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PA 460 Course Project – Reflection essay

The main goal of this database is to track donors and the number of events they attend. The first thing I do is to identify unique entity class. In this case it would most likely be the donors, the events, and the donation transactions. Each entity class is represented as an individual table, and each row (each element in that entity class) is automatically given an integer ID number that serves to identify that row, and the ID number is also served as the primary key for that table. So, each donor is given a DonorID on the table, along with required info such as name, address, zip, email and phone. For events, each event is given a unique event ID number, along with event name, date, event type, and location. For donation transactions, each entry have a transaction ID, related donor ID (tells who makes this donation), transaction date, currency type and amount, and if donated in a certain event, what was the event ID. For added functionality, I also create a table for mailing list, and entries will show there if AddtoMailList is true on the related DonorID on the DonorsInfo table. An additional table, “EventReconds”, have two components: a DonorID field, and an array/list of EventID associated with the DonorID. That way it is very easy to track how many events that a particular donor have attended.

This project gives us the technique to how to break down complex data entities and objects to separate data entities that are manageable, identifiable and traceable. Enforcing referential integrity becomes simpler. This is of crucial importance when there is a need to develop a front graphical user interface / switchboard and you need to develop code that will interact the database using some form of SQL query, such as ODBC or JDBC. As a system engineer, we make great emphasis on the beginning stage of the system design, which includes drawing out the database schematics, as if there are problem or bugs that are introduced in this stage, it will be very costly to fix in later stages.