



## **General Certificate of Education**

# **Applied Information and Communication Technology 8751, 8753, 8756, 8759**

**IT09                  Software Development**

## **Report on the Examination**

*2008 examination – June series*

Further copies of this Report are available to download from the AQA Website: [www.aqa.org.uk](http://www.aqa.org.uk)

Copyright © 2008 AQA and its licensors. All rights reserved.

#### COPYRIGHT

AQA retains the copyright on all its publications. However, registered centres for AQA are permitted to copy material from this booklet for their own internal use, with the following important exception: AQA cannot give permission to centres to photocopy any material that is acknowledged to a third party even for internal use within the centre.

Set and published by the Assessment and Qualifications Alliance.

The Assessment and Qualifications Alliance (AQA) is a company limited by guarantee registered in England and Wales (company number 3644723) and a registered charity (registered charity number 1073334). Registered address: AQA, Devas Street, Manchester M15 6EX  
*Dr Michael Cresswell Director General.*

## **Unit 9: Software Development (IT09)**

This was the fourth series for the examination of this unit. The format of the examination is an AQA-set assignment, for which candidates are allowed time for research and design work (the investigation time), then a period of Controlled Conditions during which candidates are expected to produce their software system and an evaluation of the product and their own performance.

Centres are reminded that in addition to this report, there are a range of sources of support and guidance available for this unit, including a Teachers Guide, the Specification, and Teacher Support meetings.

### **General Comments**

Centres are reminded that the task set for this unit is provided by AQA in the Candidate Booklet, and is changed for each examination series. A significant number of candidates appeared to have used tasks from previous series, or to have devised their own. Candidates should be reminded that marks are awarded for producing a software system that meets the requirements of the task set for the current series, and that deviating from the task is likely to restrict the number of marks available to them.

Some candidates had clearly enjoyed completing the work for this unit and there was evidence of candidates competently producing software systems using modular programming techniques.

Centres are reminded that the task set by AQA is intended to form the terminal assessment for this unit. It is essential that candidates have studied the items listed in the Specification for this unit and have had adequate experience of the software to be used, prior to attempting the assessment task. Some candidates appeared to have had little or no experience of the development environment before attempting the task set. Centres are also reminded that the work submitted should only include work produced independently by candidates.

Some Centres appeared to have misinterpreted the requirements of the Controlled Conditions sessions for this unit. Centres are reminded that the Teachers Notes' for each examination series provide guidance relating to the organisation of Controlled Conditions sessions. Where Centres are in any doubt regarding the provision of computer facilities for the Controlled Conditions sessions, they should contact the ICT Subject Support team at AQA.

Centres should remind candidates that this unit is assessed using the items listed in the Candidate Booklet. Credit will only be given for work that meets the requirements of these items.

### **The Task**

The task given for this examination series was to design and produce a product selector system for a specified client. The system should have allowed the user to answer a series of questions before being shown a list of products/services suitable to their needs. The system should have allowed new products/services to be added, and should have been able to show the ten most viewed products/services.

A significant number of candidates did not attempt to produce a product selector, or include a "top ten viewed" feature in their software systems. Candidates should be reminded that they

are expected to include all of the features listed in the assignment in their designs, even if they go on to only partially implement the software system.

Items (a) to (f) of the task should have been produced during the Investigation Time, whilst items (g) to (l) should have been produced during the Controlled Conditions.

### **Items produced during Investigation Time**

Most candidates produced some form of outline list of tasks to be undertaken, although a significant number merely listed the items given in the Candidate Booklet. It is important that candidates break down the tasks set to show how they will attempt them, and that they understand what they will need to produce. Candidates are expected to consider the amount of time required to complete each of the tasks that they have identified. This should be reflected in their time plans, which should refer to hours to be spent on tasks, rather than a list of start and end dates. Candidates should be encouraged to produce a single time plan that covers both Investigation Time and Controlled Conditions time (as stated in item (a) of the task), and annotate it by hand. This method provides a much fuller account of the changes that a candidate makes to their time planning, and provides them with useful reference material for use when attempting item (l).

A worrying number of candidates did not produce a description of the background of the client and the intended user(s) of the new software system specified in the task. Relatively few candidates attempted to clearly identify the skill levels of the user(s). It is essential that candidates describe the skill level of users in relation to the software system that is to be produced. Many candidates limited their description to a single generalised statement relating to ICT qualifications achieved by the users, rather than an indication of their practical skill level or the characteristics that would influence the design of an appropriate interface.

