



Assignment Cover Sheet

Qualification		Module Number and Title
HND in Computing and Software Engineering		SED5214/ Computing project
Student Name & No.		Assessor
<to be filled by the student>		Ms. Chamila Attanayaka
Hand out date		Submission Date
01/04/2021		30/04/2021
Assessment type Reports 5000 Words	Duration/Length of Assessment Type One Month	Weighting of Assessment 100%

Learner declaration
I certify that the work submitted for this assignment is my own and research sources are fully acknowledged.

Marks Awarded			
First assessor			
IV marks			
Agreed grade			
Signature of the assessor		Date	

FEEDBACK FORM
INTERNATIONAL COLLEGE OF BUSINESS & TECHNOLOGY

Module/Title:

Student:

Assessor: **Gihan Herath**

Assignment:

Strong features of your work:

Areas for improvement:

Marks Awarded:

Assignment 1

The learning outcomes assessed are:

On successful completion of the module, students should be able to:

- Identify real world problem and should be able to state the problem clearly
- Should be able to design a solution
- Implement a solution for the identified problems
- Evaluate and document the applied solution.

Introduction

This module aims to give students the opportunity to work in a guided but independent fashion to explore a substantial problem in depth, making practical use of principles, techniques and methodologies acquired elsewhere in the course. Moreover the experience of carrying out a large piece of individual work will enhance communication skills of the students, both oral and written.

This is a major piece of work that should demonstrate the performance expected at a Higher National level. The problem should be developed within an IT context. This will develop the ability to produce an acceptable and viable solution to an agreed specification with a defined timescale and constraints.

The students have the freedom to select the project however it is very important that you have get prior approval from your supervisor regarding the system that you planned to do for this assignment. The project can be individual or group it is depends on the scope, size, time or novelty of the project. The project can be either research or development oriented one.

Assignment Evaluation

- | | |
|-------------------------------------|-------|
| • Project proposal and presentation | (10%) |
| • Intermediate deliverable (two) | (10%) |
| • Final Product / thesis | (65%) |
| • Viva | (15%) |

Project Milestone and Deliverables

The project unfolds in a series of overlapping stages. Each stage involves a number of distinct tasks each of which is intended to produce some outcome or results. Some of these results will need to be in place before other tasks can begin whilst other tasks may be able to run concurrently. To make good use of your time it is important to plan your project so that there is always some task to be doing if you ever need to wait for the outcome from some other task.

To help you to make progress with your project, there are some milestones which are deadlines by when the outcome of a particular task or stage must be finished. To help your supervisor to assess the quality of your work, you will be required to submit the results of the identified tasks for marking and feedback. Such submissions are called deliverables. The milestones and deliverables are specified as follows:

Milestone	Deliverables
Project Registration	
Project Proposal Submission and Presentation	
Project Proposal Feedback	
Project Progress (documentation, presentation, working demonstration)	
Final Project / Thesis submission	
Final demonstration / Viva	

Basic Guideline for Project

Stage 1: Project Planning

Project Planning has the following tasks:

- (i) **Topic identification.** You need to decide what kind of area you would like to do your work in. This will allow the coordinator to find a staff member suitable for supervising you.
- (ii) **Preparation for supervision.** You must arrange and attend an initial meeting with your supervisor. He or she will want to know your draft project title and see a brief written description of what work you have in mind. First impressions are important.
- (iii) **Subject area study.** Once you have settled your topic area you need to begin researching in more depth. Find books in the library and other sources on the Internet. Keep a note of the references. Write up a description giving your views of the area and, where you can, outline *what* problem that you are planning to solve or *which* issues that you are planning to investigate.
- (iv) **Methodological considerations.** Next you should consider *how* you will tackle your project work. What are its aims and objectives? If you are gathering information, what methods will you use to collect it? What methods will you use to analyse it? Answering these questions will lead to your *research design*. If you are developing software, what development methodology will you use? What tools do you need? Answering these questions will break your project down into its constituent tasks. You may need to take into consideration the ethical requirements of the Engineering and Information Sciences School Research Committee and the professional requirements of the British Computer Society to ensure that your project is in compliance.
Result: Detailed project description.
- (v) **Planning.** Once you know what you want to do and how you plan to do it, the next step is to calculate how you can manage to do it in the time available to you. This can be done by making a timeline showing all the necessary tasks and estimating how long each one will take. In that way it will be possible to predict when certain deliverables will be created. The most important one will be your project report which has to be completed by the 7 week deadline. Finally you will have to think about any special resources you might need for your project. This can include access to hardware or software or even to particular people – for example the directors or managers of a business.
- (vi) **Writing the Proposal.** The final task of the Planning stage consists of putting together all the components you have prepared in the early tasks to form your Project Proposal. You can select the proposal template, with your supervisor.

