

2017 Project log

A-level Computer Science (7517) Computing Practical Project (7517/C)

Please attach a copy of this form securely to the front your candidate's work.

Centre number

Centre name

AQA

Candidate number

Candidate's full name

PROJECT A

Section one - the project

To be completed by the candidate and returned to the teacher for approval before the project is started

Project title A class model answer system for revision exercises

Project type problem

Outline description

A system to allow a teacher to generate a series of text questions. These are then answered by students in a class. The system then passes out an answered question to each student so they can study the question and answers given and then generate a 'class model answer'

To be completed by the teacher:

From the given description the project is at a standard required for A-level

Yes

Section two – project assessment

To be completed by the teacher

Analysis		Mark	Comments/evidence
Level	Criteria		
3	<p>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.</p>	7-9	<p>Clear evidence of research into the problem via interviews, observation and analysis of currently used documents.</p> <p>A good description of the problem background and it is clear that the student has taken time to understand the requirements from Mr F.</p> <p>Data flow diagram (p6) does not seem to cover all aspects (some links to storage seem to be missing) but does provide a basic model useful in this section.</p> <p>Process diagram (p5) does give an overview as to the 'flow' of the system to be implemented.</p> <p>A good set of objectives (p10) but some of these could have been broken down further to provide more detail.</p> <p>This section provides a well scoped analysis of a real problem and it is presented in a way that should be understandable by a 3rd party. The student clearly engaged in dialogue and this helped form out the objectives for the system. The process diagram provides a useful model that will be useful in subsequent stages. Therefore placing into the top level – as the objectives could have more detail awarding a mark of 8.</p>
2	<p>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.</p>	4-6	
1	<p>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.</p>	1-3	
	No evidence presented	0	Mark awarded: 8

Documented design		
Level	Criteria	Mark
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
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
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
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: 10

Whilst the overview diagram on page 2 is useful to show the structure it is clear that the pages themselves have functions and this could have been described more clearly in the design section.

There are sketches for page design but would like to see more justification as to the elements on each page (linking back to needs of users).

Each page has functionality described well and it is clear how SQL will be used for processing. The teacher page (p14) is described well but it might be useful to show a run through as to how data will be manipulated (ie talk through what will go into / come out of tables as the page goes through stages)

Would like to see more design into 'allocating questions randomly to students'. This has been implemented and works in a simple fashion but could have been thought about more to cope with different scenarios in a better way (for example more students than questions).

Technical solution – completeness		
Level	Criteria	Mark
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
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: 13

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
3	<p>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.</p>	19-27
2	<p>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.</p>	10-18
1	<p>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.</p>	1-9
	No evidence presented	0
NOTES:		Mark awarded: 25

Technical Skills:
Student clearly has a very good grasp of using SQL and a lot of the complicated processing is performed via the use of cross table queries with multiple joins.
Student makes good use of AJAX and JQuery to implement a more interactive experience for the user (rather than lots of page refreshes).

The data model is complex with a well thought out use of tables and relationships.

Group A - cross-table parameterised SQL (multiple usage – p30
Group A – server-side scripting (and client side) using AJAX (request/response – p12,13) – and use of DOM mechanisms p10
Group A- complex data model (multiple tables – linked)
Group A- complex(?) client-server model [yes but not so much]

Coding Style:
Could be better at using meaningful variable names – some are named well ‘removequestion’ but ‘AjaxFunction’ and ‘ayylmao’ (page 11)
Fallen into the trap of generating very long PHP pages full of rambling code as each page goes through a variety of ‘stages’.
Students could have extracted functionality and decomposed the problem into chunks which might have been better placed into a separate file that could have been linked to.

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	<p>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.</p>	7-8	<p>A lack of testing of the later stages of the solution flow. Whilst it is tested for a small amount of students it would be good to test against a whole class with an assignment containing a good amount of questions. There are various scenarios that could have been tested to show robustness of system: Students > questions on an assignment Students < questions on an assignment</p>
3	<p>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.</p>	5-6	<p>Lots of testing of interaction with the system and clear that student has thought about what the result will be for the data used (ie testing that the system does work as expected with the supplied data)</p>
2	<p>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.</p>	3-4	<p>Extensive testing has been carried out but some aspects (ie use of a whole class) has not been tested so put into level 3.</p>
1	<p>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.</p>	1-2	
	No evidence presented	0	Mark awarded: 6

Evaluation		
Level	Criteria	Comments/evidence
4	<p>Full consideration given to how well the outcome meets all of its requirements.</p> <p>How the outcome could be improved if the problem was revisited is discussed and given detailed consideration.</p> <p>Independent feedback obtained of a useful and realistic nature, evaluated and discussed in a meaningful way.</p>	<p>Student has commented upon each objective and considered how they met this objective and whether it could be improved.</p> <p>Feedback from users is relevant and then considered well by the students which then leads into a good list of future improvements that could be implemented.</p>
3	<p>Full or nearly full consideration given to how well the outcome meets all of its requirements.</p> <p>How the outcome could be improved if the problem was revisited is discussed but consideration given is limited.</p> <p>Independent feedback obtained of a useful and realistic nature but is not evaluated and discussed in a meaningful way, if at all.</p>	<p>It is clear that the student has reflected upon their solution, considered the feedback given and used this to generate a thought out list of improvements.</p>
2	<p>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.</p> <p>No independent feedback obtained or if obtained is not sufficiently useful or realistic to be evaluated in a meaningful way even if attempted.</p>	
1	<p>Some of the outcomes are assessed but only in a superficial way.</p> <p>No independent feedback obtained or if obtained is so basic as to be not worthy of evaluation.</p>	
	No evidence presented	Mark awarded: 4

Total mark 66 / 75

Concluding comments:

The student worked hard to implement some quite complex queries onto PHP pages which worked through multiple stages – the code would have been better decomposed and split into libraries.
The student has also introduced the project well in the analysis stage and provided good detail in the documented design section that shows that the student both understood the problem domain and also appreciated how this could be solved.

Signed:

Date: