MIS 531: Requirements Analysis and Conceptual Design

Milestone due dates: Prepare draft by Wednesday, Week 4 (recommended but not required; it gives you time to solicit feedback and revise the diagram).
Final milestone (required) submission: Wednesday Week 6.

Submission instructions: Complete the following by the due date/time.

- Turn in a soft copy of the milestone (requirements, ER diagram, ER data dictionary) in the submission box.
- Bring a printout to class. Ensure the printout is readable and organized (you can attach/stick pages together to show the full diagram).
- Email me by the Friday of the submission week to schedule an appointment (the appointment should be in the following 2 weeks). At least two members of your group should attend the meeting (it can be difficult to find a timeslot that all members can meet me, so I don't expect the full team).

Cover Page: This should include the team name, group members, chosen client.

Requirements Analysis: Provide a description about the data management problems in your selected "client organization". Include the name of your client at the top. Summarize the results of your requirements analysis using a textual description based on which an ER diagram can be developed. *See the ER homework description as an example*. Your requirements document should be descriptive enough (include details about entity classes, attributes, cardinality) for an independent analyst to recreate the ER schema you came up with. Without sufficient detail, I cannot gauge if your design meets the requirements or give you feedback.

Conceptual Schema: You need to design an ER schema for the given case or your selected organization. Please clearly mark identifiers and cardinalities. You can make reasonable assumptions (please write them down) and add additional attributes you feel necessary. Please use Visio and follow the notation and guidelines for creating an ER diagram specified in class.

Create an **ER data dictionary** alphabetically arranged (see sample data dictionary on D2L) and include all the integrity constraints not shown in the ER diagram. Your data dictionary should explain all abbreviations or ambiguous terms on the ER diagram. To conserve space, you may choose to model the important attributes (including identifier) on the ER Diagram, and include the complete set in the dictionary. Explanation of design (e.g., what data a particular entity class / relationship / attribute captures, and why you chose the cardinalities as you did) should be addressed in your data dictionary.

Scope: For each member in the group aim for 4+ classes (e.g., a group of 5 should aim for 20+ entity classes, and a group of 6 should aim for 24+ entity classes).
Subclasses and weak entity classes are given a weight of 0.5 per class. Further:

- There should be 14+ regular entity classes (i.e., excluding subclasses and weak entity classes) irrespective of group size. Plus, regular classes should account for at least 70% of your expected

class count (round up when calculating). E.g., a group of 6 should have at least 17 regular entity classes (i.e., 24 x 0.7 = 16.8, rounded up).

- You can have additional classes including subclasses or weak entity classes.

Teams developing a live database for a real-world/external client may reduce the number of entity classes above by 20%.

Attribute-density: on average each class should have 5+ attributes (each strong class should have at least 3 attributes).