Faculty of Science and Technology
Department of Computing & Informatics

Unit Title: **APPLICATIONS OF PROGRAMMING PRINCIPLES (COMP4032)**		
Assessment Title: APP Submission		
Unit Level: 4	**Assessment Number:** 1 **of** 1	
Credit Value of Unit: 20	**Date Issued:** 30/01/2023	
Unit Leader: Tim Orman	**Submission Due Date:** 22/05/2023	**Time:** 12:30 PM
Other Marker(s): Kevin Wilson	**Submission Location:** Brightspace (Multiple)	
Quality Assessor (QA): Paul De Vrieze	**Feedback Method:** Brightspace	

This is an individual assignment which carries 100% of the final unit mark.

ASSESSMENT TASK

Task 1: Full-stack Application
You must develop a single-page, full-stack, web application utilising multiple software languages. It should demonstrate your knowledge and skills in the following areas:
1. Client-side: Using JavaScript
2. Client-side: Manipulating the DOM
3. Client-side: Using XHR/asynchronous coms
4. Server-side: Using Python
5. Server-side: Using a Flask application
6. Server-side: Storing and retrieving data to/from a file on the server
7. Server-side: Programming API Functionality
8. Both: Data/JSON processing
9. Both: Writing quality code

The application should allow:
1. Listing of data
2. Selection of a data item and display its details
3. Addition of a data item
4. Deletion of a data item
5. Saving changes to the dataset caused by the addition or deletion of an item
6. An additional feature (see application domain list below)

For the application domain you have a choice of one of the following:
a. A list of football players with an additional Star Player feature which displays the player with the most goals in a given period e.g. week or season.
b. A list of short jokes with an additional feature than displays a random joke each time the page is loaded.
c. A to do list with a sort by feature e.g. due date or priority.
d. A list of tour dates for a pop group with a filter by feature e.g. date or venue.

Task 2: Video Demonstration of Your Application
You must make a video that demonstrates your application's features as required by this brief. This should be limited to 5 minutes in length and material beyond 5 minutes will not be taken into consideration. **This video is mandatory.**

Task 3: Reflective Journal

You will demonstrate a professional approach by keeping a reflective journal of your progress (including supporting lab tasks).

See the marking criteria (found in **Appendix B**) for a list of things expected to be in your journal entries.

Note: How you record your journal entries is your choice e.g. you can use the provided attached Reflective Journal form (found in **Appendix A** and on Brightspace) or you could use a notebook. **However, you must transfer all entries to a Word document for submission purposes.**

SUBMISSION FORMAT

There will be three submission boxes, one each for:
  a. **A video presentation** demonstrating your application that plays on the vlc player (https://www.videolan.org/vlc/).
  b. **Source code** to the source code box.
  c. **Reflective Journal** - a Word document containing all journal entries (including skills-building e.g. labs, as well as coursework entries).

All deliverables should be uploaded to the approriate submission box on Brightspace **by the Submission Due Date & Time** at the top of this brief.

MARKING CRITERIA

The following criteria will be used to assess the assignment:

Your mark will be calculated according to the features/skills evidenced in your video presentation and journal. Therefore, **not submitting a video** presentation means **your work will not be marked**, and therefore, submitting the video is **essential**.

The Marking Breakdown table found in **Appendix B**, gives a breakdown of what you are expected to demonstrate and marks allocated to each section. Apart from the additional feature the level of technical difficulty expected to be demonstrated will be the of same level reached in examples, lab tasks etc. covered in the unit. Markers will award marks up to the maximum mark for each area according to their judgement of what you have evidenced in your video presentation.

INTENDED LEARNING OUTCOMES (ILOs)

This unit assesses your ability to:

1. Design and implement solutions to complex problems using multiple software languages.
2. Demonstrate an understanding of the importance of developing software in an ethical, secure, and professional manner.
3. Develop graphical interfaces which manipulate data.
4. Develop software that adheres to current industry standards.

QUESTIONS ABOUT THE BRIEF

Questions about the assignment brief can be asked during lectures or seminars in the first instance. You may also ask questions on the MS Teams (Applications of Programming Team). Private Messages in MS Teams should only be sent directly to the unit staff if they are of a private nature.

Unit Leader Signature   Tim Orman

Help and Support
Undergraduate Coursework Assessments

If a piece of coursework is not submitted by the required deadline, the following will apply:
1. If coursework is submitted within 72 hours after the deadline, the maximum mark that can be awarded is 40%. If the assessment achieves a pass mark and subject to the overall performance of the unit and the student's profile for the level, it will be accepted by the Assessment Board as the reassessment piece. This ruling will apply to written coursework and artefacts only; This ruling will apply to the first attempt only (including any subsequent attempt taken as a first attempt due to exceptional circumstances).
2. If a first attempt coursework is submitted more than 72 hours after the deadline, a mark of zero (0%) will be awarded.
3. Failure to submit/complete any other types of coursework (which includes resubmission coursework without exceptional circumstances) by the required deadline will result in a mark of zero (0%) being awarded.

