Faculty of Information Technology

FIT3161 Computer Science Project Part 1
FIT3163 Data Science Project Part 1

Assessment details
Prepared by Varun Mathur, Alan Dorin
Version 020524

Project proposal including background research summary
Group submission.

40%, Due Monday 3 June 2024 11:55 pm, week 14

Learning Outcomes
This assignment targets all unit learning outcomes.

Introduction
Team members must contribute to a single, cohesive, well structured and professionally formatted Project Proposal submission. Ensure the submission reads as one coherent document and not as a copy-paste of separate, poorly related sections created by team members working in isolation. To achieve this, it is suggested that:

- The team agrees early on overall formatting, writing and diagram style and content arrangement.
- The team plans how to allocate sections to be written / diagrams to be drawn by each contributor.
- A team member acts as overall document proof editor and style wrangler before submission.

This submission may appear overwhelming at first sight! Careful distribution of effort between all team members and effective team communication will make the task manageable.

Length of report.
- 7500 words for a team of 3, 10,000 words for a team of 4, 12,500 words for a team of 5.
- Variation in word count from these targets +/- 10% is acceptable.
- Word count excludes text in figures, tables, source code listings, cover sheet, references, appendices and annexes.
- **State the word count clearly on your submission cover page.**

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Project Proposal Structure

1) Front matter
    a) Title sheet, table of contents
    b) Team member names
    c) Word count
    d) Other key elements may be added here at the discretion of individual project teams
2) Introduction
    a) Description of the aims and background of the project.
    b) Brief summary of the entire project plan explaining group intentions over the next semester.
3) Background material / literature review. Include the following:
    a) Divide this (potentially) long section into clear subsections. A sample ordering or sub-structure for this section is: introduction, aims and background, project rationale summary; related research and previous work and its strengths and weaknesses; clear identification and discussion of any gaps in the previous work; justification of proposed project in light of a specific need / benefit / gap in previous work.
    b) Provide background information or context needed to understand your project.
    c) Explain the rationale for your project (i.e., justify it).
    d) Discuss related research, tools and software by identifying and reviewing previous publications (10–12 references) and tools (any that you can find) relevant to your project topic.
    e) Synthesise the relevant published work, recent advances and their implications by discussing common themes, ideas, techniques, outcomes and/or strengths and weaknesses.
    f) Critically evaluate the contribution and shortcomings of previous work, tools/software to draw overarching, relevant conclusions that can inform your project and approach.
4) Project management plan
    a) Project overview: a short summary of project objectives, major work activities and/or major milestones.
    b) Project scope
        i) Product characteristics and requirements, functional and non-functional requirements. (Requirement Traceability Matrix may be included in appendix).
        ii) Product user acceptance criteria.

c) Project organisation

i) Process model: Specify the life cycle model to be used for this project – predictive/ adaptive/incremental /agile and your rationale in using this approach.

ii) Project responsibilities: Identify and state the nature of each major project function and activity and identify the individuals responsible for them.

d) Management process

i) Risk management: Describe the process to be used to identify, analyse, and manage the risk factors associated with the project. Develop a Risk register, which should include the specific risks for this project and the methods for managing them (attach the risk register in an appendix).

ii) Stakeholder analysis and communication plan: Define the reporting mechanisms, report formats, frequency of meetings, etc. A communication table can be used to show the reporting and communication plan for the project – for example to show the regular reports and communication expected of the project, such as weekly status reports, regular reviews, etc.

e) Monitoring and controlling mechanisms

i) Communication plan and task allocation.

ii) Monitoring of project progress against planned milestones.

iii) Review and audit mechanisms. This may include version control, quality assurance, documentation and training.

f) Schedule and resource requirements

i) Schedule: Provide the schedule for the project functions, activities, and tasks. Account for task precedence relations and required milestone dates. (This must match the process model you adopt.) Specify the activities and tasks that must be completed to satisfy the project agreement. Develop a work breakdown structure (WBS) or product backlog depicting the breakdown of project activities and tasks and include this in an appendix. Specify the task dependencies and depict these in a Gantt chart. Optional: You may also provide a PERT chart, Kanban, etc. in an appendix.

ii) Resource requirements: Provide, as a function of time, estimates of the total resources required to complete the project. Examples include numbers and roles of personnel required, computer time, software, hardware, maintenance requirements for the project resources, etc.

5) External Design

a) Determine subsection headings (a, b, c ... etc.) for this report section based on your software design. A lot of the material in this section may be based on the design assignment submission, but ensure the content is properly adapted for this current assignment. Diagrams may be taken directly from the design assignment, but must be properly referenced to the original source.

b) Describe externally observable features of your program, the user interface, external packages / APIs / files (including data sets, data sources, data warehouses, etc.) / sources not covered above.

c) Describe the time and memory performance characteristics of your software.

6) Methodology

a) Determine subsection headings (a, b, c... etc.) as relevant to your project.

b) Describe the toolset for your project including programming language, visualisation tools, version control system, data management systems.

c) Explain any specific algorithms used (give an overview of each and consider including high-level pseudocode if that is helpful).

d) Explain how you are planning for the software/solution components to be integrated. How will they work together?

e) Discuss from where and/or how data will be collected if required for your project and describe any pre-processing steps.