Stage 2 Project Execution

Project Execution has the following tasks:

- (i) **The Literature Survey.** Here the task is to locate and digest relevant and current literature relating to your topic. By reading and understanding what other researchers have been doing, you learn more about your subject and it puts into perspective the work that you are planning to do.

- (ii) **The main project work.** At last you are ready to start doing the work that you have planned. If your planning has been good you will just be following the development methodology or the research design which you chose during the planning stage and if you are lucky (and you are working hard enough) you will be able to stick to the schedule. One by one, the deliverables you have identified will emerge. It is important to keep in touch with your supervisor, discussing your ideas and strategies and seeking guidance and advice where you need it. Try to arrange regular meetings with your supervisor and keep a record of your encounters, reporting on what was discussed and noting what is promised for the next session.

- (iii) **Software Product Development.** If you are developing the software you have to use appropriate system architecture and relevant design Pattern. You can use any programming language and any database software. You have to follow the proper coding standards and testing methods.

Stage 3: Project Presentation.

There is little point in undertaking the labour of your project unless you can convey its results to others. In this module, the results are presented in two ways – the Report and the Viva. These are the tasks:

- (i) **Planning the report.** A good report is like a story – it should tell the reader how you went from the initial stages to choosing your topic and problem, through all the decisions you made about what to do and how to do it, and all the work you did in learning more about your subject, up to the point where you achieved your results. Then the report should go beyond that and give your views about your results – how accurate or reliable they are and how valid they are; and also of the project as a whole – did you achieve what you set out to do? A good story does not happen without careful planning about what information to include, in what level of detail and in which order. Consideration must also be given to the form of presentation – the style and layout of the writing, labelling of diagrams and handling of references

- (ii) **Writing up the chapters.** Remember that the project stages can overlap somewhat and this task is an example of where that can happen. If you can do a certain amount of the writing up

as you are completing the work, it gives you better chance of sharing your output with your supervisor and benefiting from that additional feedback. Writing up in this way is also a good way of using up ‘dead’ time that can occur while you are waiting for the outcome of other tasks.

- (iii) **Conclusion and Abstract.** These are two special parts of the report. The Abstract is a summary of the whole report that appears at the very beginning and is the first thing read by the reader (first impressions are important). The conclusion is the last chapter and is usually the last thing read by the reader. It is therefore worth giving special attention to the structure and scope and even the language used in these sections

Assessment criteria

1. Assessment and Weighing

This module is assessed as follows:

- Project proposal and presentation (10%)
- Interim report (two) (10%)
- Final thesis (65%)
- Viva voce (15%)

2. Project proposal marking criteria

Content	Comments	Allocated marks	Marks achieved
Rationale		30	
Description		30	
Deliverables		20	
Schedule		10	
Coverage		10	
Total			

Component	Rationale	Allocated marks	30
Range %	Criteria		
0-29	Very limited or no suitable explanation given regarding the background of the problem or primary hypothesis. No clear view on the research problem is evident.		
30-39	Given explanation are not satisfactory but additional work should lead to improvements. Significant shortcomings when defining the problem stamen.		
40-49	Adequate level explanation given has not considered different aspects of the problem environment. Limited attempt on understanding the root causes just a surface study.		
50-59	Generally competent level explanation given. Clearly define problem statement and background. Limited on supportive evidence to justify claims maid.		
60-69	Good level of explanation with supportive evidence regarding problem environment. Problems or hypothesis defined properly.		
70-79	Very good level of explanation with supportive evidence regarding problem environment. Problems or hypothesis defined properly. Critically evaluated the environment factors contribution towards the research problem.		
80-100	Excellent level of explanation with supportive evidence regarding problem environment. Problems or hypothesis defined properly. Critically evaluated the environment factors contribution towards the research problem.		

