support the application. Objectives for the database are:

1. Identify and describe **data entities** (tables) about which the new system must store data and document the relationships that exist between those data entities.
2. For each data entity, determine an identifier (one or more **attributes** (fields)) that uniquely identifies one and only one occurrence of that entity. **Key fields**
3. Each data attribute will initially be mapped to one data entity. Foreign keys will subsequently map to additional entities. 4. An Entity-Relationship diagram (ERD) is required. This requires that the entities be normalized. Normalize to 3rd NF.

The textbook does provide some examples of each of the requirements to be included in your system design report. However, you are always encouraged to search your other resources for additional examples.

Database development includes normalizing the entities of your ERD. Each entity should be normalized to 3rd normal form. Normalization will result in the creation of additional entities. Such changes should be reflected in the ERD.

Suggestions for your database entries are:

* Data entities should be named using singular nouns.
* Data relationship names should describe the association between data entities and must be provided in both directions; e.g., an order contains order items, and order items appear in an order. In this example, order and order item are entities while “contains” and “appear in” are associations.
* Attach whatever documentation is necessary to make your ERD understandable.
* No repeating attributes or groups of attributes are allowed; e.g., month 1, month 2, etc. are not permissible. This is 1st normal form.
* Adopt the following rule for normalizing to 3rd normal form: Every non-key attribute relates to the key, the whole key, and nothing but the key. For example, a social security number can be used as a key attribute to uniquely identify an individual. The city the individual lives in is not key since millions of people may live in the city.

**System Proposal**

This is the **design report**. There are four examples in the final project assignment link in session two.

**PowerPoint Presentation**

Your presentation will be the process of **presenting your system proposal to management**. Remember that **you are trying to sell your system to a company**. They are not interested in the process you followed in coming to conclusions. They are interested in conclusions. The manager will want to know the **bottom-line dollar benefit to the company**—how much the company will realize in dollars-per-year.

Each team member will present part of the proposal, focusing on her or his primary area(s) of contribution. Individuals’ contributions to the project will be partially evaluated on subject knowledge, preparation, etc. PowerPoint usage is required. You will not do a formal presentation.

When I view the presentation, I need to know:

1. What you are trying to sell me.
2. What it will cost.
3. What will my return on investment be.
4. What it looks like.

**IMPORTANT**

1. Assign each portion of the project to a group member. Only that group member will be graded by their contribution. For example: if a group member is assigned the Gannt chart and they don’t do it only their grade will be reduced. I do not penalize the entire group when one group member doesn’t do their part.
2. I have highlighted all deliverables in red so you know what you need to turn in.