GCSE

ICT

OCR Report to Centres

June 2012

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General Certificate of Secondary Education

Information and Communication Technology (J461)

General Certificate of Secondary Education (Short Course)

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OCR REPORT TO CENTRES

Overview

This was the first session in which we have been able to assess the whole qualification with large numbers of students entered for all of the four main units.

It is pleasing to note an improvement in the ability of the candidates to produce clear, well-targeted responses to questions, with the level of response questions in B063 soliciting some well thought through and knowledgeable discussions. There is a marked contrast between the quality of the answers to the B063 level of response questions and those for B061.

There are still a number of candidates who produce superficial answers to questions and do not have the depth of knowledge required for the specification. It is vital the concepts in the specification are taught to the students, they cannot answer the questions effectively based on their life experiences. The teacher's guides on the website, especially for B061, provide a good insight into the depth required.

There were a number of issues in the controlled assessment, summarised in the reports for units B062 and B064, it is important centres take due regard of the regulations regarding these units and any form of template, excessive guidance, writing frame, feedback, and re-working of the tasks after assessment is strictly forbidden. One important aspect is the requirements to use one of the published scenarios. Centres must not create their own scenarios, though some minor contextualisation may be permitted, for example the location for a tourist guide or the choice of a rugby club rather than a hockey club.

There is also a clear pattern in the controlled assessment units showing those candidates who organised their work effectively were able to achieve higher scores. The organisation of work, often into a single time based document, telling the story of the development clearly focussed their minds on the task in hand and how it could develop. Those with many disparate files failed to see the pattern in the development as effectively.

Overall the session went well with an obvious improvement in standards across most units and some excellent work from a large number of candidates. The detailed comments on the five units follow this introduction and there are several items in these that will point the way forward to further improving the quality of work produced and I urge you to read these carefully and take note of the advice contained within them.

B061 ICT in Today's World

The question paper performed as expected discriminating well across the ability range. Most candidates were able to access all of the questions but there some candidates leaving questions unanswered. Candidates had sufficient time to answer the questions.

Centres are again reminded that candidates should have practice in answering those types of questions that require a discussion and/or are used to assess the Quality of Written Communication.

It is disappointing to note that many candidate responses were superficial, badly expressed and often meaningless. Centres are reminded that, if they are to succeed in this Unit, candidates must be taught the theoretical knowledge contained in the Unit specification. It is apparent from the many poor candidate responses to the questions that this is not the case.

There were, however, a number of very well expressed, clearly structured and interesting responses to questions 4 and 8 and it is hoped that more will be seen in future examination series.

Comments on Individual Questions

1(a)   Many candidates could answer this question correctly but, conversely, many could not identify either interface. Common errors were to identify the GUI as a desktop interface or website and the CLI as a "simple" interface.

(b)   Simplistic responses such as "easy to use" or "user friendly" were not given credit. Many candidates managed to score marks for this question by providing answers related to the GUI being easy to navigate and there was no need to remember the commands or that no typing was needed. Very few candidates wrote that the interface was intuitive.

(c)   Many candidates did not score marks for this question, as the answers they gave were vague. The most common correct answers were related to being able to access the whole system. Common errors included confusing the CLI with a "programming interface" or a "start-up interface."

2   Candidates appeared to lack knowledge of the devices given in the question and their use and were unable to suggest possible, appropriate uses by the games developer mentioned in the question – many answers given were generic uses of the devices.

(a)   Many candidates focussed on the term "rewriter" and wrote about re-cycling "old" movie DVDs and audio CDs, neither of which is possible with commercially produced movie DVDs and audio CDs. Common correct answers included the storage of game data for later testing or backup purposes.

(b)   Few candidates could adequately express the use of speakers. Many seemed to know their purpose but could not explain how they would be used. Common errors included "create the sounds for the game", "play music from movies". However, a number of candidates could explain that speakers were output devices and would be used to test the sounds during development of the game.

