DSW03A1 - Development Software

13th March 2023
Course Lecturer: Sandile Thamie Mhlanga

Tutorial 3: Multi-tier Application

Instructions

The concepts covered in the TUT was discussed in class. The tutors will illustrate an example of the multi-tier application; however, the repository will be a file as opposed to a database.

This tutorial is a Face-to-Face session. Submission is required. Attendance and Submission counts for marks. TUT submitted remotely without attendance will attract zero marks.

- **IMPORTANT**: Please name your Visual Studio Solution like so (failure to do so will attract a **1%** penalty):

    - [STUDENT_NO]_[SURNAME]_TUT3
    - (e.g. 222833200_Mhlanga_TUT3)

- **PLAGIARISM**: Please refer to your Learning Guide as well as the latest University of Johannesburg's plagiarism policy document entitled: "POLICY: PLAGIARISM"

COPYING: This is an individual assignment; if any copying is detected, all parties involved will score a **0%** for the assignment and **WILL** face disciplinary consequences

Question 1

Recall from LU2 that a **Multi-tier Architecture** is a software architecture in which different software components, organised in tiers (layers), provide dedicated functionality. The most common occurrence of a multi-tier architecture is a 3-tier system consisting of: the **presentation layer**, the **business logic** layer as well as the data layer. Keep this mind as you engage through this exercise.

You are required to develop a staff portal application that generates and employee's email address from the given name and surname. The application must also determine the employee's age based on the supplied identification number. Save the user data in a file called **"Staff.txt".**
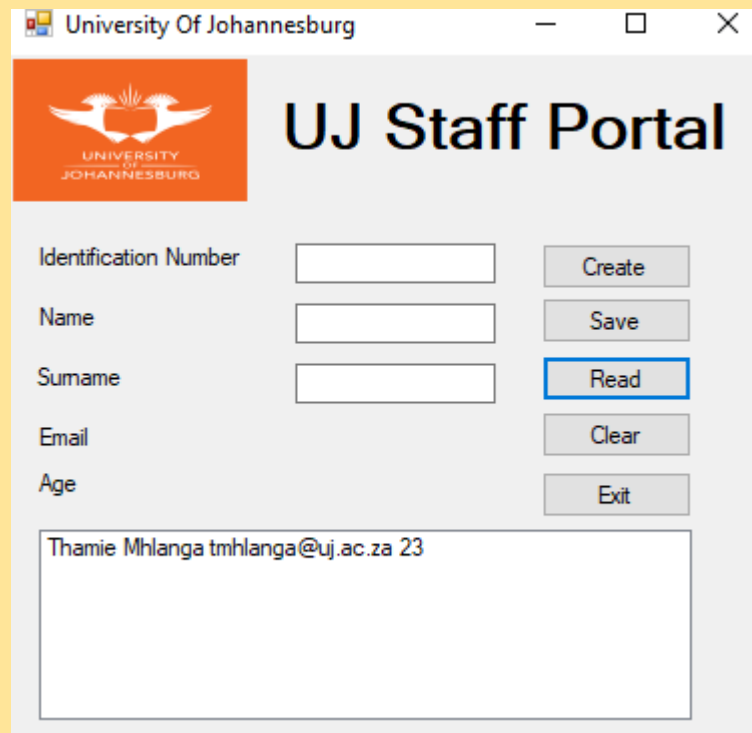
Figure 1

Figure 2

Figure 3

Exercise

Based on the given background do the following:

- Create a window base interface (**Presentation Layer**) with the various GUI controls has shown in **Figure 1**

- In the **data layer**, include class' that perform file manipulation (Read and writing to a file)

- In the **logic layer**, include class' that would generate an employee's email address and also determine the age.

- Create a least one class library for this project.

Rubric

Criteria	Max	Mark
Three layers have been created and they work (4 marks for each)	12	
GUI Controls working well in the presentation Layer	10	
File methods in the data layer	10	
Algorithm in the business logic layer	10	
No synatx error and good programming applied	3	
TOTAL	45	

NB: This TUT must be submitted by 23:59, Monday 20th of March 2023