

Section two – project assessment

To be completed by the teacher

Analysis			
Level	Criteria	Mark	Comments/evidence
3	Fully or nearly fully scoped analysis of a real problem, presented in a way that a third party can understand. Requirements fully documented in a set of measurable and appropriate specific objectives, covering all required functionality of the solution or areas of investigation. Requirements arrived at by considering, through dialogue, the needs of the intended users of the system, or recipients of the outcomes for investigative projects. Problem sufficiently well modelled to be of use in subsequent stages.	7-9	Detailed introduction to original project idea, with explanations of technical requirements and limitations. pp1-2 Investigation consists of client interviews (including audio recording) analysis of existing and alternative applications and user questionnaires. Outcomes are shown as an online task list. pp2-6 Solution is thoroughly modelled through IPSO chart, Context diagram, ERD, Flowchart and Data Dictionary. pp6-9 Very wide range of general and specific objectives. pp1-11
2	Well scoped analysis (but with some omissions that are not serious enough to undermine later design) of a real problem. Most, but not all, requirements documented in a set of, in the main, measurable and appropriate specific objectives that cover most of the required functionality of a solution or areas of investigation. Requirements arrived at, in the main, by considering, through dialogue, the needs of the intended users of the system, or recipients of the outcomes for investigative projects. Problem sufficiently well modelled to be of use in subsequent stages.	4-6	
1	Partly scoped analysis of a problem. Requirements partly documented in a set of specific objectives, not all of which are measurable or appropriate for developing a solution. The required functionality or areas of investigation are only partly addressed. Some attempt to consider, through dialogue, the needs of the intended users of the system, or recipients of the outcomes for investigative projects. Problem partly modelled and of some use in subsequent stages.	1-3	
	No evidence presented	0	Mark awarded: 9

Documented design			
Level	Criteria	Mark	Comments/evidence
4	Fully or nearly fully articulated design for a real problem, that describes how all or almost all of the key aspects of the solution/investigation are to be structured/are structured.	10-12	Detailed technical description of the server methods used, including bots, scripts, HTTP, APIs, libraries, hosting and files. pp1-6 HCI is shown as screenshots of various images for the Bot, including text commands, objects, buttons, menus and chess game, with discussion and justification for design decisions. pp1-3, 7
3	Adequately articulated design for a real problem that describes how most of the key aspects of the solution/investigation are to be structured/are structured.	7-9	Solution is also modelled through Level 1 and 2 DFDs. pp5-6 Algorithms shown cover Asynchronous communications and Database querying. Chess formulae and routines are also explained. pp4-5, 7-9 Data Dictionary includes range of Validation types and methods. pp9-10
2	Partially articulated design for a real problem that describes how some aspects of the solution/investigation are to be structured/are structured.	4-6	Database is fully normalised to 3NF, with ERD and Schema. pp10-11 SQL code is shown for DDL, DML (Insert Into) and a multi-table Select query with output. pp11-12
1	Inadequate articulation of the design of the solution so that it is difficult to obtain a picture of how the solution/investigation is to be structured/is structured without resorting to looking directly at the programmed solution.	1-3	
	No evidence presented	0	Mark awarded: 12

Technical solution – completeness			
Level	Criteria	Mark	Comments/evidence
3	A system that meets almost all of the requirements of a solution/an investigation (ignoring any requirements that go beyond the demands of A-level).	11-15	24 project objectives, 20 completed, 2 partials, 2 not done. Complex, well-organised, fully working Bot, with many extras, all main requirements functional, only a few minor items missing.
2	A system that achieves many of the requirements but not all. The marks at the top end of the band are for systems that include some of the most important requirements.	6-10	
1	A system that tackles some aspects of the problem or investigation.	1-5	
	No evidence presented	0	Mark awarded: 14

NOTES:

Completeness is not only about how well a solution meets the objectives set by the student but also what an expected technical solution might perform for this particular project.