(c)   This question elicited many vague responses such as "control the game" with no reference to what was being controlled or stated, "it's a controller". Disturbingly, a significant number stated that it was used to store data, confusing the joystick with a memory "stick". Candidates must be taught about the hardware, and its use, that is associated with

computer systems and be able to apply that knowledge to a given scenario. Many candidates described the appearance of a joystick, complete with buttons, but a number of candidates did, however, explain that a joystick would be used to control or move characters/objects on screen and this would be used to test e.g. the game action. The question clearly asked candidates to explain how the device might be used and did not ask for a description of the device; candidates must be taught to read the questions more carefully.

3(a) The majority of candidates scored all three marks on this question giving good explanations of computer viruses. However, a significant few referred to viruses as an "infection" or "bug" or by vague references to "something that gets on your computer". The better responses referred to a computer virus as malicious software/program or code that replicates itself, alters or deletes files and adversely affects the operation of a computer system.

(b) Most candidates answered this question well but some candidates confused firewalls and anti-virus software, appearing not to know or understand the difference between these. The better responses referred to the dangers of downloading software from, or visiting, untrustworthy websites, unsolicited email attachments and the ways to protect against any viruses that might be present.

4 Most candidates identified at least one advantage and one disadvantage of using the internet for finding information for use on a homework project. The most common responses included the internet as a vast source of material and the issue of plagiarism. However, some candidates seem to think that plagiarism is a criminal offence with fines and even imprisonment being a possibility if caught. Despite this, many candidates showed an awareness of the disadvantages as well as the advantages of using the internet as a source of information. It was noted that a significant number of candidates wrote lengthy introduction that said little more than that the internet presented advantages and disadvantages without stating what these were. It was also noted that many candidate responses were superficial, badly expressed and often meaningless with very poor handwriting that made marking more difficult that it need have been.

5(a) This question proved quite difficult for some candidates. Common errors included writing out the question in the form of a description of the movements of the truck, writing sentences instead of instructions, incorrectly including the degrees symbol in the turn instructions, stating 45 instead of 90 for the turns, turning left instead of right, incorrect counting of the number of squares, ignoring the white track or failing to turnaround, or go backwards, at the start consequently demolishing the warehouse. However, a significant number of candidates answered this question correctly using the instructions given in the table, scoring full marks.

(b) The question was about a programmable truck, that probably would not have a driver, and candidates were expected to suggest sensors that would be attached to the truck to ensure its safe loading or movement around the warehouse. Many candidates answered this question correctly but too many could not identify an appropriate sensor and give a reason for its inclusion. Vague responses such as "reversing sensor", "wall sensor" or "loading sensor" were not given credit. Candidates should be taught how IT, through the use of e.g. appropriate sensors, can be used to automate processes such as truck movements.

(c) This question was not well answered at all. There were few correctly identified output devices and even fewer good reasons given for their inclusion on the truck. Too many candidates stated "brakes", "steering wheel", "heaters", "air conditioning", "exhaust pipe" or "windscreen wipers". A number of candidates wrote about the motors to drive the wheels despite being told not to do so as these were given in the question. Candidates must be

taught about output devices and their appropriate use. A few candidates could correctly identify two output devices and give a suitable use e.g. a light for warning of the approach of the truck.

6(a)   This question was quite well answered by some, but few candidates showed a good understanding of how the laptop could be connected to the internet at home or how it could be connected to the family network so that the internet access could be shared. Good answers referred to the use of wireless or cabled connections to a broadband router.

(b)   Most candidates answered this question well with two sensible reasons for Jasmine having her own laptop e.g. it is portable (although many repeated this in another manner e.g. can take it anywhere so only scored one mark), and can be used while other family members are using the desktop.

7   Most candidates failed to score more than a few marks on this question. Many referred to spreadsheets and worksheets and did not mention databases at all. Only a few candidates correctly mentioned the use of linked tables and other advantages of using relational databases. Candidates must be taught about, or have experience, of the use of relational databases.

