**MComp Research Project – Report Overview**

*A substantial written report which shows how the proposal submitted for assignment one was executed. This should stand alone without the need for the reader to refer back to the project proposal.*

## Abstract

This should present a concise summary of the project in its entirety. The reader should be able to quickly ascertain the project’s purpose, context and outcome.

Notes:

* Does this report need an introduction? Or is it supposed to be more structured like a lengthy academic paper? (Last year had an introduction, but no abstract)

## Background and Literature Review

There should be a comprehensive review of the literature that will provide the background to the project and can (and probably should) include material that formed the review in the project proposal.

This section should establish what you intended to do and show the reader that what you have done is the result of academic study, contextualising your work with respect to existing published literature.

Be sure to convey to the reader what knowledge and ideas have been established on the chosen topic, what their strengths and weaknesses are, and the review should be defined by a guiding concept, not just a descriptive list of the material.

Notes:

* How many pieces of literature is recommended
* Many of the other sections mention using academic references to support decisions, should those pieces of literature be reviewed here or simply used as and when?
* Would it be worthwhile to categorise the literature into different sections to help structure and organise the review?

## Methodology

This section will cover several sub-sections (though not all will be entirely relevant to all projects).

### Project Management

This should outline the nature of the project and the specific characteristics that need to be considered to determine what project management methodology to use.

Be sure to identify the specific demands of the project in terms of management and support the rationale for the selection, using appropriate, recent academic references.

Notes:

* This should focus on the project management methodologies
* Last year discussed the UK government standard method (PRINCE2)
* Should this investigate the use of the Gantt chart from the Project Proposal, any changes that have been made to it over the course of the project, along with any other considerations made since the Project Proposal?

### Software Development

A methodological analysis of software development approaches used should be included, taking into consideration the characteristics of the software being developed and the computer environment requirements. Once again, be sure to support the chosen methodology with appropriate, recent academic references.

You may want to give thought to how you collected the requirements of the software being developed, did you collect data from people, use academic literature or some other way.

Do not simply discuss software development or explain how typical methodologies work (spiral, waterfall, etc.)

Notes:

* This should focus on how the development of the game was structured
* As there is another ‘Software Development’ section later, should this therefore focus on the approach to the development prior to undertaking it?

### Toolsets and Machine Environments

Outline the tools for both software development and project management, make appropriate comparisons between the tools available and argue for the most appropriate selection.

Do not justify the grounds for using certain tools simply on prior experience or skills developed.

Discuss possible machine environments under which the artefact may be required to operate and, through analysis, comparison of features and possible user requirements, a determination of the chosen environment(s) will be made.

Notes:

* The use of Unity as opposed to other options, such as Unreal Engine or using a middle-ware in conjunction with something else (e.g. PhysX with OpenGL)

### Research Methods

Investigate the types of research methods necessary to validly answer the research question that the project addresses, citing relevant sources to justify your choices.

E.G:

* Were quantitative or qualitative methods more appropriate, and why?
* Do you need to have objective, observable data or subjective, self-reported data? Or perhaps a mixture?
* Should the form of your data be nominal, ordinal, interval or ratio?
* How do you intend representing your results?

If you are doing an experimental analysis:

* What are your dependent/independent variables?
* Is a between-groups or within-groups approach most appropriate?
* Do you need to statistically analyse your results?

Notes:

* Again, as there is another section later that focuses on the undertaking of the research component of the project, should this just centre on what data you may need, what forms that data may take, how you may intend to obtain this information and how this information could be presented to evaluate the project?

## Design, Development and Evaluation

This section of the report will need to discuss the software development and experimental evaluation with human participants in sufficient detail.

### Software Development Projects

With projects that involve significant software development, you will be expected to discuss the following in the structure of a formal development report:

* Requirements elicitation, collection and analysis
* Design
* Building or coding
* Testing
* Operations and maintenance

You may want to include a game design document in this section.

Notes:

* Should this include said GDD and perhaps some appendices of the prototyping and planning process (such as scans, flowcharts, etc.)

### Research Projects

With projects that include a research component, it is expected that you will discuss the following in the structure of a scientific research report:

* Participant recruitment
* Evidence that ethical procedures have been followed (Include informed consent documentation)
* Study design (summary of the research methods section) – including hypotheses
* A detailed description of the procedure that each study participant experienced. (Should be detailed enough to replicate the work)
* Results of experiment (presented in a scientific report format)
* Analysis of the results. Consider the results with respect to both your own hypotheses and the wider context identified in the literature review.

Notes:

* Need to keep notes of the investigation component of this project
* Is this a major component of this project and therefore require copious detail?
* Include material given to testers (such as consent form and questionnaires), but does all of the filled in material need to be included or simply stated as ‘Available upon request’, with the tallied data included

## Project Conclusion

Here you’ll report your findings, answering any research questions posed. The conclusion should be understandable to people who just want to get a general picture of the work and its results.

Notes:

* There is a reflective analysis section