GCSE

ICT

General Certificate of Secondary Education **J461**

General Certificate of Secondary Education (Short Course) **J061**

OCR Report to Centres June 2016

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

This report on the examination provides information on the performance of candidates which it is hoped will be useful to teachers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding of the specification content, of the operation of the scheme of assessment and of the application of assessment criteria.

Reports should be read in conjunction with the published question papers and mark schemes for the examination.

OCR will not enter into any discussion or correspondence in connection with this report.

CONTENTS

General Certificate of Secondary Education

Information and Communication Technology (J461)

General Certificate of Secondary Education (Short Course)

Information and Communication Technology (J061)

OCR REPORT TO CENTRES

B061 ICT in Today's World

General Comments

The degree of difficulty was appropriate for GCSE students.

All students had the opportunity to express their knowledge in all styles of questions. A wide range of marks was achieved. However, it is disappointing that candidates appear to be less well prepared than in previous series for questions from the whole range of topics in this specification.

Centres should note that when candidates answer questions that specifically ask for e.g. two responses only the first two responses to the question will be marked.

Questions that are allotted two marks and require candidates to 'describe' or 'explain' require candidates to make a point and expand on that point in order to score the two marks. Such responses will only score the mark for the first, if correct, point and not for the second point as responses that give two points are not answering the question. Candidates that gave a list of points did not score the full marks.

When answering questions, such as questions 9 and 11, which asses the quality of written communication and are marked as Level of Response, the language, structure and handwriting of the candidate responses were generally poor. Too many incoherent, unstructured answers were seen; these responses did not score many marks. Marks are awarded in these questions for the quality of written communication so, to achieve marks at the higher levels, not only must the content be good but the expression of that content must also be good.

Overall, the standard of hand-writing demonstrated by many candidates appears to have markedly deteriorated since the last series; this made the marking of some scripts quite difficult. Centres are advised to note that Section 3.6, Quality of Written Communication, page 25 of the current specification states that candidates are expected to write legibly and accurately.

Comments on Individual Questions

1) Candidates were expected to identify two items of hardware that are used to input text into a computer. While many candidates did this well and referred to hardware such as keyboards and touchscreens, others did not choose suitable items and did not score the full marks. This is quite disappointing as this topic is fundamental knowledge and questions about such items have been regularly asked in previous series.

2) Most candidates answered this question well, scoring the full four marks by correctly drawing the lines. However, a few candidates failed to score the full marks. The most common error was to transpose multimedia and spreadsheet.

3) Most candidates answered this question well being able to state an example of utility software and describe its use. A wide range of utility software was accepted given that the definition of a utility is no longer so definitive as it once was; thus it is disappointing to note that far too many candidates gave an example of an operating system or a software application e.g. Windows, spreadsheet, Word – all of which are manifestly incorrect.

4) Most candidates answered this question well being able describe software that helps disabled people to use computers. However, a significant number of candidates described *hardware* devices such as 'foot mouse'.

5) a The use of video-editing software was well described by candidates with descriptions of cutting/trimming the video length to remove excess parts/unwanted scenes, adding text to create titles, adding transitions effects that allowed 'smooth' scene changes and so on. Many candidates, however, failed to achieve the highest marks because they did not describe the feature/effect but merely stated that it could be done e.g. 'add transitions' with no further comment. There was also a lack of understanding/knowledge of the correct technical terms e.g. *crop* was confused with *cut;* these are not same: to *crop* is to remove a part of the frame/image whereas to *cut (*or *trim)* is to remove frames from the video sequence. The term *timeline* was rarely seen in the responses.

b Many candidates scored this mark but some gave still image file types or non-existent file types. Stating the name of the application that created/edited video files was not given credit.

c Many candidates scored this mark but some gave video file types or non-existent file types. Stating the name of the application that created/edited audio files was not given credit.

6) This should have been an easy question to score marks for most candidates as all that was required was to point out that folders had not been used to organise the files and that the filenames gave no indication of their content. However, a number of candidates stated that there were no filenames or that the files had not been named – the files were not meaningful but they had names all the same. It was disappointing to note that many candidates confused the terms 'file' and 'folder' this is fundamental knowledge about storing files.