The Standard Assessment Regulations can be found on **Brightspace or via** https://www1.bournemouth.ac.uk/students/help-advice/important-information (under Assessment).

Exceptional Circumstances

If you have any valid **exceptional circumstances** which mean that you cannot meet an assignment submission deadline and you wish to request an extension, you will need to complete and submit the online Exceptional Circumstances Form together with appropriate supporting evidence (e.g. GP note) normally **before the coursework deadline**. Further details on the procedure and links to the exceptional circumstances forms can be found on **Brightspace or via** https://www1.bournemouth.ac.uk/students/help-advice/looking-support/exceptional-circumstances. Please make sure that you read these documents carefully before submitting anything for consideration. For further guidance on exceptional circumstances please contact your Programme Leader.

Referencing

You must acknowledge your source every time you refer to others' work, using the **BU Harvard Referencing** system (Author Date Method). Failure to do so amounts to plagiarism which is against University regulations. Please refer to https://libguides.bournemouth.ac.uk/bu-referencing-harvard-style for the University's guide to citation in the Harvard style. Also be aware of Self-plagiarism, this primarily occurs when a student submits a piece of work to fulfill the assessment requirement for a particular unit and all or part of the content has been previously submitted by that student for formal assessment on the same/a different unit. Further information on academic offences can be found on **Brightspace** and from https://www1.bournemouth.ac.uk/discover/library/using-library/how-guides/how-avoid-academic-offences

Additional Learning Support

Students with **Additional Learning Needs** may contact the Additional Learning Support Team. Details can be found here: https://www1.bournemouth.ac.uk/als

Primary Research (Undergraduate Levels)

You should not be conducting any primary research (i.e. carrying out an investigation to acquire data first-hand, for example, where it involves approaching participants to ask questions or to participate in surveys, questionnaires, interviews, observations, focus groups, etc.) unless otherwise specified in the brief. However, if there is a genuine requirement to collect primary research data you will require ethical approval before doing so. In the first instance, please discuss with the Unit Leader. The collection of primary data without appropriate ethical approval is a serious breach of Bournemouth University's Research Ethics Code of Practice and will be treated as Research Misconduct.

IT Support

If you have any problems submitting your assessment please contact the IT Service Desk - +44 (0)1202 965515 - immediately and before the deadline.

Disclaimer

The information provided in this assignment brief is correct at time of publication. In the unlikely event that any changes are deemed necessary, they will be communicated clearly via e-mail and Brightspace and a new version of this assignment brief will be circulated.

Reflective Journal (Appendix A)

Completion Date	Task	Review of task

APP Assignment Marking Breakdown Table (Appendix B)

Features/skills/knowledge evidenced	Max Mark	Things to demonstrate
Client-Side 35%		
Core JavaScript	5	Syntax – use of data structures (variables, arrays) loops and functions
DOM Manipulation	10	Reading and writing to the DOM
Data/JSON processing	10	Local adding/deleting of items + converting data to/from JSON format
XHR/asynchronous coms	10	Use of XHR to communicate with the API
Server-Side 35%		
Core Python	5	Syntax – use of data structures (vars, arrays), loops and functions + imports
Using Flask	10	Flask running and serving the home page.
JSON processing	5	Converting data to/from JSON format
API Functionality	15	API functionality to meet requirements: 1. A GET method to return the index/home page. 2. A GET method to get the data set stored in a file on the server and return it. 3. A PUT method to upload updated data set.
Additional Feature 20%		
Additional Feature	20	It needs to demonstrate something different/extra from other features for full marks (10 marks for the feature + 10 marks for rationale in video as to why this feature demonstrates first-class skills).
Professionalism 10%		
Reflective Journal	5	Each entry should include the **date** and **Status of Tasks** that have been worked on. It should show those tasks completed and the status of other tasks you were progressing during that week e.g. *"Calculator addition and subtraction finished and working, multiplication started."*

It maybe that sometimes you say very little, e.g. "all tests passed successfully" and for other tasks you want to write more e.g.: "struggled with the file writing as I could not figure out how to append to an open file and kept overwriting the original data, I now know I need to alter the File writing object and set append to true". You should also consider any actions you need to complete to help you improve your programming, e.g. "Go to P201", Msg tutor to ask for help", "find more tasks to help me understand while loops" etc.

In the **Review of task** column, you can write comments about the tasks as you do them. This is a short reflective review, around 150 words, per entry. For example, consider questions like

1. What you have been working on and progress made.
2. What went well, and how you dealt with issues arising.
3. What you learnt by completing the tasks.
4. What you still do not understand or need to do.
5. What you would do better next time.
6. What LSEPI (Legal, Social, Ethical and Political Issues) or security issues might impact your work.
7. Sources of knowledge utilized.

Code Quality examples	5	Commenting, layout, naming conventions for code and endpoints + IPR info where appropriate.