8   Very few candidates achieved Level 3 responses to this question, where detailed explanations with relevant and appropriate examples were expected.

Most candidates gave lists of equipment that could be used by disabled people with only the occasional brief explanation of how this might affect the quality of the life of a disabled person. Most common answers were seen that involved Braille keyboards, puff-suck switches, foot mouse, online shopping and some form of communication. Too often candidates wrote about electric wheelchairs, stair/chair lifts and Stephen Hawking without explaining how the items enhanced, or otherwise, quality of life. Often there was little mention of any ICT involvement at all, with some candidates mentioning washing machines, fridges, tumble dryers, remote controls and hearing aids. Good responses were seen from candidates who wrote about the use of ICT and, where necessary, the appropriate hardware and software and gave detailed explanations of how this might enhance, or detract from, the quality of life experienced by disabled people. Candidates should be taught to answer this type of question with relevant and appropriate examples and not just in general terms.

B062 Practical Applications in ICT

The entries covered all 4 tasks available for this session. However, there were a few centres that did not realise that the tasks available are those in Interchange, as opposed to the Litchfield Promotions task, which is an exemplar task **not** to be used by candidates.

Some centres had made full use of training available, the consultancy service and support documents on the OCR website such as the 'Success in B062 Teacher's Guide'. Where centres had availed themselves of support, the work was generally marked accurately to the assessment criteria. However, there were other centres who did not appear to have used any of the support available and did not really know what was required to meet the assessment criteria; in these cases, the work presented was often lacking detail and appropriate evidence.

It was most helpful where centres had annotated the candidates' URS with page numbers where evidence could be found but not all centres did this, making it much more difficult to agree with the teacher's marking at moderation.

Where centres had submitted the work electronically, either on CD or via the OCR Repository, it was much easier at moderation to see the software features used in the final system without excessive screen shots in the candidates' work. Some centres submitted screen shots of the candidates' systems that were difficult to read because of the size and quality of printouts and sometimes there was not enough evidence of software features used where this method was chosen. If hard copy is chosen as the method of submitting evidence, then screenshots of all formulas in formula view need to be provided as well as any other software features used – a witness statement by the teacher that a software feature was used is not sufficient on its own for the marks to be awarded.

Some centres had instructed candidates to collate their work into a few appropriate documents, or even one complete document, containing evidence for all of the 'written' sections. This makes marking and moderating much easier than where candidates had many very short documents, not always named appropriately to find evidence. Candidates might also be advised to use the wording in the assessment criteria to title the different sections of the work – e.g. a title 'Investigating a need' can cover all the assessment criteria in the research and analysis, which might help them to focus on what the assessment criteria are and also make marking and moderation easier.

It was unfortunate that a few centres had provided too much teacher guidance during the taking of the tasks, which is an example of malpractice. Controlled assessment must be done under controlled conditions and guidance or feedback from the teacher is not allowed. The use of templates is also prohibited.

Investigating a Need

The most common problem with this section was candidates carrying out research but then not using it to inform their decisions about how to proceed with designing and developing their systems. Often, it appeared that the candidates had been taught a specific way to solve a similar problem, which they then used to develop their system regardless of the research they had collected about existing systems. Candidates need to be taught that the controlled assessment task is one integrated piece of work that should 'flow' from start to finish. Another common problem with this section was that research was often superficial, e.g. researching the rules of a hockey game, rather than looking at how existing similar systems work and the data that needs to entered into the system.

Practical use of software tools

There needs to be evidence of the advanced software features used but this was not always the case, especially where work was submitted in hard copy. If hard copy is used to present the evidence then clear, annotated screen shots of formula view are required. As noted in previous reports, the part of this section that was often completely missing was evidence of testing. A completed test plan alone is not evidence that the tests were carried out or of what the results were. Annotated screen shots or short videos are the best way for candidates to present this evidence. For candidates to be awarded a mark in the top band there needs to be evidence of use of a wide range of advanced software features – examples of what these might include are mentioned in the document Success in B062 Teacher's Guide. There also needs to be evidence that the candidate understands the alternatives available and why they have chosen those software features. Where it was evident that centres had only taught a narrow range of software features before starting the tasks, candidates were unable to justify their use of software features or suggest alternatives, which meant their understanding was lacking and the higher marks could not be awarded. Controlled assessment is not meant to be teacher led and where there was evidence of this, candidates' attempts to gain the higher marks was often hindered.

Practical use of data structure

As in previous sessions this section was again the least well done by candidates. There should be a link back to the research stage, where candidates should have collected relevant examples of data and data formats. They then use this knowledge to enter an appropriate amount of data in the correct formats into the system and justify this. Ideally, the data entered into the system will be that collected at the research stage, so if costs are researched then these same costs can be selected for entering and justified. The data will then be modelled by changing the data and/or the rules in the system, to see the effects this has. There should also be some attempt at either designing an initial system or prototyping it in the software, as a proposal of their intended system. This design should contain information about data types and software features such as formulas, rather than being a superficial design of the user interface.

Present the solution

Most centres did submit a separate presentation for this section, as required. However, there were still a few centres that had misunderstood this section and did not instruct their candidates to produce a presentation to the end user. Where this happened, and the marks were awarded simply for the presentation of the whole piece of work, only the lower marks could be awarded because the presentation was not suitable for the audience, which is a key feature of the assessment criteria in both the top and middle mark bands. Where candidates had produced a presentation and realised that they were trying to 'sell' their system to the end user, the higher marks were often justified. Most candidates chose to use slideshow software to produce this presentation and, as such, this is an easy way for all candidates to pick up marks here.

Evaluation

As stated in previous reports, candidates who had kept a detailed diary of the development of their work tended to have covered parts of the evaluation in this, which meant they did not have so much to do at the end of the CA. However, many candidates left the evaluation until the end and tended to run out of time, thus not completing it in as much detail as was required. It is important that candidates have time at the end to evaluate the finished system and to look at its strengths and weaknesses; they should also be given time to give constructive feedback on each others' systems. Many candidates made statements about their own strengths and weaknesses whilst carrying out the task, when what is actually required is a discussion about the strengths and weaknesses of the final system they have produced.

B063 ICT in Context

The full ability range was demonstrated in the answers provided. The majority of candidates were adequately prepared for examination. Others would benefit from more in-depth study of the case study and greater research of the topics on the pre-release material.

When answering question, most candidates applied their answers to the case study, which enabled them to access the full mark range.

Comments on Individual Questions

1(a) Most candidates were able to correctly identify the type of device.

(b) Most candidates were able to identify an in-store use of touch screens, with fewer going on to describe the use. Candidates should be taught the meaning of command works in examination papers.

2 Those candidates that had undertaken the research tasks of the case study answered this question well.

3(a) Some candidates missed the fact that data was collected for marketing purposes. Those that understood this generally answered this question well.

(b) The majority of candidates were able to identify an automated system, though few were able to explain the system in detail. Others explained manual processes, which were not acceptable.

4 Again, candidates who had performed the research tasks of the case study answered this question well. Some candidates again discussed manual processes instead of Web 2.0 features.

5 Most candidates described reasons for using images/sound/video rather than why FrontLine18 would use repurposed content.

6 Candidates explained ways FrontLine18 could make use of large-screen monitors. Most focussed on advertising. A small number incorrectly described "Magic Mirror" technology.

7 A small number of candidates answered this question well. Others would benefit from a greater understanding of what integrated retail software was.

8 Many candidates were able to successfully discuss the implications of using cloud computing. Some candidates discussed the implications in general terms, rather than applying the discussion to the case study. A small number of candidates did not understand what cloud computing was, despite this being in the research tasks.

9(a) Most candidates scored well on this question. Some candidates stated advantages to FrontLine18 rather than a customer.

(b) Most candidates scored well on this question. Some candidates stated advantages to FrontLine18 rather than a customer.

10 Again, many candidates answered this question well. Some candidates again failed to apply their answer to FrontLine18. Others were unable to give examples of technologies, despite them being mentioned in the case study.

11 The majority of candidates answered this question well.

12   A significant number of candidates confused spreadsheet and database software. Those that understood the difference between these different types of software scored well on this question.

B064 Creative use of ICT

This was the first series where a significant number of entries where made for B064. It was pleasing that most centres opted for some form of digital submission, either through the repository or on some form of portable media. Even if a paper route is chosen for submission, it is always useful to send the final product to the moderator on a CD or memory stick along with the printed material.

It is vital when submitting work digitally that evidence is well presented. It is recommended that the written element of the unit is compiled into a single document so moderators don't have to open lots of different files to try and find different parts of evidence. Design specifications produced during the analysis task certainly should be one single document. Designs produced during the design stage can be scanned in and combined into the final documentation – most photocopiers will scan to PDF. There are lots of free portable document creators available on the internet which can be used to turn word processed documents into a single file.

It would be helpful that before submission that centres check, that the products still work properly. Websites especially will often work on candidate's areas but sometimes in the transfer process graphics can become omitted as links are absolute rather than relative or the files are in folders outside the working folder. Setting up a root folder in the candidates work area and ensuring that all related files are saved to that folder is considered good practice. Multimedia presentations can also have a problem of missing media when videos and sounds are linked rather than embedded – care needs to be taken when transferring these also. A number of games were submitted digitally this series which were still in proprietary format. Although scratch is available to download for free, the games should be compiled into an acceptable .exe for .swf file prior to submission. Instructions on how to publish scratch files are available on the scratch websites forum.

Care needs to be taken when choosing a submission component code for this unit. Entry code B064/01 is for repository submission whilst B064/02 is for postal submission. Although we encourage electronic evidence rather than paper based for this unit sometimes, due to the complexity of websites and other products, entering students using B064/02 and posting the evidence on a CD can avoid hours of frustration trying to upload work to the OCR repository.

Assessment of the work this series varied greatly. Most centres assessed a little leniently with variances frequently being minor. In some instances though there were major differences between the centres marks and the decisions made during the moderation process. In a number of cases there were also inconsistencies in marks awarded between different candidates within the same centre. It is vital, to avoid problems with moderation, that when groups are being taught by different teachers that internal standardisation occurs to ensure that all assessors are assessing using a common understanding. The OCR coursework consultancy service can be used to ask assessment interpretation questions, however due to the nature of controlled assessment live work which has been marked can't be commented upon.

Assessor comments on the mark sheets helped with the moderation process. Centres should be reminded that marks are awarded using the best fit principal where candidates are awarded for what they have achieved rather than being penalised for omissions. Advice on awarding marks for the work can be found within the "Success in B064" booklet available on the OCR website. Too frequently though, full marks for tasks were awarded inappropriately. Full marks should only be awarded for work which is the best one could possibly expect a candidate to produce at GCSE level and should be the exception rather than the norm.

Unfortunately there were a number of clerical errors this series which did hinder the moderation process. Whilst using the electronic unit recording sheets eliminates the possibility of arithmetic errors, as marks are automatically summed, care still needs to be taken to avoid errors when transferring marks to the mark sheets which are submitted to OCR.

When conducting this unit teachers need to familiarise themselves with the rules associated with controlled assessment. This series saw a number of rule breaches for a variety of offences. **Templates and writing frames** are **strictly prohibited** and under no circumstances should be given to candidates. Assessors are also not allowed to give any feedback or improvements to candidates – best practice would be to mark the whole unit in one go once the controlled assessment has finished. Only the briefs set by OCR should be used for this unit, centres are allowed to contextualise the briefs – perhaps localising the location of a scenario or changing names within the brief however other changes are permitted. Writing your own brief within centre is not permitted at all.