7) Some good answers were seen but many poor answers were also seen – describing 3D printing as 'printing on paper so the image stands out' and confusing it with holography were common.

8) Most candidates answered this question, well being able to explain that this was a breach of copyright. Some candidates still, incorrectly, state that music files cannot be legally downloaded. A significant number of candidates incorrectly referred to the Computer Misuse or Data Protection Acts. References to viruses did not gain credit.

9) This question was marked as a Level of Response. For most candidates, this question was an opportunity to score good marks as it was about using the ICT to monitor buses and the drivers.

The topic should have allowed candidates to describe the use of ICT e.g. GPS to track and guide buses or coaches and to display the location and possible arrival times of buses at destination/pickup points; the use of CCTV linked to a central depot to monitor activities on and around the buses/coaches; the use of ICT to communicate safely with drivers and the use of ICT to record and report on journey details, etc.

Overall, most candidates did not score as many marks as would have been expected for this topic because they failed to 'describe' the points that they made. For many candidates, it appeared difficult to describe how GPS would be used, to elaborate on the use of CCTV or to write more than 'use a spreadsheet to keep details of journeys'.

When answering Level of Response questions, candidates will not score marks in the upper levels unless they expand their points.

10) a Most candidates answered this question well, being able to describe icons, on-screen keyboards, swipe actions and menus quite well but too many described the features of the database itself. While credit was given for the features that allowed *database creation*, these were not explained well so scored few marks. A number of candidates failed to score marks because they described the features of the actual tablet computer and some may have confused the features of the tablet interface with those used to create a database.

In parts b i and ii, candidates appeared not to know about databases. Many described or tried to describe how the sorting and searching would be carried out in a spreadsheet despite the question clearly stating that it was a database. While it is accepted that spreadsheets can be used to store data and perform some of the functions of a database, it is expected that ICT students are able to properly describe how sorting and searching/filtering can be done in a spreadsheet. Credit was given for descriptions of the use of either spreadsheet or database software to perform the sorts and searches. It is surprising to note that many candidates did not appear to know the terms 'sort', 'search, 'query' or 'filter'. Also, many simply stated 'look in' or 'look at' the table to find the requested items.

bi Candidates did not answer this question well. The question required candidates to describe a sort on the date of birth field to put the records in descending order. Most candidates failed to describe the order of the records correctly.

ii Candidates did not answer this question well. The question required candidates to describe a query on the gender field to find 'F' or exclude 'M'.

c Most candidates answered this question well.

11) This question was marked as a Level of Response. For most candidates, this question was an opportunity to score good marks as it was about using ICT to enhance learning.

The topic should have allowed candidates to describe the use of ICT in teaching.

Higher marks were only available to those candidates who explained how the uses of ICT enhanced learning.

Many candidates could only identify the uses of ICT so did not manage to score many marks.

12) a Few candidates could describe biometric data but many could give an example. Better answers described biometric data as being derived from measurements taken from a person's physical/personal attributes e.g. fingerprints.

b This question was not answered well. Candidates were expected to write a definition of artificial intelligence but very few appeared to know about AI as poor answers included vague references to 'aliens', 'intelligence that was artificial or fake' and to the 'CIA'.

B062 Practical Applications in ICT

General Comments

The entries covered all eight tasks available for this series. There are no more tasks to be released and all eight tasks will remain available for future series, unless OCR informs centre otherwise. Centres are reminded that the eight tasks, available from OCR are the only acceptable tasks for this coursework assessment and each candidate's work must be based on one of these tasks.

Some centres took advantage of the INSET courses in the Autumn term to gain a greater understanding of the requirements of the unit and the assessment criteria. It is advised that centres new to the course should consider downloading from the OCR website the document 'Success in B062 teachers' Guide.'