7) Test planning

a) Briefly describe which components of your software will most need testing.

b) Outline how you will conduct testing. (This does not need to be a detailed plan.)

8) Conclusion

a) Provide a 1 or 2 paragraph summary of your reports key contents.

9) Appendix

a) Provide any supporting materials here that are not required in the main report

b) Text in the appendices do not count towards the document word limit.

10) Bibliography

a) Provide a complete list of references cited in the report. List *only* references cited in the report. Consider using reference management software, such as EndNote, BibTeX or Zotero to generate a correctly formatted reference list.

b) Provide full bibliographic details of references in APA format.

c) The reference list does not count towards the document word limit.

Report Style and Presentation

Excellent written and diagrammatic communication skills are expected. The document should be formatted and presented at a professional level. All text sections, figures and diagrams should be clearly structured, labelled and numbered.

Addenda (Optional)

You may include in an addendum any relevant work completed by a team member that was not included in the main project proposal submission. For example, if a section of the report or a diagram was produced by a team member but subsequently replaced by other content, the replaced content may be included in an addendum. **Clearly indicate who produced the replaced content and why it was omitted**. This will allow teaching staff/markers to understand how much work was completed by each team member.

Team Members' Contribution Declaration

Team members' contributions must be declared in the Team Members Contribution declaration spreadsheet.
IMPORTANT: Failure to include a final Team Members Contribution declaration will incur an automatic 10% penalty on the final mark for the assessment.

1. 1 week before submission or earlier: Pre-declaration
    a. Download the contribution declaration spreadsheet from Moodle.
    b. Fill it in and submit it on Moodle at least 1 week before the assessment submission date.
2. On submission day: Final declaration
    a. Update the Pre-declaration spreadsheet with actual contributions.
    b. Submit the updated declaration form on Moodle on the 'FINAL- Team contribution (Project Proposal including background research summary)' link by the same deadline.

Marking

All team members are expected to make equitable contributions to this team task. However, marks are adjusted if the contributions of individual team members differ significantly..

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Marking Guide

This assignment will be marked over 100 points but contributes 40% to the final unit marks. The maximum points allocated to each section is shown below:

1.	Front cover sheet	2
2.	Introduction	8
3.	Background material (literature review)	15
4.	Project management plan	40
	a. Scope and requirements (5)	
	b. Organisation (5)	
	c. Management process (20)	
	d. Schedule and resource management (10)	
5.	External design	5
6.	Proposed methodology	10
7.	Test planning	5
8.	Conclusion	5
9.	References	5
10.	Style and presentation	5
	Total	**100**

Please note, a detailed marking rubric is provided under the Additional Files section on Moodle below the assignment specification.

Additional Notes and Suggestions

While this assignment may appear overwhelming, careful planning by teams in the past has shown it to be manageable. So...

1. Spend time carefully planning the write-up.
2. Consider carefully what material needs to be included.
3. Carefully prioritise what is important and add detail later if needed.
4. Read this specification as a guide to what is likely to be relevant to your project and therefore what needs to be included, rather than as a set of “questions” you need to answer.
5. Discuss and document decisions amongst your team clearly.
6. The background material section (literature review) should include material related to your project life cycle (predictive, agile etc.), technical consideration (software choices, tools) and

research about the particular project area/topic. It should provide information to support any decision you make about your project.

7. In some sections you may find that text structured in point form is more effective than prose, but always write clearly regardless of the form of your text.
8. Share the task of writing the report based on the marks allocated to each section. Ideally, each team member will contribute approximately the same number of marks. However, the number of words contributed should also be considered. As a guide, each team member would be expected to contribute about 2500 words (roughly 5 pages, single-spaced lines).
9. Allocate additional workload for other material including the cover page, appendices, references, reviewing, proofreading and final formatting or style-wrangling.

Late Submission:

1. Submission must be made by the due date. For each day, or part thereof, an assessment task is overdue, a late penalty of 10% of the available total marks applies up to a maximum of seven days. Assessment tasks submitted more than seven days after the due date will receive a mark of zero for that task and may not receive feedback.
2. If you believe that your assignment will be delayed because of circumstances beyond your control such as illness, you should apply for an extension prior to the due date. Extensions and other individual alterations to the assessment regime will only be considered using the University Special Consideration Policy. Students should carefully read the Special Consideration website, and follow the Special Consideration application procedure.

Use of Generative AI tools in Projects and Assignments
Policy for FIT316x Units (based on Monash University policy)

Use of Generative AI Tools is acceptable (unless explicitly forbidden in a particular assignment specification)

- The use of generative AI tools is allowed and is not penalized in marking.
- Students must **acknowledge** when generative AI is used
- Students must clearly indicate which part(s) of the assessment submission contain material where generative AI has been used.
- Students must indicate **how** generative AI was used e.g., what AI tool was used and what questions were asked.

- Students must show **critical thinking** when using generative AI responses. Any errors made by the AI will be assessed as if they were made by the students - i.e. "The AI made a mistake" is not a reason for submission of erroneous work. You will lose marks for this!

To correctly acknowledge the use of Generative AI, please see:

https://www.monash.edu/learning-teaching/TeachHQ/Teaching-practices/artificial-intelligence/policy-and-practice-guidance-around-acceptable-and-responsible-use-of-ai-technologies