Most of the analysis section of this unit should be completed at a low level of control and candidates can share ideas with one another whilst researching existing solutions to a similar problem to the one which they are trying to solve. Candidates should then enter controlled conditions to propose their own solution and write up the research. In a number of instances research work from other candidates was included within a particular candidate's work. The final piece of work needs to be solely a candidate's own work and even though research is collaborative, work produced by another person should not be included. To show that group work has taken place candidates should surmise the feelings of the group and quote / paraphrase within their research notes what others had to say. When completing the research it is important that the research links to the proposed solution for higher marks within this section. Too often candidates would present their research, then a solution but there was no link between the two. When presenting the proposed solution candidates should state how their decisions have been influenced by their research.

The design specifications produced are part of the analysis section and need to include a clear explanation of the solution and how it solves the problem, a list of tasks which need to be carried out to develop the solution with appropriate timings, consideration of hardware and software required to develop and run the solution and detailed user requirements including measureable (both quantitative and qualitative) success criteria. In some cases parts of the design specification were missing or not detailed enough for the award of band 3. In other cases the design specifications became interspersed with content from the design section which did lead to moderation problems.

The design section should be conducted under controlled conditions and requires candidates to produce designs for their proposed solution and comment on how the designs meet the user requirements defined within the analysis task. It should be noted that both elements and screen layouts for the products should be designed in detail. Designs can be completed on paper or using vector drawing tools on a computer. The quality and detail of the designs will partly determine the mark awarded for this task along with the level of explanation of how the designs meet the user requirements. At the lower end brief designs will be included which another ICT competent person may struggle to follow. For the award of mark band 3 candidates need to fully design all elements of their solution in enough detail so another ICT literate person could create their solution. Some of the designs produced by candidates didn't include the necessary detail even though a mark in band 3 had been awarded. Mark band 3 for this criterion also requires candidates to explain how the proposed solution meets the user requirements; this was frequently missing from the work seen. A simple way to demonstrate this is to list each of the user requirements after the designs and underneath each, explain how the designed solution meets the requirement. How the solution is going to be tested is also an essential part of the design process and candidates should produce a test strategy as part of the design task. The inclusion of a test plan is good practice and is part of the test strategy however there needs to be some explanation of how this test plan is actually going to be used. Statements such as "I will

use this test plan to test my website upon completion within 2 different browsers and on a smart phone" and "I will make a questionnaire and ask 3 teenagers to comment upon my interactive bus shelter" turns a test plan into a testing strategy.

The development of elements task should be carried out under controlled conditions and requires candidates to show how the various components which make up the final product have been made. Elements refer to text objects, sounds, different types of graphic, video clips and animation. There needs to be evidence of making at least three different types of element for the award of mark band 3 for this task. It is likely that alternative software applications will be used to create the elements from the one used to produce the actual product. This specification was not designed to be a test of how competent candidates are at producing write ups and the focus needs to be on the skills used, however these skills need to be overt. A straightforward way for candidates to produce evidence for this task would be for them to produce a diary noting down how things have been made – with a few selected screen shots to explain things which they may be having trouble describing with words. In some cases more evidence of developing elements for the solution should be included for high marks.