Where centres had submitted the work electronically, either on CD/USB stick or via the OCR Repository, it was much easier at moderation to see the software features used in the final system and to use this and the diary to determine the understanding a candidate showed of software features used. When candidates submit their work on paper, more screenshot evidence of the software features is required, such as printing clear evidence of formulas and functions used. Centres that submitted work on paper did not always provide enough screenshot evidence, meaning that marks could not always be confirmed. Some centres submitted some work electronically and other work in paper form. Please note that it is acceptable, and preferred, that all work is submitted electronically.

Where candidates had used the marking criteria as guidance for headings within their work, they generally provided clear evidence of all that was required, as they were able to check that they had completed the necessary evidence requirements. It is recommended that candidates are given the marking criteria at the outset, so that they know what evidence to provide.

The completed Unit Recording Sheet (URS) should include specific reference to where evidence can be found, including page numbers of documents. Many centres completed these forms in a detailed manner, which helped the moderation process, but in a small number of centres, there was insufficient linkage between the work and the URS forms, reducing their usefulness. Comments should relate to how the evidence meets the criteria, and statements that state 'very good work' are of little value. Where candidates apply password protection to their work, it is the responsibility of the centre to provide the passwords for all password-protected documents; such passwords should be indicated clearly on the URS for each candidate. The moderator should not be expected to spend time guessing the passwords and time was wasted this year when moderators had to contact centres to ask for passwords that had not been provided. Please ensure that passwords, where used, are clearly stated on the URS form.

A small number of centres are still providing too much teacher guidance during the taking of the tasks, either by providing templates for candidates to work from or by allowing candidates to work together for the whole of the task, or producing systems and write-ups that are the result of collaborative work. Controlled assessment must be done under controlled conditions and the teacher must be satisfied that the work of each candidate is their own. The use of templates is prohibited.

Comments on Individual Questions

Investigating a Need
Candidates are still producing some superficial work in this section, such as carrying out insufficient research into similar systems. Candidates should do detailed research into software features that may (or may not) be useful in designing their own system. They should research the formulae and processing methods that are used in similar existing systems and they should research suitable data with which to populate their finished systems. Discussion of logos and colour schemes and the production of questionnaires which can take up a lot of time are often of limited benefit. In some cases, candidates appear to have been taught a few specific software features which they then use to develop their system regardless of the research they had collected about similar systems. This is a shame, as candidates in other centres, who are left to do their own research, are much more able to develop a system that shows their understanding of different software features. Candidates need to consider that the coursework assessment should be undertaken as a whole and the research is needed to determine the approach taken in the subsequent sections - it is not a standalone piece of work. This section is the start of the process of designing and developing their system and a justification of their design and the development of the system should follow on from the research and analysis.

Practical Use of Software Tools
There was good use of a range of advanced software features such as conditional formatting, lookup functions, validation, macros, hyperlinks, mail merge, relational databases, customised database forms, etc. A small number of candidates are still including features that are not relevant; the features included should relate to the system specification and the project brief. If, for example, there is no mention of the need for Max() or Min() functions, they should not be included. This often appears to be the result if the teacher tries to guide candidates too closely as to what software features to use and teaches them only five advanced software features. This can result in candidates scoring less well than they might have done if given the freedom to choose appropriate software features and say why they have chosen them. Many candidates provided good evidence of testing their systems, by use of screen shots. Videos are another method of providing evidence of tests being carried out. Many candidates are now producing diaries to accompany electronic submissions of systems which are an excellent way for pupils to show their understanding of the software features chosen. However, sometimes the diaries lacked sufficient detail about why a candidate had chosen a software feature over another and how issues arising were dealt with.

Practical Use of Data Structure
This section was generally the least well done by candidates. There should be a link back to the research stage where candidates should have collected and analysed relevant examples of data and data formats. They should then use this data collected to populate their systems, in the correct formats, and justify this. There is rarely sufficient evidence of this evidence requirement and thus the criteria relating to ‘information found’, ‘modifies data’ and ‘explores alternative data’ should not be awarded. 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 rather than being about the aesthetics of the finished system. Candidates should provide evidence of changing rules in their system as well as changing the data for the highest marks. There were very few candidates who changed rules in their system to see the effects with modelling mostly being limited to a few data changes.

