INF20013/70004 Business Systems Programming

Swinburne University of Technology
Faculty of Information & Communication Technologies

ASSIGNMENT 3

Assignment Value: 10% of your final mark
The assignment may be done individually or as pairs

Due Date:
8:30 am Monday Oct 27, 2014
Note Late submissions will attract a penalty
(1 minute late is considered to be 1 day late)

Submission Requirements

You must submit all source code, all executables and any other required files or folders in a single ZIP file via the ESP submission system.

https://esp.ict.swin.edu.au/

The name of the .ZIP file must use this naming convention:
1111111_Ass3.ZIP (where 111111 is your student id)
(or 1111111_222222_Ass3.ZIP if submitting as a pair)

Demonstration

Your assignment must be demonstrated to your tutor in your week 12 tutorial
Assignments that are not demonstrated will receive a mark of 0.

Testing your software prior to submission and demonstration

Prior to submitting your assignment, please try to install your assignment on a different PC to where you have developed your system.

UnZip the assignment to a different path than where you have developed your system. Then test your system fully.

Task 1. Create the Customer Table

Create a MS Access database named C:\Temp\[***Your ESP Team Number***]\Ass3.accdb

Create a table named **STUDENT**

StuID	Text (4 char)	Primary Key
Name	Text (50 char)	
SubjectsPassed	Integer	

Create a table named **UNIT**

UnitCode	Text (7 char)	Primary Key
Title	Text (30 char)	

Create a table named **RESULT**

StuID	Text (4 char)	Primary Key
UnitCode	Text (7 char)	Primary Key
Grade	Integer	

Task 2. Create a Windows Form Menu (1 mark)
Create a form with a menu.
The menu may be control buttons OR a Form Menu or any other type of menu you wish.
The must be a menu item for each of the tasks below

Task 3. Clear the Tables, Add default data and Delete Log File. (1 mark)
Clear any existing data in the Student table and then add this default data:

StuID	Name	UnitsPassed
S009	Adam Appleby	0
S082	Brenda Bignal	0
S215	Carol Carlott	0
S307	David Dongle	0
S312	Emma Evans	0
S445	Fred Fosters	0

Clear any existing data in the unit table and then add this default data:

UnitCode	Title
U101	Intro Programming
U102	Intro Database
U103	Intro Networking
U104	Intro to Web Development
U105	Advanced Programming
U106	Advanced Database
U107	Advanced Networking
U108	Advanced to Web Development

Clear any existing data in the results table.

Delete the file C:\Temp\[***Your ESP Team Number***]\ Log.TXT if it exists

Task 4. Process Transaction File (6 marks)

The transaction file must be named C:\Temp\[***Your ESP Team Number***]\TRANS.TXT
Display an appropriate error message if it does not exist.

The transaction file has two types of transaction

1. Add Student

This has three pieces of data.

AS
Student ID
Student Name
e.g. AS, S116, Fred Smith

2. Add Result

This has four pieces of data.

AR
Student ID
UnitCode
Grade
e.g. AR, S116, U112, 76

Process each transaction according to these rules:

1. Append the Transaction to the log file named C:\Temp\[***Your ESP Team Number***]\Log.TXT
   - Note: The 1st transaction should **overwrite** the log file if it already exists

2. If the transaction is not AS or AR
   - write "Invalid Transaction" to the log file and ignore the transaction

3. If the transaction is AS and student code is not 4 char in length and/or name is blank
   - write "Invalid Student details" to the log file and ignore the transaction

4. If the transaction is AS and student code already exists in the Student table
   - write " Student ID already exists" to the log file and ignore the transaction

5. If the transaction is AS and student code does not exist in the Student table
   - Insert the student details into the Student table
   - write " Student Added" to the log file and ignore the transaction

6. If Result is not equal to P or F
   - write "Invalid Result" to the log file

7. If the transaction is AR and unit code is not in the unit table then
   - write "Invalid Unit Code" to the log file and ignore the transaction

8. If the transaction is AR and student id is not in the student table then
   - write "Invalid Student ID " to the log file and ignore the transaction

9. If the combination of unit code and student id already exists in the Result table
   - write "Unit / Student combo already exists" to the log file and ignore the transaction

10. If the AR transaction is valid
    - Insert the data into the Result table
    - write "Result Added" to the log file
    - If the grade is >= 50 then
        - Increment the UnitsPassed value for that student
        - write " Student Incremented" to the log file

Your application must cope if data has been added /replaced.

Task 5. Display Log File (1 marks)
Display the contents of the Log File. Use a TextBox or RichTextBox or ListBox or any other suitable control

e.g.

AS, S116, Fred Smith
Student Added
AS, S009, Jon Davis
Student ID already exists
AT, S082, U104, 51
Invalid Transaction
AR, S082, U104, 51
Invalid Transaction
AR, S444, U105, 62
Invalid Student ID
AR, S116, U900, 62
Invalid Unit Code
AR, S009, U105, 93
Result Added
Student Incremented

Task 6. Display Results Data in Grid (2 marks)
Open another Windows Form that contains 2 controls:
- A DataGridView
- A Exit Button

Display the contents of the Results in a data grid.
All other columns are **read only**

S009	Adam Appleby	U105	Advanced Programming	93
S215	Carol Carlott	U101	Intro Programming	52
S312	Emma Evans	U103	Intro Networking	44
S009	Adam Appleby	U101	Intro Programming	77

Task 7. Display Student Data in Grid (2 marks)

Open another Windows Form that contains 3 controls:

- A DataGridView
- A Save Button
- A Exit Button

Display the contents of the Student in a data grid.
Only allow the student to change the Student Name column. All other columns are read only

When the user clicks the save button, any changes to the data grid must be saved in the physical database.

If the user clicks the Exit button, any changes to the data grid that have not already been saved must be lost.

Task 8. Export Data to Excel (5 marks)

Generate an Excel spreadsheet named C:\Temp\[***Your ESP Team Number***]\Students.TXT
This sheet displays the ID , Name and Units Passed of all students.
It also displays a total.

Book1

	A	B	C
1	**Student ID**	**Name**	**Units Passed**
2	S009	Adam Appleby	1
3	S082	Brenda Bignal	0
4	S215	Carol Carlott	2
5	S307	David Dongle	3
6	S312	Emma Evans	5
7	S445	Fred Fosters	2
8		**Total**	**13**

Task 9. DataReader (2 marks)

Use the DataReader method to retrieve all the data from the student table and write each row to a text file named C:\TEMP\\[***Your ESP Team Number***]\STUDUMP.TXT
Overwrite the file if it already exists.

The file must be Comma delimited

Student ID,Name,Units Passed
S009,Adam Appleby,1
S082,Brenda Bignal,0
S215,Carol Carlott,2
S307,David Dongle,3
S312,Emma Evans,5
S445,Fred Fosters,2