University of Westminster
School of Electronics and Computer Science

4COSC003W.Y Computer Science Practice

Module leader	Wendy Purdy
Unit	Coursework
Weighting:	40%
Qualifying mark	30%
Description	**Software Development**
Learning Outcomes Covered in this Assignment:	LO2, LO4, LO5
Handed Out:	22nd Jan 2018
Due Date	9h Apr 2018, 10:00am TBC
Expected deliverables	A single document detailing design, implementation and testing of an application and python script files.
Method of Submission:	online via Blackboard
Type of Feedback and Due Date:	Generic and written feedback to all students three weeks after submission. All marks will remain provisional until formally agreed by an Assessment Board.

Assessment regulations

Refer to section 4 of the *How you study* guide for undergraduate students for a clarification of how you are assessed, penalties and late submissions, what constitutes plagiarism etc.

Penalty for Late Submission

If you submit your coursework late but within 24 hours or one working day of the specified deadline, 10 marks will be deducted from the final mark, as a penalty for late submission, except for work which obtains a mark in the range 40-49%, in which case the mark will be capped at the pass mark (40%). If you submit your coursework more than 24 hours or more than one working day after the specified deadline you will be given a mark of zero for the work in question unless a claim of Mitigating Circumstances has been submitted and accepted as valid.

It is recognised that on occasion, illness or a personal crisis can mean that you fail to submit a piece of work on time. In such cases, you must inform the Campus Office in writing on a mitigating circumstances form, giving the reason for your late or non-submission. You must provide relevant documentary evidence with the form. This information will be reported to the relevant Assessment Board that will decide whether the mark of zero shall stand. For more detailed information, please refer to the University Assessment Regulations.

Task details:

You are required to design (30 Marks), build (50 Marks) and test (20 Marks) a simple menu driven application as described below:

This coursework is about designing, building and evaluating a GUI application. The application could be managing a personal address/contact book for your mobile phone with the usual operations of Add, Delete, Amend and View contacts.

You are advised to build incrementally, start simple and ensure the core functionality is achieved and then proceed to enhance. The address book application, could be enhanced by having images and sounds associated with each entry in the book.
It could be further refined to allow creating and storing details based on some criteria like friends, family and so on.

An alternative to the above address book application could be a simple image manipulation application. Images can be retrieved from a file and then subjected to simple operations like rotating, flipping, annotating, etc and then saved to a file.
You may have your own ideas about a GUI application, which subject to your tutor's approval, you could pursue. It is important to start thinking about your application early and discuss it with your tutors.

NOTE: The rubric used to mark your submission is also attached to help you direct your effort.

Submission details:

You must submit a single pdf document with the following elements and a python script file(s). The filenames should be your username e.g. w123456.pdf and w123456.py

PDF DESIGN PART:

- **Wireframes or sketches of the application like the opening screen and some of the other functional areas – similar to when using an app on a mobile.**
- **The use of colours and fonts for the look and feel of the application.**
- **Navigation scheme used in the application.**

PDF BUILD:

- **Screen images of the different parts of the application that have been built.**
- **Problems encountered and resolved.**

PDF TEST:

- **A test plan listing all the relevant tests to be carried out to see if the application is 'fit for purpose'.**
- **Screen images to show the results of actual testing of the application.**
- **Images must be annotated with comments explaining what was being tested and if it worked**

PYTHON:

- **A python script file(s) must also be submitted.**
- **The script file must have your studentID.**
- **The code should be fully commented.**
- **All code used from other sources should be fully referenced.**

RUBRIC:

Rubric Detail

Criteria	Levels of Achievement					
	0 - 19	20 - 39	40 - 49	50 - 59	60 - 69	70 +
Design[20 Marks]	**0 to 5 points** The application submitted is not fit for purpose. The artefact lacks appropriate attempts at the application of navigation, usability, interface styles, colour, layout, typography, UI components and an understanding of interface principles. There is overall a weak understanding of the assessment's requirements.	**6 to 11 points** The artefact demonstrates attempts at the application of navigation, usability, interface styles, colour, layout, typography, UI components and an understanding of interface principles however there will be missing/ incomplete elements.	**12 to 14 points** The artefact satisfactorily demonstrates the application of navigation, usability, interface styles, colour, layout, typography, UI components and an understanding of interface and interaction principles. There may however be inconsistencies in the delivery of the issues assessed along with errors and incomplete aspects.	**15 to 17 points** A functional artefact has been submitted that demonstrates well the application of navigation, usability, interface styles, colour, layout, typography, UI components and an understanding of interface and interaction principles. All assessed issues have been addressed with minor issues associated with errors and inconsistencies.	**18 to 20 points** A functional application has been submitted relating to the brief that demonstrates very well the application of navigation, usability, interface styles, colour, layout, typography, UI components and an understanding of interface and interaction principles. All requirements of the brief have been addressed and the artefact is consistent.	**21 to 30 points** A professional design has been submitted that satisfies all of the identified heuristic issues.
Implementation (Build)[50 Marks]	**0 to 9 points** The application is far from complete. A significant aspect or element has been omitted or is incorrect. Limited understanding of software development. Very limited functionality. Application cannot be navigated effectively. Critical deficiencies - i.e. application fails to execute.	**10 to 19 points** Limited understanding of software development. Some concepts are demonstrated but not all of the learning outcomes have been addressed to an acceptable standard. There are serious deficiencies preventing the application from being fit-for-purpose.	**20 to 24 points** The application will be developed to accepted principles. All the learning outcomes have been addressed to an acceptable standard and key concepts demonstrated. No critical or serious deficiencies i.e fails to execute/ run as required.	**25 to 29 points** Demonstrates a limited but accurate level of understanding. All aspects of the application have been addressed and most of the aspects of the application have been demonstrated.	**30 to 34 points** Demonstrates accurate knowledge and understanding of software development. The software developed contains evidence of application and interpretation. At the upper end there is evidence of thoughtfulness and initiative.	**35 to 50 points** A professional proof of concept has been clearly demonstrated that includes excellent: - Coding standards and conventions. - Referencing and comments are to a high standard. - Error catching and handling. - Help features implemented.
Testing & Evaluation[20 Marks]	**0 to 3 points** Limited understanding and/or unsuitable test procedures used. Test plan does not relate to the application submitted.	**4 to 7 points** A suitable test plan has been attempted but contains errors or is incomplete.	**8 to 9 points** A suitable test plan that includes a suitable test procedure has been completed sufficiently.	**10 to 11 points** A suitable test plan that includes a suitable test procedure has been completed and documented well though there will be issues with consistency and clarity.	**12 to 13 points** A test plan has been completed though there may be issues with consistency. Documentation demonstrates accurate knowledge and understanding.	**14 to 20 points** Professional test plan been accomplished that includes: - Test cases that have been carefully designed. - Test results that have been fully documented. - Test results that have been compared with the expected results - An Evaluation that is based on test results - Clear and thoughtful recommendations