UNIVERSITY OF LINCOLN

School of Computer Science
Assessment Package Briefing Document

Title: CMP3753M Project Assignment 2 (Project Report)	**Indicative Weighting: 60%**

Learning Outcomes:

On successful completion of this assessment package a student will have demonstrated competence in the following areas:

[LO2] Construct a comprehensive review and critical appraisal of relevant academic literature as justification and context for the identified goals and methods of a project;

[LO3] Apply practical and analytical skills in the design and implementation of an artefact that represents an output from at least one stage of the software development life cycle;

[LO4] Prepare a formal technical report that summarises, justifies, evaluates and contextualizes work undertaken in a significant project;

[LO5] Critically evaluate and reflect on both the development process and learning requirements of undertaking an individual project;

Assignment Information

The precise nature of the artefact you produce in your project will be negotiated between you and your supervisor. The detailing of specific requirements in this briefing document is therefore impossible to do for all projects. This document therefore identifies the key areas of your submission that are very likely to be consistent for all projects, but some small variances to the requirements may be appropriate for some project reports.

You should seek the support of your supervisor before submitting a project report that does not *at least* present the minimum recommended structure presented in this document.

Assignment 2 takes the form of substantial written report which shows how the project outlined in the WiP submitted for assignment 1 was completed.

The emphasis for this assignment, as with assignment 1, is on working independently, with the support of a supervisor, to achieve a set aim. For assignment 2, students work independently to fulfil the project goals that were set out in the WiP. Through this process, students are expected to demonstrate the application of practical and analytical skills, innovation and/or creativity, and the synthesis of information, ideas and practices to generate a coherent problem solution.

The generation of an artefact that represents an output from one or more stages of the software development life cycle is a key requirement of assignment 2.

The Project Report should stand alone without the need for the reader to refer back to the project WiP. If the final project differs from that detailed in the WiP, there is no requirement to resubmit a new proposal, however you need to detail how the project has changed, and submit revised Ethical Approval forms – please seek the advice of your supervisor if you change the nature of your project.

1. **Title Page.**
   Typically, the first page of a dissertation or project report is a title page. An appropriate format of the title page is as follows:

   Title.
   Author.
   A statement of purpose.
   The School you study in.
   The University you study at.
   The year of submission.

2. **Acknowledgements (Optional).**
   When you look at examples of recent projects in the library, you will notice that many of them have a brief section labelled 'Acknowledgements' at the beginning. This gives students a place to acknowledge, by name, anyone who has helped them complete their project. Don't try to emulate an Oscar winner's speech here – it should be a short paragraph. Traditionally you would acknowledge the support of anyone who went over and above the call of duty in supporting your Project work. Please note that offering effusive acknowledgements for your Project Supervisor will garner no additional marks and will not cover up a poorly written project report.

3. **Abstract.**
   An abstract presents a brief summary of the project in its entirety and is used to help the reader quickly ascertain the project's purpose, context and outcome. The purpose of the abstract is to enable readers to have a view of what the report is about without having to read the entire document, and to aid in signposting the content of the report. It also typically contains a brief indication of what the key outcomes of the project were. The abstract is usually written when the project report has been completed and goes at the beginning of the document.

   For example:

   This project presents a summary of a successful design, fabrication and testing of wind turbines mounted on a car roof for the purpose of extracting power from the kinetic energy (dynamic pressure) contained in the wind flow around the car. The placement of the turbine was based on aerodynamic considerations. Various design concepts were tested and evaluated. Drag tests were conducted that showed the turbine did not negatively impact vehicle performance. NACA (National Advisory Committee for Aeronautics) ducts were evaluated and shown to offer additional choice for turbine design and placement. The results obtained from the tests conducted in this research demonstrate the feasibility for the efficient extraction of energy from wind flow around an automobile. Literature research consisting mainly of a review of NACA reports supported the findings of this study.

4. **Introduction**
   The Introduction should present the main ideas that are to be examined, developed and discussed in your project. The research questions that are to be addressed by the project, the problem statement or the aim of the project are key points to address here. The objectives or milestones which were planned for the project will be useful to show here as they suggest how the project may be structured.

5. **Background and in-depth literature review.**
   The literature review is an essential requirement of any academic project. A comprehensive review of the literature will provide background to the project. This section establishes what you intended to do and shows the reader that what you have done is the result of academic study, rather than an unfounded whim. The literature review is where you contextualise your work with respect to existing published literature. If you are undertaking an external project, you should also describe the client and outline the nature of their work or business and explain how the artefact will address the client's needs.

6. **Methodology.**
   This section will cover a number of sub-sections – where appropriate. Not all projects will require every section – discuss this with your supervisor. Your supervisor will recommend the most appropriate structure for this section of your report. The key thing is that you demonstrate critical awareness of all of the processes that you have employed in your work and that for all sections needed in your report you are presenting a justification for the methods you adopted and not just presenting a list of methods.
   a. **Project Management.**
      Some awareness of project management should be demonstrated in all projects. This section should outline the nature of your project and the specific characteristics that need to be considered in determining what project management methodology you should use. You should identify the specific demands of your project in terms of project management and support your rationale for the selection of a methodology with appropriate, recent academic references.
   b. **Software Development.**
      There should be a methodological analysis of software development approaches used. The determining factors for selection will, amongst other things, be the particular characteristics of the software to be developed, the nature and predisposition of the client (if applicable) and the computer environment requirements. It is important to note that what is NOT required here is a pedestrian account of popular software/ IS development methodologies or a simplistic review of their strengths and weaknesses. You are to work from the specific requirements of your project and explain how these might determine approaches for software /IS methodologies. Where relevant, you should give serious thought to the proper design of research and requirements capture approaches. This may include surveys, questionnaires and interviews. You should identify the specific demands of your project in terms of software development, and support your rationale for the selection of a methodology with appropriate, recent academic references. DO NOT produce a simple discussion of software development, or explain how typical methodologies work – (spiral, waterfall, etc.) – your supervisor and second marker already know this.
   c. **Toolsets and Machine Environments.**
      Toolsets refer to both software development and to project management, so the coverage should address both. This section will outline the tools for software development and project management process; it will make appropriate comparisons