Component	Description	Allocated marks	30
Range %	Criteria		
0-29	Very limited or no suitable objectives and little indication of being aware of requirements.		
30-39	Aim is not properly defined; Objectives are not satisfactory There has been little or no consideration of methods/approaches, which have significant shortcomings.		
40-49	Objectives are adequate but there are obvious improvements possible and limitations of methods/approaches have not been noted.		
50-59	Objectives which reflect the project guidance include both project specific some wider issues, although some have been omitted. There is justification for the methods/approaches selected. Some limitations of the methods/approaches are not noted.		
60-69	There is a logical set of objectives to include both project specific and wider aspects such as legal and environmental factors, although there may be improvements possible. Methodology selections and explanations has shortcomings.		
70-79	There is a logical set of demanding objectives to include both project specific and wider aspects such as legal and environmental factors. Alternative methods/approaches have been considered and there is justification for those selected. Reasonable justification of selected methodology.		
80-100	There is a logical set of highly demanding objectives to include both project specific and wider aspects such as ethical and environmental factors. Alternative methods/approaches have been considered fully and there is justification for those selected. There is a clear awareness of limitations of the methods and suggestions to overcome them. Where there is a shortfall in methodology, there is		

Component	Deliverables	Allocated marks	20
Range %	Criteria		
0-29	No or very limited effort on identifying and deliverables and no breakdown is shown.		
30-39	Some attempt of defining deliverables is given but no or limited breakdown and flow on logical flow.		
40-49	Some hint of high level deliverables is mention. Limited breakdown and logical arrangements.		
50-59	Adequate level of deliverables and some breakdown is evident, lacking in linking it with time frame.		
60-69	Proper set of deliverables are defined with reasonable effort on linking with time frame.		
70-79	Very good attempt on detail logical breakdown of deliverable with proper time frame.		
80-100	Excellent work on providing detail breakdown of deliverables with logical flow and time frame.		

Component	Schedule	Allocated marks	10
Range %	Criteria		
0-29	No or very limited schedule		
30-39	Limited schedule		
40-49	Adequate level of schedule for full life cycle		
50-59	Schedule with proper high level phases are covered		
60-69	Schedule include proper high level phases including some breakdown linking with deliverables		
70-79	Very good schedule with well define tasks with appropriate time frame linking with deliverables and milestones.		
80-100	Excellent attempt of schedule with comprehensively define tasks with appropriate time frame linking with deliverables and milestones.		

Component	Coverage	Allocated marks	10
Range %	Criteria		
0-29	Very limited coverage on project proposal component		
30-39	Limited attempt on some sections only		
40-49	Were able to cover all the components but contain many shortcomings and lacking in quality in nearly all the areas.		
50-59	Were able to cover all the components but some sections are lacking		
60-69	Good proposal document covering all the components with minor flows		
70-79	Very good proposal document covering all the areas in a quality manner.		
80-100	Excellent proposal comprehensively covering all the areas with higher level of quality.		

3. Interim report marking criteria

Content	Comments	Allocated marks	Marks achieved
Scope		60	
Depth		20	
Level of quality		20	
Total			

Component	Scope	Allocated marks	60
Range %	Criteria		
0-29	The deliverable does not address its requirements adequately		
30-39	Limited scope shown on deliverables		
40-49	Adequate attempt to allow the project to move forward		
50-59	Sufficient to allow the project to move forward.		
60-69	Good attempt on deliverables		
70-79	A very good attempt at the deliverable. Completes a project phase		
80-100	Excellent attempt at the deliverable. Comprehensively Completes a project phase		

Component	Depth	Allocated marks	20
Range %	Criteria		
0-29	The deliverable is off the subject		
30-39	Very superficial treatment of a topic or application of a technique		
40-49	Marginally adequate level of depth is given		
50-59	Adequate level treatment towards the deliverables		
60-69	Good level of depth is shown.		
70-79	Very good level of work. Shown high level commitment and thinking towards project deliverables		
80-100	Exceptional level of work. Shown higher level commitment and thinking towards project deliverables		

Component	Level of quality	Allocated marks	20
Range %	Criteria		
0-29	Very low level quality of work		
30-39	Level of quality is not adequate		
40-49	Marginally adequate level of quality basic level formatting and presentation. Has many flaws throughout.		
50-59	Adequate level of quality. Above basic level formatting and presentation need to be consistent throughout the work.		
60-69	Good level of quality, well formatted and presented document with proper academic writing. Minor improvements needed.		
70-79	Very good level of quality. Well formatted and presented document with proper academic writing throughout.		
80-100	Exceptional level of quality, work is fully formatted and well presented. Proper academic writing throughout with exceptional level of language use.		

