Team 6 Project Document Checklist

1. Include the backend (SQL dump of the populated database)

(Included in github repository)

2. Include a ReadMe file to describe and give detailed instructions

(In a separate notepad file)

3. Types of data that can be added, modified, and edited

You can use the Signup page to add & the Profile page to modify/edit 9 Variable Strings (First\_Name, Middle\_Initial, Last\_Name, Email\_Address, City, State, Street\_Address, Password, Sex), 1 Numerical String (Phone\_Number), 1 Date (Birthday), and 2 integers (Zip\_Code, Is\_Manager [mod. only]) for the employee entity.

Salary (Integer) & Department\_ID of an employee can be modified/edited in the manager’s review page of their profile.

The manager give\_Task page can add 1 integer (Project\_ID), 2 variable strings (Job\_Title, Description), and 1 date (Deadline) can be added for the WORKS\_ON entity/relation.

Logs of department events can be “deleted” (modification of is\_Active int variable to 0) in the Logs page

The Projects page allows for the addition or modification/editing of 4 variable string values (Name, Street\_Address, City, State), 5 integer values (Total\_Cost, Zip\_Code, Department\_ID, Budget, isActive [mod. only]), and 3 date values (Start\_Date, End\_Date, Deadline) all for the project entity.

The Admin page allows for the addition or modification/editing of 5 variable string values (Dept\_Name, Email\_Address, Street\_Address, City, State) and 5 integer values (Phone\_Number, Dept\_budget, Zip\_Code Manager\_ID, isActive[mod. only]) related to the Department and Dept\_Locations entities.

The employee Tasks page allows for the editing of 2 integer values (Progress, Total\_Hours) and indirect addition/modification of 1 date value (End\_Date).

4. Types of user roles in your application

There are 3 different roles for our application: admin, manager, and employee

An employee is the most basic of all the roles. They are given tasks by managers that they can view and complete. Employees can also receive and view messages that notify them of updates such as a change in salary. They also have access to simple reports that do not reveal confidential information of other employees.

A manager has much more privileges than an employee. They are able to assign tasks to their employees, view logs that notify changes to their respective projects, and can view, create, update, and delete said projects. They are also able to view employee information in reports.

An admin has the most freedom interacting with the website: it has all the authority of a manager, except that they can add, update, and delete departments, as well as update and delete any project.

5. Semantic constraints which are implemented as triggers

For our first trigger, we have implemented a system where any changes made to the projects table is recorded and displayed. A manager/admin has the ability to view the logs page, where they are able to view any changes that have been made when the projects table has a new row inserted or a row updated. The logs page will create a new row that will display the project ID, the message stating what was changed, and the date and time that the change was made. The trigger will check and see if a new row has been inserted or if an existing row has been updated. If a new row has been inserted it will create a log stating that a new project has been started. If an existing row was updated, it will create a log stating which specific value was updated. This applies to all values in the projects page. If the updated value is the total cost, and the total cost is changed to be higher than the budget for the project. The logging system will show a message saying “Warning project over budget!”, which will let any managers know if a project has gone over budget or not. Finally if a project has been finished, then a new log will be created showing that a project has been completed.

For our second trigger, we have a messaging system setup that lets any employees/managers/admins know if they have been assigned a new task or if their salary has been updated to a value higher or lower than their current salary. When a task is assigned to an employee, it will create a new message stating that the employee has been assigned a new task. For the second part of our trigger, the trigger checks if the employee table has had its salary updated. If it has, it will check to see if the new salary is greater than or lower than the old salary. Depending on whether the salary is higher or lower, the trigger will send a message to the employee stating if their salary has increased or decreased.

6. Types of queries/reports available in your application.

Queries:

CRUD queries can be found throughout the application. Some notable ones are the project page, where you are able to add, search, update, and delete projects. The admin page also has this functionality for departments.

There are also other queries, such as editing a profile and assigning a task, that demonstrates queries capable of creating and editing data.

Reports:

There are 3 different reports (if you’re a manager) that display data from joining different tables given a time frame.

Projects Report: There option to include employee information, parameters for numerical values, and inquires a time frame via dates. It can then filter through all projects and display project information based on the parameters given, start date, and deadline

Employee Report: This report displays employee information based on a given optional department ID. It receives a time frame that filters an employee’s tasks date

Department Report: This report displays department information based on a given optional department ID. It receives a time frame that filters a project's date.

7. Include the hosted web link for your project, with usernames and passwords for the different user roles in your project

<https://projectmanagementcosc3380team6.azurewebsites.net/>

Admin Login:

User ID: 14

Password: password

Manager Login:

User ID: 15

Password: password

Employee Login:

User ID: 22

Password: password