Final Document for Professional Practice and Employability, Team Based Software Development Workshop Project

**What are the project’s requirements?**

Program

The end requirement of this project is to design and create a GUI application and system in Python that has been requested by our employers. Our group has been tasked with the creation of the Personal Information Management section of the system which will allow users to access a database with information on employees of the company, with the option to add, search for, and delete employees from the database if the correct permissions are in use.

Documentation

A quality assurance document is required to be created for the project that will outline the role designation of each of the members of the group, along with a detailed description of how the application will be designed and installed, including information on the chosen database to use for the program, with reasoning why.

A GUI Design is then also required, which will be simple mark-ups of how the actual design of the program will look before starting work on it to help when it comes to the implementation, along with a way to discuss between the group how it should look beforehand.

An LSEPI should also be created to outline all of the ethical and legal aspects of the program which will then be embedded into the log-in page where the user will need to accept the terms and conditions before logging in, to make sure that the company is correctly protected in the event something were to happen where the security of the program was breached.

A software vulnerabilities document is also required to be made, which should outline a few researched software vulnerabilities that could potentially affect the program that is being made, with ways to prevent these software vulnerabilities also provided. Trustworthy sources are also required to be documented to maintain the integrity of the researched information.

A testing document is also required, where the group members should detail numerous tests that have been carried out on the program to see what does and does not work, along with follow up tests to ensure that things that did not work previously that have been fixed have been documented.

Finally, a team portfolio is required to be kept where the person in charge of recording the data will rotate throughout the project allowing every member a chance of overseeing the portfolio writing. Evidence of work being done and collaboration/communication between the group members should also be recorded within this document.

Group Member Communication and Personal Portfolio

Alongside the completion of the program and documentation, the group is also required to provide evidence of communication between the members of the group all throughout the project to ensure that a consistent line of communication has been kept and that the group members have been working alongside each other and that every member of the group has made their contribution. All group members are also required to keep a portfolio where they will detail (with evidence) all of the work that they have done towards the project. Here they should also detail any problems/obstacles that they ran into during the project, with evidence.

Phase 1,2 and 3 Seminars

Another requirement for this project is that for all 3 phases of this project, a seminar should be made (about programming languages or updates to show others the progress on the program). These seminars should be created in collaboration with all the group members and should include all the needed information along with audio recordings from group members with explanations where necessary. The design of the seminars should also be simple yet intriguing for the people watching.

**Use Case for the Program**

1. Program is run and log-in form is opened.
   1. User inputs their username and password to log-in.
      1. Input is checked for SQL injection.
         1. Input is invalid (SQL injection found.
            1. Invalid input message is displayed to the user.
         2. Input is valid.
            1. User reads the terms and conditions and accepts them.
            2. Username and password are checked and verified.
            3. User is logged in.
   2. Main menu form is opened.
      1. User decides to exit the program (program is closed).
      2. User selects personnel records from the drop-down menu.
   3. Personnel records form is opened.
      1. User selects the ‘Add employee’ option.
         1. System checks that user has the permissions to do this action.
            1. User does not have sufficient permissions (nothing is done).
            2. User does have sufficient permissions.

The ‘Add Employee’ form is opened.

User closes the ‘Add Employee’ form

User inputs information required to add new employee and input is checked for SQL injection.

Input is invalid (SQL injection found).

Invalid input message is displayed.

Input is valid.

The new employee is added to the database.

The ‘Add Employee’ form is closed.

* + 1. User selects the ‘Delete Employee’ option.
       1. System checks that the user has the permissions to do this action.
          1. User does not have sufficient permissions (nothing is done).
          2. User does have sufficient permissions.

Selected employee is deleted from the database.

* + 1. User uses the ‘Search’ feature on the database.
       1. User inputs employee ID of the employee they are looking for information on.
          1. Search is unsuccessful (invalid ID input).
          2. Search is successful.

All saved information about that employee is displayed.

* + 1. User exits from the Personnel records form (form is closed and user is returned to the main menu form.)

1. User closes the log-in form, closing the program.