To gain full marks for their evaluation criteria, candidates should clearly explain how the criteria are related to the requirements of their client (as described in item c). It is essential that the evaluation criteria produced by candidates are sufficient to allow them to make good critical judgments of the software system that they produce. Their evaluation criteria should be used to determine, through the results of suitable testing, whether the system produced has effectively and efficiently met the needs of the client.

Centres are advised to refer to the current version of the course Specification (available on the AQA website) for a description of appropriate content for a software specification. Candidates should be reminded that there should not be any evidence of the implementation of their software system in any part of their software specification.

A significant number of candidates did not include the items described in the task in their client needs, or in the designs for their software system.

There was little evidence of candidates using modular programming techniques in their software systems. Centres are strongly advised to refer to the section on modular programming in the Specification.

Centres should remind candidates that the majority of marks available for design work come from clearly annotating and explaining their work. The majority of candidates failed to make any reference to their chosen client or intended user(s) in their design work. A significant number of candidates did not include designs of their data structures in the work submitted.

Candidates should produce a testing strategy for their work, describing what elements of their software system are to be tested, how, and when. It should include testing of discrete modules using individual tests or short test plans, as well as testing of the completed (integrated) system. Test plans should be restricted to items that are required to test the functionality of the system, and any features described in the evaluation criteria produced for item (d), based on the needs of the client.

Many candidates produced a single test plan with limited examples of test data. Test plans often referred to only one module of the system to be produced. Very few candidates provided any indication of when modules were to be tested and how testing was to be used to prove that modules were processing data correctly after being integrated in to the software system.

Candidates should be reminded that their test strategy and test plans form part of the preparatory folder for this unit, and should be printed out or hand-written before the start of the Controlled Conditions. These documents can then be updated by hand as testing is undertaken during the Controlled Conditions.

### **Items produced during Controlled Conditions**

Centres should ensure that candidates have access to the current Candidate Booklet throughout the Controlled Conditions sessions.

Centres should only allow candidates to take printed or hand-written material in to Controlled Conditions, and should not allow additional material, other than the Candidate Booklet, to be brought in after the start of the first session of Controlled Conditions. Implementation of the planned software system must only be attempted under Controlled Conditions.

Some candidates did provide good examples of programming code used to produce their software systems, though most did not provide any evidence of using any programming techniques to produce their system. The majority of candidates in this examination series used Microsoft Access to produce their software system. Where candidates did provide evidence of program code, it was generally in the form of automatically (i.e. "Wizard") generated code with little or no annotation by the candidate, thus demonstrating little understanding of programming techniques and constructs.

The purpose of the documentation for this item is to allow a third party to adapt and maintain the software system produced by the candidate. It should include information about how the software was produced, and should include appropriate comments within the program code to explain its purpose and function.

Many candidates produced step-by-step guides showing how they created their software system, focussing on the mechanics of using their chosen development tool(s) rather than the features of their own software system. These often gained few or no marks.

Centres should remind candidates that the focus of this unit is Software Development, and thus their software systems should demonstrate the understanding and use of programming techniques. It is not sufficient to use solely automated methods to generate the software system. Where candidates do use such methods, it is essential that they annotate the code produced to demonstrate an understanding of its meaning. To gain credit for using a range of program control structures or data structures, the majority should be user-defined, or include sufficient annotation to clearly show that the student has a good understanding of what the structure is for, and how it works.

Centres are reminded that candidates will not be able to achieve the higher marks where they create a software system that does not meet the requirements outlined in the task for the current examination series.

User documentation continues to be done very poorly by the majority of candidates. To gain marks, candidates needed to describe how to install their system, how to access it, and how to use its main features.

Some candidates produced good evidence of how to access the key features of their software system, but did not provide sufficient instructions to allow their user to install the system. The term “install” continues to be widely misinterpreted as “run”, or in some cases “compile”. This is not correct – the term refers to the process of transferring the completed (compiled) software system to the client’s computer.

Whilst many candidates attempted to evaluate their software system, very few related their comments to the needs of their client. It is recognised that the user will not be able to provide any feedback to candidates relating to the work produced during Controlled Conditions. However, candidates are expected to refer back to the client needs, user skills, and evaluation criteria that they defined during the Investigation Time.

Effective time planning is essential to ensure that candidates leave themselves sufficient time during the Controlled Conditions to carry out testing, produce the user guide and a detailed evaluation.

### **Mark Ranges and Award of Grades**

Grade boundaries and cumulative percentage grades are available on the [Results statistics](#) page of the AQA Website.