4. Project thesis marking criteria

Content	Comments	Allocated marks	Marks achieved
Achievement of objectives		25	
Use of Literature		15	
Methodology		20	
Analysis and discussion/ Solution design and implementation		30	
Report structure and use of academic writing		10	
Total			

Component	Achievement of objectives	Allocated marks	25
Range %	Criteria		
0-29	Substantial deficiencies throughout or a combination of incompleteness where major rework is needed		
30-39	Serious shortfall in achievement of objectives. Treatment of results is too superficial and/or incomplete.		
40-49	There is an adequate quantity of appropriate level work involving application of course-relevant knowledge and leading to limited achievement of undemanding objectives. However, there may be significant shortcomings - errors/omissions - in the various aspects of the study area.		
50-59	Evidence of generally competent work leading to achievement of appropriate, but not fully challenging, objectives; or some incompleteness of challenging objectives.		
60-69	Evidence of good quality work, involving in-depth theory/concepts, leading to the achievement of demanding objectives, although some areas could have been covered more thoroughly and/or with greater depth and insight.		
70-79	Evidence of much high quality work, involving advanced theory/concepts relevant to the course, and leading to the achievement of demanding objectives using appropriate methods.		
80-100	Excellent quality work, involving advanced theory/concepts relevant to the course, and leading to the achievement of very demanding objectives using appropriate methods. The content demonstrates in-depth knowledge of the subject area relevant to the project aims and has benefited from the outcomes of extensive research.		

Component	Use of Literature	Allocated marks	15
Range %	Criteria		
0-29	Little or no relevant research or demonstration of ability to undertake research.		
30-39	Little research but enough to indicate ability to pass if further work undertaken.		
40-49	Some relevant research, but with shortcomings in extent and level. Some appraisal of relevance, but significant shortcomings in extent or validity of analysis.		
50-59	A broad research identifying much information. However some may not be directly relevant and more advanced work may be overlooked. There may not be a demonstration of knowledge and understanding associated with higher grades.		
60-69	Wide ranging research using most techniques/sources to achieve a good information base. Comprehensive consideration and analysis of findings. Reasoned recommendations cover most relevant areas, although these could have been covered with greater depth and/or insight. All references are cited minor issues in citations		
70-79	Wide ranging research using appropriate techniques/sources and achieving a large information base. Critical analysis of findings with very good consideration of relevance. All documentary sources (texts, journal articles, etc.) are listed under the reference heading and appropriately cited in the report.		

80-100	Very wide ranging research using all appropriate techniques/sources and achieving an extensive information base. Critical analysis of findings with comprehensive consideration of relevance. Effective development of an extensive knowledge base following initial literature search.
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Component	Methodology	Allocated marks	20
Range %	Criteria		
0-29	Inappropriate methods described. Little or no consideration of alternative approaches.		
30-39	There is an insufficient description and consideration of alternative approaches.		
40-49	There is an adequate consideration of methodology leading to reasonable choice of approach, adequately described.		
50-59	Alternative approaches have been considered and some reasoning supports selection. Those selected as most suitable are justified. Limitations of the methods have been identified.		
60-69	Alternative approaches have been considered and those appropriate selected with some justification. Limitations of the methods have been identified and ways to overcome them suggested		
70-79	Alternative approaches have been identified and analysed and those most appropriate selected with justification and are clearly described. Limitations of the methods identified and suggested ways to overcome them.		
80-100	A wide range of alternative approaches have been identified, with relevant options analysed in depth. Those most appropriate have been selected with full justification and are clearly described. Limitations of the methods have been identified and ways to overcome them suggested.		