Present the Solution
This is a separate section to the rest of the work and a presentation should be produced in the form of a slide show, video or leaflet. Most candidates chose to use slideshow software to produce this presentation which is a straightforward way for candidates to pick up marks, regardless of the marks achieved in the other sections. Where candidates had produced a presentation in which they tried to 'sell' their system to the end user, the higher marks awarded

were justified. However, some candidates incorrectly used this section to say how they produced their system, rather than presenting the finished system and saying what it does. A few centres wrongly thought that the purpose of this section was producing a user guide. In these cases, the higher marks could not be awarded as the emphasis is on the presentation being appropriate for the audience and too much technical detail can mean it is not completely appropriate.

Evaluation

Candidates who had kept a detailed diary each week of work carried out and how they dealt with issues arising were able to gain higher marks in the evaluation. However, many of the diaries seen were brief and only a record of what was done or how it was done, when it is the 'reasons why' that show the understanding and contribute to higher marks. It is important that candidates leave time at the end of the controlled assessment task to evaluate the finished system and to look at its strengths and weaknesses. They should also have time to give constructive feedback on each other's systems – candidates should include both comments that they have made but also comments made about their work by others to meet this evidence requirement. The evaluation should relate to the system that the candidates have produced. Some candidates made statements about their own strengths and weaknesses whilst carrying out the task, when what is required is a discussion about the strengths and weaknesses of the final system they have produced. In such cases, the work does not meet the marking criteria.

B063 ICT in Context

General Comments

It was pleasing to see that examination technique for many candidates has improved this year. Candidates were able to achieve well in some questions that required extended responses.

As with previous years, a significant number of candidates lacked a detailed understanding of the pre-release material and had not completed the pre-release tasks in sufficient detail. Centres should remember that this unit is one quarter of the full GCSE and spend a commensurate amount of time in its study.

Some centres had used third party material to prepared candidates for this exam rather than allowing candidates to perform their own research. Candidates had learnt this material by rote and simply regurgitated it into the exam paper without considering the context. Candidates should be taught to apply their research to the question asked, paying particular attention to the context to enable them to score highly.

A small number of candidates appeared to have learnt the mark scheme for previous years examination paper and simply tried to use this as a basis for answering questions.

Handwriting was particularly problematic this year. Many candidates' answers were difficult to read with some being illegible. Where the examiner is not able to read a response, no marks can be awarded.

Comments on Individual Questions

1	Most candidates were able to correctly link the task to the most suitable type of software. Some candidates confused web authoring software with web browsing software.
2ai	The majority of candidates were able to correctly identify the Data Protection Act.
2aii	The majority of candidates understood that Progress Leisure must gain permission from customers before using their information for marketing purposes.
2aiii	Most candidates were able to state two other rights the Data Protection Act gives customers. Some candidates mistakenly stated that Progress Leisure must delete customers' data when they left the gym.
2b	Many candidates were able to state items of data that would be collected on its data capture form.
3ai	Many candidates correctly stated a suitable wireless technology such as Bluetooth. Some candidates gave Infra-Red as an answer that would not be suitable in this context.
3aii	Although question 3ai was generally answered well, far less candidates were able to go on and explain why the stated technology was suitable. Those that did tended to talk about line of sight not being needed.
3b	Most candidates were able to give three suitable items of data.

4 Some candidates were able to explain that data must be removed from the computer equipment before being recycled. Many candidates talked about taking the computer apart and removing precious metals. Although this is part of the recycling process, it is not an action that would be carried out by Progress Leisure before sending its equipment for recycling. This is a question where candidates simply gave rote answers from third party resources rather than applying their knowledge to the context and question asked.

5a Again, rote answers from third party resources mean that many candidates scored poorly in this question. Although finger print scanners and iris recognition could be considered two factor authentication, in the context of the question - logging on to the Progress Leisure web site - this would not be suitable. Other candidates gave generic answers relating to knowledge factors and physical factors without describing an actual method that could be used. The most frequently seen correct answer was a username/password with a text message and unique one time use code.