The development of the overall solution task should be carried out under controlled conditions and marks should be awarded for the functionality and quality of the product which the candidates have produced. The best way to showcase these to the moderator is to submit the work either via the repository or on CD. For mark band 3 a wide range of features need to be included and the products should be fully functional – missing graphics and hyperlinks within websites are not acceptable for the award of marks within band 3. The products need to be of a high quality for mark band 3 showing a wide range of features has been used. They should be aesthetically pleasing with a suitable colour scheme being chosen and graphics will be of excellent quality, well placed and scaled in proportion – pixelated graphics are not appropriate within products being award mark band 3. The range of features depends on the product being developed for example if a multimedia product is being produced it is expected that candidates include graphics, text, sound, video and other media, self created templates, styles, timings and triggers, animation effects, navigational bars / buttons to create a non linear route through the product, drag and drop / popups / other interactive features. Whilst, for a website, the use of graphics, text, hyperlinks, styles, self created templates, rollovers, hotspots, drop down menus, web forms, animation and sound should be amongst other elements. For the award of high marks, for a game candidates should have a functioning scoring system with lives if appropriate, multiple levels and the ability to interact with the game by answering questions, picking up items / treats or destroying enemies. Another requirement of this task is to comment upon the success in following the plans and any changes made. "Success in following plans" refers to how the candidate followed their time plan, although many also state how they followed their designs as well which is not a bad thing. A good place to include these notes is within the evaluation section although to prevent it being omitted candidates could complete it once the product has been completed.

The testing task should be carried out under controlled conditions and requires candidates to follow the test strategy developed in the design section to check that their product works the way in which they intended. All of the mark bands within the testing section require some form of user testing and unfortunately some candidates had not carried this out which should lead to lower marks being awarded. User testing should be restricted to peers within the group as the work needs to remain in the centre, although arranging outside visitors (for example primary school children or adults) to come into the classroom during the controlled time to test products is acceptable. In some work seen there was a suggestion that work had been tested at home by parents or siblings which is not appropriate. Higher marks for testing should only be awarded when there is clear evidence that testing in different situations has been considered. Testing websites, games and multimedia products on different hardware, operating systems / browsers and screen resolutions should be considered and carried out as far as possible. A few old machines at the back of the class room loaded with different software provide an excellent opportunity for candidates to test under different situations. Some candidates this series

produced some excellent evidence of testing their websites on different browsers and even smart phones as they had been uploaded to a webhost. If due to network restrictions candidates are not able to test their products in different scenarios a ***detailed*** written statement describing how they would carry out such testing if the resources were available is acceptable.

The evaluation task should be carried out under controlled conditions and should critique the product made and the candidate's performance when working within groups. For the award of mark band 3 candidates are expected to produce a high quality evaluation which reflects upon what the solution does, its strengths and weaknesses, areas for improvement, how limitations found during testing have been dealt with and an evaluation of their and others contribution to group work. Candidates should refer back to the original user requirements and success criteria and state how each has been met. Listing the requirements again within the evaluation and commenting on how it's been achieve (or not) is good practice. Some of the evaluations seen, failed to include enough sufficient detail and a lower mark would have been more appropriate.

B065 Coding a Solution

There was a small entry for this unit, which contained some excellent work. The best responses were typically well organised with a clear flow of ideas from analysis to evaluation.

Good solutions were well researched and used the analysis of this research to provide a sound design for the final product. Success criteria that are measureable are key to producing a working solution to meet the end user requirements.

Designs covered all aspects of the problem including data structures, screen layouts and, most importantly, detailed algorithms that clearly defined a working solution. In the best cases these algorithms had been tested to show how they defined a solution to the problem.

Development of the solution built upon these sound algorithms to show how the solutions was developed in an iterative fashion, testing and refining at each stage of the process based on a pre defined set of test data and strategy.

The quality of coding was generally excellent with a range of programming languages being used, including small basic, visual basic.net, python and java. Final product testing was typically well structured and used with the success criteria to provide an effective evaluation of the design, the coding and the process. Many of the students were not afraid to try and break the code to explore the limitations of their solutions, something to be encouraged in all budding programmers.

The students / centres chose from the range of tasks available and there were solutions for the 'Simon Sez' text translator, the fast food till system and some excellent coding to produce first class solutions for the mathematical transformations system. It was also pleasing to see candidates crediting sources for segments of code used within their solutions, which they had found and modified for their own use. This approach is standard in the world of programming and shows effectively how the candidates have built these routines into their own code.

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