HND Computing: Software Development

Graded Unit 2

H48W 35

Practical Assignment

This project is your opportunity to demonstrate the skills that you have learned over the last two years on a topic of your choice.

Carry out some research amongst friends, family or work colleagues. They may have an idea for a piece of software that would be useful to them. You may have your own ideas about something that you would like the chance to develop or some new innovative approach you would like to try. Some example previous projects have included: stock control systems, booking system, volunteer tracking system, on-line sales site and invoicing system.

The project you choose should allow you to analyse a system, design a solution, implement this solution and test it thoroughly. At each stage you are expected to thoroughly document your work and then evaluate your achievements at the end.

To guide you through the project you have the evidence requirement sheet and the support of your lecturers.

Tasks

Choose a scenario/ piece of software/ business problem and prepare a brief

Research and analyse the problem or requirements

Document your analysis

Develop a design for solving the problem

Implement the design in a language of your choice

Document your program design and testing

Evaluate your product and your performance

EVIDENCE REQUIREMENTS

Each document should meet the minimum organisational standards set. Front pages and tables of content should be provided in the completed report and it should be of professional standard i.e. typed with headers and footers detailing unit, name of candidate.

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| PLANNING | 40% |
| Action Plan Report |  |
| An analysis of the project assignment brief -— up to 14 marks which should include but not be restricted to the following:   * Interpretation of the project assignment brief * initial functional and non-functional requirements and initial top level Use Case model * information gathered to clarify the brief, eg background research, such as looking at similar problems, * aims of the project assignment * Identification of resources, and materials required and how they will be accessed / obtained. For example development environment. * identification of information sources to be used | 14 |
| Project plan — up to 6 marks  Production of a formal plan to undertake the project with realistic timescales and identifying:  — Schedules for each stage and overall completion  — Milestones and deliverables  — Main tasks  — Resources | 6 |
| Solution Plan: Analysis and Design - up to 20 marks  — Undertaking the analysis using appropriate techniques.  — Evidence for the analysis and design of the prototype application for the given brief. | 20 |
| The candidate must achieve all of the minimum evidence specified above in order to pass the Planning stage. |  |
| Minimum Marks | 20 |
| DEVELOPING | 40% |
| Portfolio |  |
| Production of application — up to 25 marks allocated as follows:   * Coding of the problem domain — up to 5 marks for implementation of the problem domain * Coding of the UI domain — up to 5 marks for implementation of the UI domain * Use of unfamiliar libraries and/or constructs — up to 5 marks for appropriate use of libraries and/or constructs which have been introduced through candidates self-research. * Error Handling — up to 5 marks for coding error handling and/or error prevention, eg use of Exceptions * Internal Documentation — up to 5 marks — standard documentation, naming conventions and appropriate use of indentation | 25 |
| Testing — up to 10 marks   * Test Plan — up to 5 marks designing test plan and test cases. This may include the development of test harnesses. * Test Runs — up to 5 marks for running, documenting and evaluating test runs | 10 |
| Documentation — up to 5 marks  Up to 5 marks for developing appropriate user documentation — this may also include online help features | 5 |
| The evidence may be recorded using appropriate techniques such as software, screenshots, listings, logbooks (electronic, manual or both), work diaries, reports, etc. |  |
| The candidate must achieve all of the minimum evidence specified above in order to pass the Developing stage. |  |
| Minimum Marks | 20 |
| EVALUATING | 20% |
| Report |  |
| Evidence should be in the form of a report showing the evaluation of the effectiveness of the approach/strategy taken, which includes all stages of the activity up to 20 marks.  The evaluation report should include all of the following:   * an outline of the assignment and to what extent the solution met the original requirements of the assignment brief * an assessment of the strengths and weaknesses of the outputs of the practical assignment * recommendations for any future development of the solution and reasons for these recommendations * a summary of any modifications to the project plan, solution design and/or implementation, that were made during the project. Including reference to any unforeseen events and how they were handled. * Identification of any knowledge and skills which have been gained or developed while carrying out the project assignment and how the actions/process of carrying out the project could have been improved. | 20 |
| The candidate must achieve all of the minimum evidence specified above in order to pass the Evaluating stage. |  |
| Minimum Marks | 10 |

Hand-in dates

Evidence should be submitted for each section by the following deadlines:

|  |  |
| --- | --- |
| Planning | midnight on Monday 6th March 2023 (Week 5) |
| Developing | midnight on Monday 8th May 2023 (Week 12) |
| Submit your video | midnight on Monday 15th May 2023 (Week 13) |
| Evaluating | midnight on Monday 29th May 2023 (Week 15) |

Your video will consist of a scheduled 10 to 15 minute demonstration of your product.

Any student missing any of these deadlines will be marked as a non-submission and will FAIL.

The complete report will be graded to reflect the quality of work submitted at the deadline. No corrections or additions can be made after the deadline.

Any student who fails will be asked to resubmit a DIFFERENT project.

Statement on plagiarism from SQA

Assessors are required to ensure the authenticity of the candidate’s work. Regular progress meetings are one way of ensuring that the candidate’s work is their own. The opportunity should be taken at these meetings to use probing questions to authenticate the assessment material. Plagiarism is a potential issue with written work. Assessors must ensure that the candidate is aware of their centre’s plagiarism policy and ensure that submitted material is consistent with that policy. Further advice about plagiarism is available from the SQA.

To ensure that these requirements are met you will be expected to attend for a scheduled meeting with the assessor at least once per week to demonstrate progress in your project. At other times, when this appears on your timetable, you will be expected to be working on your project with tutor support.