5b It was pleasing to see that some candidates had done a significant amount of research into this topic and were able to give good examples of how data could be presented to customers. Some candidates identified ways but then failed to go on to explain how this could be used to analyse data.

6a Most candidates were able to correctly explain what an Acceptable Use Policy was.

6b Most candidates were able to describe a method of keeping the company's data secure on the shared network. Some candidates stated using a separate network that was not awarded marks in this context.

7 Candidates who had completed the research topics and read the question scored well on this question. Some candidates explained the advantages and disadvantages of using gym equipment in general rather than equipment that used a simulated race course.

8 Despite this type of question appearing over a number of years, as well as a clear research point on the pre-release material, many candidates still do not appear to understand what Web 2.0 technologies are. Many candidates identified and described features of a web page rather than Web 2.0 technologies.

9 Poor examination technique and not reading the question prevented some candidates from scoring well in this question. Many candidates evaluated the use of a smartphone for fitness in general rather than the use of a smartphone to analyse their fitness data. Those that read the question scored well, giving advantages and disadvantages of using a smartphone to analyse fitness data.

10 Some candidates had clearly researched the advantages and disadvantages in VoIP technology and scored well. Many candidates though appeared to not have performed any research and so had no idea what VoIP was. There was a common misconception that VoIP was about video!

B064 Creative Use of ICT

General Comments

B064 is a well-established unit and one which candidates seem to enjoy completing. Although there was a decline in entries this series it was pleasing to see a number of new centres submitting work for the first time. Assessment in general this series seemed to be more accurate with fewer centres requiring mark adjustments to bring them into line with national standards. As stated in previous reports, this specification aims to positively reward the work produced and not penalise omissions. However, full marks for each task should only be awarded for work which is the best one could possibly expect a candidate to produce at GCSE level. It should be the exception rather than the norm for full marks to be awarded. Advice on the awarding of marks for work can be found within the 'Success in B064' booklet available on the OCR website. The OCR coursework consultancy service can also be used to ask assessment interpretation questions. However, due to the nature of controlled assessment, live work which has been marked can not be commented upon.

It is recommended for unit B064 that evidence is submitted digitally on either optical media or memory stick. Where centres choose to produce paper based evidence the solutions made should be sent digitally for moderation along with the paper work. It was pleasing to see the majority of centers had opted to submit work in a digital format. However, there were still a number of centres who opted for paper only evidence. When solutions are not supplied digitally it can be difficult for the moderator to fully appreciate all the features used from screen shots alone. It is vital though, when submitting work digitally, that evidence is well presented and structured. 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 piece the evidence together. Designs produced during the design stage can be scanned and combined into the final documentation – most modern photocopiers will scan to PDF. There are lots of free portable document creators available which can be used to turn multiple word processed documents into a single file. Although electronic evidence is encouraged consideration needs to be taken if opting to use the OCR repository. If using the repository please double check the work is assigned to the correct leaner. A number of instances arose this series where work had been uploaded to the wrong candidate. This led to moderation being hindered. When submitting work digitally any media should also be checked carefully for viruses.

File formats this series still caused a number of issues which hindered the moderation process. Propriety file formats are not supported and moderators should not be expected to download and/or install software in order to judge the quality of products. Games should be complied into executable files (.exe) and web pages should be saved as HTML and image files only. A number of centres submitted Serif websites and scratch files in the proprietary format which is not helpful. Instructions which illustrate how to compile scratch projects to an executable file can be found on the scratch website.

Unfortunately this series, some of the products failed to function correctly when moderators tried to use them. It would be helpful before submission that centres check that the products still function as intended. Websites will often work on candidates' 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 have problems of missing media when videos and sounds are linked rather than embedded – care also needs to be taken when transferring these. Where candidates choose one of the briefs which require a game to be produced, the file format which the game will be exported to needs to be considered.

Unfortunately, the number of clerical errors this series was again higher than previous. Whilst using the electronic URS 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. *Writing frames, templates, sentences starters* or *essay structures* cannot be given to candidates **under any circumstances**.

