UNIVERSITY OF LINCOLN

Lincoln School of Computer Science

Assessment Item Briefing Document	
Title: CMP3060M – Assignment 2	**Indicative Weighting: 70%**

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

- LO2 – conduct 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 two stages of the software development life cycle;
- LO4 – prepare a formal technical report that describes, justifies, evaluates and contextualises work undertaken in a significant project;
- LO5 – critically evaluate and reflect on the process of undertaking an individual project.

Outline:

Assignment 2 takes the form of substantial written report which shows how the plan/proposal submitted for assignment 1 (Project Proposal) was executed. To gain a high mark, your artefact and the report that describes it must be of the highest standard.

Assignment 3 (see Assignment 3 documentation) is a practical demonstration given to your first and second marker where you demonstrate the artefact, or project solution, that has been described in *this* project report.

The emphasis for assignments 2 and 3, as with assignment 1, is on working independently, with the support of a supervisor, to achieve a set aim. For the assignment presented here, you should work independently to fulfil the project goals that were set out in your project proposal. Through this process, you 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 two or more stages of the software development life cycle is a key requirement of this assessment documentation.

The Project Report should stand alone without the need for the reader to refer back to the project proposal.

This assessment is marked based on the following sections and weightings:

1. **Introduction – (10%)**

The purpose of the introduction is to set the scene on what the project is about, what problem does it address and what is the rationale for this project. Within this section you should also give a

background to the work, what is the subject domain of the work you're doing?

Aims an Objectives should also form part of this section, even if they have not changed since your project proposal, they need to be included here.

2. Literature Review of related work and context – (15%)

The literature review is an essential requirement of any academic project. A comprehensive review of the literature will provide further background to the project. The literature review is where you contextualise your work with respect to existing published literature.

A literature review is an account of what has been published on a topic by accredited scholars and researchers. In writing the literature review, your purpose is to convey to your reader what knowledge and ideas have been established on your chosen topic, and what their strengths and weaknesses are. As a piece of writing, the literature review must be defined by a guiding concept (e.g., your research objective, the problem or issue you are discussing). It is not just a descriptive list of the material available, or a set of summaries.

3. SDLC – All stages, with emphasis on those you focused on – (65%)

This section should include all aspects of the Software Development Lifecycle (SDLC) for the particular methodology you have selected. This includes all stages from Requirements gathering, design, implementation, testing, evolution and deployment. However, each project will be inherently different and may focus on a specific part(s) of the SDLC, thus this element will be more substantial than the others, and be the focus of this part of your report.

Your report should also cover other details and content as detailed below:

3.1. 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.

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.

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 first and second markers already know this.

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?
Consult your supervisor when drawing this section up.

3.2.   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.

Software development projects.

For projects that involve significant software development components, it is expected that you discuss:
1. Requirements elicitation, collection and analysis
2. Design
3. Building or coding

4. Testing
5. Operations and maintenance

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.

1. Participant recruitment
2. Evidence that ethical procedures have been followed. Include informed consent documentation.
3. Study design (short summary of research methods section) – including hypotheses.
4. A detailed description of the procedure that each study participant experienced. Include every detail that would be needed in order to replicate your work.
5. Results of experiment – present in the format of a scientific report.
6. 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.

Evaluation

Evaluation: 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 effected if time or opportunity presented itself.

4. <u>**Reflective Analysis – (10%)**</u>

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.

5. <u>**References**</u>

The report will conclude with a **List of References**, in accordance with the University of Lincoln Harvard Referencing Guide. Any **Appendices** will appear after the List of References.

Useful Information

Word Count: 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 values you may wish to discuss this with your supervisor, it could be that a large portion of your work is code, or it could be that you've missed something substantial, or indeed if you are vastly over this word count, you may need to be more succinct.

Please go to the library and read through some recent project reports in order to ensure that you have included all relevant sections and to see how appendices have been used. If you have included huge amounts of information in appendices - for example, code from an application you have built - it is fine to attach this as a DVD or memory stick, rather than printing hundreds of pages.

This assignment must be presented according to the Lincoln School of Computer Science guidelines for the presentation of assessed written work. Students should ensure that they have a clear understanding of the grading principles for this component, as detailed in the accompanying Criterion Reference Grid (CRG). If students are unsure about any aspect of this assessment component, they should seek the advice of their supervisor (in the first instance) or, if the supervisor is unclear, that of a member of the delivery team.

Submission Instructions

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

An electronic submission **ONLY** is required for this assignment. The electronic submission to Blackboard must be made before the cut-off date and time set out in the Submission Deadlines spreadsheet on Blackboard. Late penalties will be applied if your submission is after the deadline without an approved extension.

DO NOT include this briefing document with your submission.