Team 37 – CSC2042 QA Project

Nathan Donaghy 40226743

[ndonaghy12@qub.ac.uk](mailto:ndonaghy12@qub.ac.uk)

David Mackenzie 40238376

[dmackenzie01@qub.ac.uk](mailto:dmackenzie01@qub.ac.uk)

Keelan Christopher Logan 40206821

[klogan03@qub.ac.uk](mailto:klogan03@qub.ac.uk)

Peter Sleith 40237264

[psleith01@qub.ac.uk](mailto:psleith01@qub.ac.uk)

Daniel White 40233631

[dwhite23@qub.ac.uk](mailto:dwhite23@qub.ac.uk)

**Entity Relationship Diagram**

**List of Constraints and/or Assumptions in E-R Diagram Design**

A building can contain one or many apartments, but an apartment must be contained within one building.

From the assignment, it is assumed than a person can be either an employee or a tenant, i.e. an employee is an instance of a person, or a tenant is an instance of a person. Furthermore, employee can be either a technician or a manager, i.e. a technician is an instance of an employee, or a manager is an instance of an employee. Each person must also have their bank details recorded as employees are paid a salary and tenants must pay rent. The constraint in the ERD shows that each instance of a bank account must have one related person.

In relation to lease, a lease must be signed by one or more tenants, must be signed only one manager and must have only one related apartment. A tenant can sign one or many leases as they may stay in different apartments over time, and the system will have both expired and current leases stored as required in the assignment. Additionally, a lease must have only one apartment but each apartment can have one or many leases as the system will have both current and expired leases. Also, each lease must have one manager to approve the lease and each manager can approve one or many leases.

In relation to apartment and manager, by following the assignment document, it can be assumed than each apartment requires only one manager, therefore in the created ERD each manager manages one or many apartments and each apartment must have one manager.

In relation to office, each manager is assigned to one office and each office can have one manager. Also, in the assignment it states that each office is located within an apartment owned by QA, hence in the ERD each office must be contained within one apartment and each apartment can have zero or many offices.