between tools available and argue for the most appropriate selection based on metrics, possibly a matrix diagram and other criteria. The report will discuss possible machine environments under which the artefact might be required to operate and through analysis, comparison of features and possible user requirements a determination of the chosen environment(s) will be made. You should identify the specific demands of your project in terms of software development and support your rationale for the selection of a methodology with appropriate, recent academic references.

DO NOT justify the grounds for using specific toolsets and environments simply because you know them well or have developed skills already. This project gives you the opportunity to challenge yourself.

d. Research Methods.

You should include a section that investigates the types of research methods necessary to validly answer the research questions that your project addresses. You should cite relevant sources to justify your choices.

For example: Were quantitative or qualitative research methods more appropriate? Why? Do you need to have objective, observable data, or subjective, self-reported data? Or a mixture of both? Should the form of your data be nominal, ordinal, interval or ratio? How do you intend representing your results? – this will have an impact on your study design. If you are doing an experimental analysis: What are your independent and dependent variables? Is a between-groups or within-groups approach most appropriate? Do you need to statistically analyse your results?

Please consult your supervisor when drawing this section up to confirm which particular sections of a methodology applies in the context of your project

7. Design, Development and Evaluation.

This section of the report will vary significantly in both structure and content, depending on the type of project you are undertaking. For example, a Games project may include a Game Design Document. However, it must be noted that if your project contains significant software development work, this should be presented in the structure expected of a formal development report. If your project involves an experimental evaluation – especially if that evaluation involved human participants – you are expected to write this work up in the format expected of a scientific research report. Some projects will include both software development and experimental evaluation with human participants. In this case, you are expected to discuss both procedures with sufficient detail. It is perfectly acceptable (some would say recommended) that images relating to your artefact be presented in this section.

a. Software development projects.

For projects that involve significant software development components, it is expected that you discuss:

i. Requirements elicitation, collection and analysis
ii. Design
iii. Building or coding
iv. Testing
v. Operation and maintenance

b. Research projects.

For projects that include primary research components it is expected that you present this work in a manner appropriate to a scientific report.

i. Participant recruitment
ii. Evidence that ethical procedures have been followed. Include informed consent documentation.
iii. Study design (short summary of research methods section) – including hypotheses.
iv. A detailed description of the procedure that each study participant experienced. Include every detail that would be needed in order to replicate your work.
v. Results of experiment – present in the format of a scientific report.
vi. Analysis of results. Consider the results of your work with respect to both your own specific hypotheses and wider context identified in your literature review.

8. **Project Conclusion.**
This section is where you report your findings, along with the answer(s) to any research question(s) you may have posed in your introduction. The conclusion should be understandable not only by the person who writes it, but by the person who just wants to have the general picture of the work and its results. It is very important to base your conclusions upon issues that have been raised in your introduction, and then investigated in your methodology and evaluation. In the introduction, the author of the work presents the main ideas that are to be examined, developed and discussed in the project. Therefore, in the conclusion the necessary responses to the questions or problems or requirements listed in the introduction are shown and discussed. Therefore, the structure of the conclusion in a project is governed by the structure of introduction.

Your artefact is the key deliverable in the project, so there ***must*** be an evaluation carried out to determine how effective and efficient your "solution" is at addressing the problem identified. Appropriate metrics should be considered for this evaluation along with an appropriate audience(s). Changes or amendments that may be required to the original delivered artefact should be discussed here, pointing out how and why these changes might have been affected if time or opportunity presented itself.

9. **Reflective Analysis.**
Finally, the report should conclude with a critical reflection on the process of completing the project. How did things go? What might have been done differently, given 20:20 hindsight? What went well and why? What went badly, why was that and how were any problems addressed? What more could have been done, had time and circumstances not been constraints? Consideration of the theory versus the practice in terms of methodological process requires discussion. This is the only section of your report that can, justifiably, be written in the first person.

10. **References.**
The report should conclude with a list of references, in accordance with the University of Lincoln Harvard Referencing Guide. Any appendices appear after the list of references.

Appendices may contain for example, example questionnaires completed by your participants, data collected during your project, communications between you and your client, etc.

Useful Information

For a dissertation of this magnitude, a rough rule of thumb for word count is 8,000 – 12,000 words. Remember, this a guide to help you understand roughly the amount of work expected. You won't be marked down specifically for going over 12,000 or under 8,000 words. However, if your report is significantly above or below those marks, you may have done something wrong – e.g. left something out, or included things that should, perhaps, be in an appendix (or even several appendices).

If you have included huge amounts of information in appendices - for example, code from an application you have built - it is fine to submit this as a zip file to the supporting documentation upload area on Blackboard rather than producing a report of hundreds of pages.

This assignment must be presented according to the Lincoln School of Computer Science guidelines for the presentation of assessed written work.

Submission Guidelines

The deadline for submission of this work is included in the School Submission dates on Blackboard.

An electronic Turnitin submission is required for this assignment. No hard copy versions of the project are required to be submitted.

This module is graded using a criterion reference grid. You should be clear in your understanding of the grading principles; if you are not, please ask for the advice of your supervisor.

Hand In Instructions

See hand in schedule.
DO NOT include this briefing document with your submission.