Comp 1630 Project 1 - Relational Database Design (Instructor: Mark Bacchus)

**Weight: 12% Due: At start of class on Week 6**

Below you will find information (including Business Rules ) pertaining to the design requirements for a college alumni system. (Whist this is not a complete description of all the aspects of such a system, you are only required to address the requirements referred to in the description)

**Description**

Members are attached to Interest or Activity Clubs (for example: Chess Club, Philosophy Club, and Rowing Club)

Each club may have several members and a member could be attached to many clubs.

A club may exist without any members due to zero enrollments, at a given stage.

For each member in each club we need to record the start and end dates of the current membership. All former, but currently none active club members, are held in a historic list which records details of the club, member and membership dates.

Each member pays a membership fee to be an active alumni member and additional membership fees for each club membership.

All Fees are a fixed price (but may be different for each club) and cover a year's membership.

Where membership fees are not up-to-date, the member status is set to ‘Holding’.

There are 3 states that a member can be in: Active, Holding and Former.

If membership fees (alumni or club) are not paid up after being over due by 1 year, the member status becomes ‘Former’ and this is implemented by moving the membership details to the historic list.

Members are invited to events (dinners and others) on a regular basis. An additional fee is levied for attending such events and varies in cost.

Fully paid up (Active) members receive a standard invitation, whilst ‘Holding’ members may, at the discretion of the Alumni Director, receive a slightly different invite which offers the opportunity to renew membership (general or club, as appropriate) and also pay the event fee.

A member cannot attend an event, unless the member is fully paid for the associated club.

Members are invited on several criteria such as Club membership, Interest, Post Code, Country, Graduation Year and Subject studied. All members may be invited to some events, regardless of club affiliation.

Members may also make donations which may be general or for specific clubs

Donations may be ‘one-off’ or maybe regular (Monthly, Bi-Annual or Annual and run for a given time period). Payment method (Direct Debit, Credit Card or Cash ) needs to be recorded.

**What you need to submit:**

***One Hard copy document containing:***

* The formal business rules stated in point form. You will need to glean these from the description (or questions to your instructor)
* A list of Final Entities described as relational schemas and normalized to 3NF. (For any initial entities which did not conform to 3NF, you should include the Normalization proccess)
* A full Crow’s Foot ERD showing all attributes, keys and appropriately labeled One to many relationships
* Some sample data for each entity set.
* Sample contents of at least 3 reports based on the data set you have given and which reflects typical queries (which should be stated) on the database.

**Hints/Notes:**

* You will need to come up with attributes that you think are appropriate for each entity set which are implied in the description or as you think necessary and appropriate. (Include a description of the contents of each attribute within an entity, where the name is not an obvious description).
* As part of the process of moving to a final Crow’s Foot ERD, identify all M: N relationships and resolve to 1: M relationships (do not go directly to 1:M, if the original business rules implied a M:N, initially)
* Consider using surrogate Primary keys where you think unique composite identifiers are cumbersome.
* Try to be creative by providing for as many requirements as you can within the confines of the description.
* To support the presentation of your submission, you should provide a Contents page with sections for Introduction, Process description (how you went about the task), Assumptions, Limitations and Conclusion/Observations.
* Aim for a professional, well-structured and easy to read presentation with good quality diagrams

**Questions to your instructor**

These should be posted in the Project 1 Forum for your group ***(***A maximum of 2 sets of questions per group. No limit on the number of questions in each set.) The subject line should read ***“Questions for Instructor – Set 1” and “Questions for Instructor – Set 2”* (Start 2 new threads when posting)**

**The deadline for questions is at 6 p.m., 4 days before the we meet on Week 6.**