Component	Analysis and discussion/ Solution design and implementation	Allocated marks	30
Range %	Criteria		
0-29	Little or no evidence of interpretation /analysis of results/findings.		
30-39	Some, but insufficient, evaluation, but with enough evidence of ability to analyse.		
40-49	There is evidence of ability to undertake basic treatment of information/results and to explain straightforward findings. There may be some flawed analysis and/or omission of some areas.		
50-59	There is interpretation of straightforward data/findings. Analysis is limited in extent and depth and may have some errors/shortcomings.		
60-69	Care and competence in the analysis of findings, but without the depth and/or consideration of wider issues. Selections, conclusions and recommendations are well justified.		
70-79	Interpretation and analysis of findings related to advanced theory/concepts is present and justified. Alternative approaches and wider issues are considered.		
80-100	Interpretation and analysis of findings related to advanced theory/concepts is full and justified. Alternative approaches and wider issues are considered comprehensively. There is reasoned and logical justification for selections, conclusions and recommendations.		

Component	Report structure and use of academic writing	Allocated marks	10
Range %	Criteria		
0-29	Report requires major drafting/re-drafting in most or all sections.		
30-39	Serious shortcomings in structure and/or presentation and/or academic writing is lacking.		
40-49	Includes major elements but there may be omissions or shortcomings in logical order, such as inappropriate use of chapters, sections, figures and appendices		
50-59	Report generally follows guidelines including all main elements. There may be some shortcomings in clarity of both text and visual presentation and some minor omissions of content.		
60-69	No significant shortcoming in structure with all the main elements included. Tabulated/diagrammatic/visual presentation of data is clear and the report is well referenced throughout. Style and language generally in accordance with the guidelines although there may be some minor deficiencies.		
70-79	Report includes all necessary elements and is appropriately referenced throughout. Presentation of result/findings is clear and is supported using suitable visual /diagrammatic /tabular techniques. Succinct text with style and language generally in accordance with the guidelines.		
80-100	Report includes all necessary elements and is meticulously referenced throughout. Presentation of result/findings is clear and is supported using the most appropriate visual /diagrammatic /tabular techniques. Succinct text with style and language in accordance with all guidelines and with no significant shortcomings. There are appropriate supporting appendices.		

5. Project presentation and viva marking criteria

Content	Comments	Allocated marks	Marks achieved
Content		20	
Presentation		50	
Questions and answers		30	
Total			

Component	Content	Allocated marks	20
Range %	Criteria		
0-29	Content either incoherent and lacking awareness of basic presentation requirements, or lacking relevant content.		
30-39	Lack information on key aspects of project, but should be able to attain pass standard with some additional time in preparation		
40-49	Some deficiencies of key points, lacking clarity, and/or with little impact and some errors. There may be indication of a shortage of planning and care in composing/creating the display.		
50-59	Reasonable encapsulation of key points, although the slides may be over-detailed, too vague or, in part, lacking a clear message and/or including some errors.		
60-69	Good encapsulation of key points, generally clear, with good impact. There may be a small number of minor errors present		
70-79	Very good encapsulation of key points, clear, high impact. There may be a small number of very small errors present.		
80-100	Excellent encapsulation of key points, extremely clear, high impact, error free.		

Component	Presentation	Allocated marks	50
Range %	Criteria		
0-29	Very poor presentation Major shortcomings in clarity and/or relevance.		
30-39	Presentation lacks clarity and/or relevance. Some attempt of planning is evident.		
40-49	Presentation not well planned and delivered, but conveys some relevant information, although with significant deficiencies in content/clarity/interest.		
50-59	Fair description of major features and achievements, some aspects lack of clarity.		
60-69	Good verbal description of main features of project; straightforward to follow, confident and interesting.		

70-79	Well planned, coherent oral presentation expressed with confidence and interest, appropriate to the audience
80-100	An excellently planned, coherent oral presentation expressed with confidence. Exemplary presentation skills are displayed with all areas covered at a level suitable for the audience.

Component	Questions and answers	Allocated marks	30
Range %	Criteria		
0-29	Responses are incoherent or display lack of essential knowledge and/or relevance.		
30-39	Serious shortfall in ability to explain fundamentals some very basic level knowledge shown.		
40-49	Some hesitation in responses/discussion indicates lack of familiarity with the topic and wider issues, and/or lack of understanding in some areas.		
50-59	Reasonable responses to questions and is able adequately discuss. There may be some minor deficiencies in knowledge.		
60-69	Good responses to questions and in discussion appears to be generally familiar with the specific topic and with relevant wider issues.		
70-79	Very good responses to questions and in discussion appears to be familiar with the specific topic and with relevant wider issues.		
80-100	Confident, succinct and informative responses to questions. In discussion, appears to be well informed on specific subject knowledge as well as wider issues associated with the project.		