Comments on Individual Questions

The analysis task requires candidates to analyse existing solutions of a similar nature to the one they intend to produce and produce a design specification for their own proposed product. The analysis of the existing solutions can be completed at a low level of control and candidates can share ideas with one another as to what best practices are. Candidates should then enter controlled conditions to write up the research and propose their own solution. Centres need to be careful that candidates don't try and submit collaborative research as this is not allowed. 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 summarise the feelings of the group and maybe quote/ paraphrase what others had to say within their research notes. Photographs of collaborative working and thought showers would make excellent evidence. When completing the research it is important that the research links to the proposed solution for higher marks within the analysis task. 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 task and there is a 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 was missing or not detailed enough for the award of a mark within Mark Band 3. Rather than just stating user requirement for access to the higher marks candidates should expand them. In some cases the design specifications became interspersed with content from the design task which made it hard to agree centre marks.

The design task 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. Frequently candidates produced screen layout designs but omitted any plans for rollovers or animations they intended to create. Where candidates chose to develop a game then some initial planning of the behaviors and attributes of sprites and other objects to make the game functional is required. 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. For the award of lower marks for this task brief designs will be included which another ICT competent person may struggle to follow. For the award of a mark within 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. The design task was in general evidenced a little better well this series although there are still too many vague plans. Many of the plans were not annotated in enough detail and frequently content was not identified. Plans with boxes labelled 'text' or 'image' and no indication of what the content actually is going to be was common. Plans don't need to be works of art but should provide an overview which would allow a third party to implement them. 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 two different browsers and on a smart phone' and 'I will make a questionnaire and ask three 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 amongst others 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. Different types of element means different types of element and simply manipulating three graphics is not sufficient evidence. 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. 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 in words. In some cases further evidence of developing elements for the solution would have helped to confirm the marks awarded. Too frequently, again this series candidates documented how the actual products had been made. It needs to be reiterated that this is not suitable evidence for this task – this task requires candidates to show how individual elements have been made.

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 choice of software needs to be appropriate for the solution chosen. In a number of instances candidates developed websites, for example in PowerPoint, which although possible doesn't allow them to add the more advanced facilities that a web authoring application would allow. Online web editors are also becoming more popular; however care needs to be taken if using these to ensure that candidates don't simply use predefined templates and that the editor provides the ability to add enough features to the site so that all mark bands can be accessed. The best way to showcase these to the moderator is to submit the work electronically. 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 Mark Band 3. The products need to be of a high quality for Mark Band 3 showing a wide range of features have 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 awarded 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 and drag and drop/popups/other interactive features. Equally, 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 or 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 candidates followed their time plan, although many candidates also state how they followed their designs which are not actually required. 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. Some wonderful games were produced this series which was pleasing to see. Websites and PowerPoint are still a favourite and did vary in quality.

The testing task should be carried out under controlled conditions and requires candidates to follow the test strategy which they proposed in the design task to check that their product works in the way in which they intended. All of the mark bands within the testing task 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 where there is clear evidence that testing in different situations has been considered. Testing websites, games and multimedia products on different devices, hardware, operating systems, browsers, input devices and screen resolutions should be considered and carried out as far as possible. A few old machines at the back of the classroom loaded with different software provide an excellent opportunity for candidates to test under different situations. 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 candidates' 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. The evaluation should be critical in nature rather than being a description. For the award of Mark Band 2 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 Programming Project

General Comments

There were very few candidates from very few centres for this session. The majority of students provided evidence of reasonable focussed research to inform the designs. There were some well-designed and coded solutions leading to a usable solution for the scenario. Much of the marking was realistic, if slightly generous.

The majority of candidates chose a suitable high-level language such as small basic, Python or visual basic to complete the tasks, with few relying on block programming languages and the inherent limitations with such choices.

Given the very small entry it is impossible to highlight any significant trends. Most issues related to individual centres or candidates and these have been reported separately as part of individual centre reports to centres.

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