Technical solution – techniques used			
Level	Criteria	Mark	Comments/evidence
3	The techniques used are appropriate and demonstrate a level of technical skill equivalent to those listed in Group A in Table 1 . Program(s) demonstrate(s) that the skill required for this level has been applied sufficiently to demonstrate proficiency.	19-27	Group C: simple data types, simple Maths Group B: DB connect, simple query, Maths SETS, Dictionaries, 2-D array, user-defined complex Maths functions Group A: HTTP, JSON, APIs, FTP, REGEX, Quicksort, Recursion, complex Maths, complex user-defined functions, Read/Write files, complex DB model, DDL, DML, SQL cross-table parameterized select queries
2	The techniques used are appropriate and demonstrate a level of technical skill equivalent to those listed in Group B in Table 1 . Program(s) demonstrate(s) that the skill required for this level has been applied sufficiently to demonstrate proficiency.	10-18	Basic style: meaningful identifiers, code comments Good style: subroutines, local variables, interface, casting, formatting Excellent: error-handling - try-except, modular code, parameter passing, defensive programming Extensive range of skills and programming techniques, exceptional coding ability demonstrated, robust package running online, also tested locally. Many complex Coding techniques clearly explained in technical terms. pp 1-14
1	The techniques used demonstrate a level of technical skill equivalent to those listed in Group C in Table 1 . Program(s) demonstrate(s) that the skill required for this level has been applied sufficiently to demonstrate proficiency.	1-9	
	No evidence presented	0	Mark awarded: 27

NOTES:


The mark to be awarded, within the level, should be decided upon using these factors:

- (1) The extent to which the criteria for the level have been achieved
- (2) The quality of the coding style that the student has demonstrated
- (3) The effectiveness of the solution.

It would be beneficial for these to also be referred to in the comments/evidence section.

Table 1 referred to is on pages 95-96 of the specification (version 1.4 December 2016)

Continue on a separate sheet if necessary

Testing			
Level	Criteria	Mark	Comments/evidence
4	Clear evidence, in the form of carefully selected representative samples, that thorough testing has been carried out. This demonstrates the robustness of the complete or nearly complete solution/thoroughness of investigation and that the requirements of the solution/investigation have been achieved.	7-8	Test Plan pp 1-4, calculations data p5, evidence Video:  Comprehensive testing of all aspects of the program, clearly explained in the video voice-over, which demonstrates a fully operational, robust bot.
3	Extensive testing has been carried out, but the evidence presented in the form of representative samples does not make clear that all of the core requirements of the solution/investigation have been achieved. This may be due to some key aspects not being tested or because the evidence is not always presented clearly.	5-6	
2	Evidence in the form of representative samples of moderately extensive testing, but falling short of demonstrating that the requirements of the solution/investigation have been achieved and the solution is robust/investigation thorough. The evidence presented is explained.	3-4	
1	A small number of tests have been carried out, which demonstrate that some parts of the solution work/some outcomes of the investigation are achieved. The evidence presented may not be entirely clear.	1-2	
	No evidence presented	0	Mark awarded: 8

Evaluation			
Level	Criteria	Mark	Comments/evidence
4	Full consideration given to how well the outcome meets all of its requirements. How the outcome could be improved if the problem was revisited is discussed and given detailed consideration. Independent feedback obtained of a useful and realistic nature, evaluated and discussed in a meaningful way.	4	All objectives given thorough consideration, with reasoned discussion of technical methods used and the minor problems encountered. pp 1-3 Client feedback was obtained in the form of an audio interview held at https://significantbanter.com/interview/ which covered all aspects of the project, including suggestions for improvement. Main points. p3
3	Full or nearly full consideration given to how well the outcome meets all of its requirements. How the outcome could be improved if the problem was revisited is discussed but consideration given is limited. Independent feedback obtained of a useful and realistic nature but is not evaluated and discussed in a meaningful way, if at all.	3	Detailed response was given to the feedback, along with general and specific reflections on the whole experience and interesting suggestions for future improvements. pp 3-5
2	The outcome is discussed but not all aspects are fully addressed either by omission or because some of the requirements have not been met and those requirements not met have been ignored in the evaluation. No independent feedback obtained or if obtained is not sufficiently useful or realistic to be evaluated in a meaningful way even if attempted.	2	
1	Some of the outcomes are assessed but only in a superficial way. No independent feedback obtained or if obtained is so basic as to be not worthy of evaluation.	1	
	No evidence presented	0	Mark awarded: 4