CITS2232 Databases Design Document

# Design Reasoning

The driving force behind the decisions made in the design of the database was that of application, or how the database would function upon deployment to the real world, which in our case was as a staff and office management system for Centrelink. To this end, the database has been kept organised, with as few keys as possible. This is reflected by the UML diagram, in which there are only two primary keys: the Office Code and the Staff Identification Number. It is from these two keys that much of the other data can be determined; the Office Code will determine every other element in the Office table, as each piece of data is a unique set that is tied to the unique Office Codes. Similarly, the Staff ID determines each other element in the Staff table. On top of this, both the Office Code and the Staff ID form a multivalued dependency that allows us to determine the position that each staff member holds within each office, again a relationship that is unique to each combination of Staff ID and Office Code.

The relationships between each table are also based on perceived real life applications. Working up from the ‘first’ relationship, it can be seen that each Staff member can have multiple Staff Office Memberships, to reflect that a single Staff member could potentially work at different Centrelink offices during their employment. Similarly, each Office can be attached to multiple Staff Office Memberships, signifying that each office can employ multiple staff members. On top of this, our database has left room for the possibility that a Staff member could be an Office Manager at one Centrelink location, while still being a regular Staff member at another.

# Process of Normalisation