**Delivery**

**Sprint 2 goals:**

* accurately determine and depict the multiplicities of binary and multi-way relationships in an entity-relationship diagram (ERD) and describe how the role of identifiers in a relationship depends on those multiplicities. (Multiplicity)
* identify plausible functional dependencies for a set of attributes and use them to determine the set of keys and super keys for a relation. (FD & Keys)
* prevent data anomalies among a set of relations by decomposing a relation into BCNF using its FD’s. (BCNF Normalisation)
* document referential integrity constraints in relational algebra and implement foreign keys with desired referential integrity constraint policies using SQL DDL. (Referential integrity)
* construct SQL queries using the GROUP BY and HAVING clauses to capture OLAP-style aggregation logic. (Grouping & Aggregation)
* construct SQL DML queries to declaratively modify the contents of tables. (SQL)

**Evidence that goals have been met:**

* Identify the relationships between entities.
  + As shown in ERD.ppt, all of them are labeled as 1to many or many to 1 relationship.
* Identify the set of keys and super keys for a relation.
  + As shown in ERD and database, I underlined all the keys.
* Eliminate data anomalies using BCNF.
  + I did the BCNF check on all attributes, after some modification on the ERD and some splitting in SQL, they do not violate BCNF rules anymore.
* implement foreign keys using SQL DDL.
  + I used foreign keys to constraint the data, for example the refer table, referrer ID, Site ID, Patient ID, they are all foreign keys.
* Write some advanced SQL code.
  + Used GROUP BY, ORDER BY, HAVING and nested SQL in sprint 2 test file.
  + Used foreign keys.

**Justification for missed sprint goals:**

* There are no missed goals for sprint 2. All goals have been met through the demonstration above.