CIS 317: Introduction to Databases

Reflection Paper for MMI 498 Capstone Course

CIS 317 is a core clinical track course designed to help students understand the fundamentals of database design and management. Topics covered include: principles and methodologies of database design, database application development, normalization, referential integrity, security, relational database models and database languages.

The artifact posted is a conceptual model of the database designed for the course project in a UML formatted entity-relationship (E-R) diagram, illustrating entities, relationships, cardinality ratios and relationship constraints. E-R diagrams are tricky, as one has to identify required elements in the context of how data will be used. If the E-R model is not developed properly, the database will not function as desired. Due diligence must be given to this step in the design process to avoid potentially disrupting crucial operations that require accurate and timely data.

Of the four track courses I was required to take, I was most excited about CIS 317. I have worked with many Access databases and could finally master the skills necessary to create a database. My experience was limited to being an end-user: entering and retrieving data and running reports. Now, I know how “back-end” tables are linked, how to identify primary keys and how SQL code generates table content. The database life cycle was very important: requirements gathering, the E-R model, the relational model, normalization, implementation and information retrieval. Functional dependencies, minimal cover and normalization were the most difficult concepts for me to understand, but I enjoyed the challenge of trying to figure it out. Dr. Akkawi delivered an outstanding course in a dynamic format and I am confident that I will retain the knowledge and be able to create my own database in the future if required to do so.