**Database Management Document – Version 1.0**

This is a logical model in this database there are three entities first entity is for the users and the second entity is for the College and the third entity is for the buildings. We are doing this in a cloud platform provided by Parse. This uses MongoDB as the backend database and the data is in BSON format.

The first entity is used for Database Administrator (DBA) user who is required to update the information about the buildings and also update the buildings need to be shown i.e. if any new building is constructed the DBA needs to update the coordinates and also update the information about the building and also user need to update the data of buildings according to the weather and also according to the damages if any made to the building (All these data would be decided and controlled by the DBA). This also links to the college entity so that DBA is responsible for the specified college and he cannot have access to other colleges. This restriction is made in the application where data is fetched and based on the college, assigned to user.

The second entity is about the college it consists of college id and it acts as foreign key in the user entity and also in the buildings entity. The Super user / Administrator (not to be confused with DBA) is responsible For adding college into the college entity and he is responsible for adding DBA into the user entity and also he is responsible for allocating specific college to the specified user. This will restrict the DBA’s access to change the details about only his university. It also consists of longitude and latitude of the college, this is used for checking whether the user is near the college or not and it is done in the app. Based on the location of the user and also by selecting a specified college in the app it checks the location and if it is near, it downloads the data about buildings for the specified college and if the user is not near the building and if he selects a virtual tour it downloads the data about the specified college and the video and audio data would be streamed from online audio and video services which are specified by database base administrator.

The third entity is about the buildings in this entity it consists of foreign key of the college which are used to specify buildings according to the college and also it consists of latitudes and longitudes of the building and it fetches data of the building from the database when the user comes near to the building and this will not fetches data of other building because of coordinates specified to a building and the range is selected such it doesn’t conflict with other buildings.



**Data Flow:**

1. **Campus tour** 
   1. Application connects to database and queries for the campus user selects.
   2. Database sends the campus details in BSON format
   3. Application processes the BSON data and converts to legible end data depending on tokens.
2. **Administrator tasks**
   1. User enters data in web forms, the client side script validates the inputs, and sends insert query to database.
   2. Database validates the information for datatype and character limit compatibility.
   3. Once passed DBMS inserts the data in to the database.
   4. DBMS returns “OK” message to web form which would be displayed to the user.
   5. If the insertion and updating of data fails the user would be notified with possible work arounds to successfully complete the tasks.