OCR
Oxford Cambridge and RSA

GCSE

ICT

General Certificate of Secondary Education **J461**

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

OCR Report to Centres June 2017

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.

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B061 ICT in Today's World

General comments

The degree of difficulty was appropriate for GCSE students.

The candidates had the opportunity to express their knowledge in all styles of questions and a wide range of marks was achieved. However, it is disappointing that candidates appear to be less well prepared in some areas of the specification than in others. This was illustrated by Q. 2 (b) where the topic is clearly and explicitly shown in the specification but it was obvious from the candidate responses that candidates had not been taught this content. Questions can be drawn from the whole range of topics in this specification and Centres should note that failing to cover the whole specification can disadvantage candidates.

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.

Centres are reminded that 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. Candidates that gave a list of points did not score the full marks as such responses will only score the mark for the first, if correct, point and not for the second point; responses that give two points are not answering the question.

Again the language, structure and handwriting of the candidate responses were generally poor when answering questions, such as 3 and 7, which also assess the quality of written communication and are marked as Level of Response. Too many responses were seen that were incoherent, and unstructured, hence 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, once again, 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 the questions

1)		The question asked candidates to explain why the VoIP telephone contained the stated devices. Candidates who scored well explained the purpose of the device in terms of its use in the telephone.
	(a) (i)	This question was answered quite well but a significant number of candidates stated that a microphone allowed one to hear what was being said. This illustrated some confusion over input and output devices and their specific purpose in digital systems. Answers such as allowing people to talk to each other were also seen; these answers are generalised answers and not accurate. Good answers stated that a microphone captures sounds and explained why it was present in the VoIP unit e.g. enabling people to talk to one another. A few candidates gave the process of converting sound to an electrical signal.
	(ii)	This question was answered quite well and a significant number of candidates stated that a speaker allowed one to hear what was being said. This may be so but a more accurate answer, for an IT specification, would be to explain that speakers output sounds that allow the words to be heard.
	(iii)	A touchscreen can be used and input and an output device; few candidates

		stated this explicitly. Poorer answers stated that the user could 'surf the web' or 'write emails' while on the phone – which did not answer the question. Good answers explained the purpose of touchscreens.
	(b)	Most candidates could answer this question but many did not seem to know what an icon is.
	(c)	This question was not answered at all well. Given that VoIP is now a mainstream technology, it was disappointing to note that few candidates understood the process in digitising sounds, encapsulating them in IP packets and sending them over a network to be reconstructed into sounds at the other end. Good answers made reference to IP packets, routed networks/internet and the (analogue/digital) conversions.
	(d) (i)	Some candidates answered this question quite well but most answers were vague and superficial, quoting 'VoIP is free', 'can call anywhere in the world'. Good answers referred to VoIP calls costing less than 'normal' telephone calls. VoIP being expandable as it uses existing infrastructure, being 'portable' in that employees can be moved around and still retain their telephone number, being suitable for multiple caller use and so on. Answers had to refer to the advantages to the company to score marks. Responses which included advantages that could be gained from a normal telephone discussion were not given credit.
	(ii)	This question required answers to refer to the employees and their use of VoIP. Good answers referred to the, often but not always, poor quality of the sound, the need for some training on the system and the system failure in the event of a power failure.
2)	(a)	This question was answered well by most candidates with many scoring 5 or 6 marks out of a possible 6. It was noted that the most common errors were to choose 'real number' for the Job_number when the example shows an integer, and to choose Boolean for Hours_worked when the example clearly shows a real number. Nearly all candidates scored the other marks.
	(b)	This question was poorly answered. It would appear that there was little knowledge or understanding of batch and hash totals among the candidates. Both are clearly stated in the specification under verification. Complex answers were not required so it is disappointing to note that these topics were not understood. Centres are minded that candidates should be taught all the topics in the specification.
3)		This question was marked as Level of Response/Banded Response. For most candidates, this question was an opportunity to score good marks as it was about having a LAN in the home. The topic should have allowed candidates to discuss the benefits and drawbacks of a home-based LAN. Overall, most candidates did not score as many marks as would have been expected for this topic because they failed to 'discuss' the points that they made. For many candidates, there appeared to be confusion of the term LAN with Wi-Fi and little distinction between the two. Many candidates described Wi-Fi and how it is used; this was not answering the question as set so such answers did not achieve the highest levels. A number of responses included a discussion about LAN vs WAN which was not required. Good answers were those referring to the use of local area networks in home environments with reference to e.g. Wi-Fi and cabled scenarios and the issues surrounding these.

		The higher mark levels required both benefits and drawbacks to be discussed. When answering Level of Response questions, candidates will not score marks in the upper levels unless they expand their points.
4)	(a)	There was much confusion between folders and files. The question refers to folders so answers that explained about files did not gain credit. Good answers explained e.g. how and why folders should have appropriate names and the use of sub-folders.
5)		Most candidates gained some credit on this question for describing how private details e.g. passwords can be obtained and used to access a bank account and transfer money or purchase goods. Better responses clearly identified the role of the software in capturing the key strokes and then sending them to the fraudster.
	(b)	This question was well answered by most candidates. Better answers distinguished between 'anti-virus' and 'anti-spyware' software.
6)	(a)	This question was well answered by most candidates. However, a significant number of candidates gave answers that referred to eye sight problems and not RSI. Centres should remind their candidates to read the question carefully.
	(b)	This question was well answered by most candidates.
7)		This question was marked as Level of Response/Banded Response. For most candidates, this question was an opportunity to score good marks as it was about the environmental impact of digital devices. Some good, well thought-out answers were seen and many candidates scored well. However, many candidates also failed to discuss the positive aspects of digital devices e.g. how environmental monitoring can be carried, the reduction in pollution by controlling engines using computer systems and so on. The higher mark levels required both positive and negative impacts to be discussed. When answering Level of Response questions, candidates will not score marks in the upper levels unless they expand their points.

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.

Again, as with previous years, some centres had used third party material to prepare 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 which leads to inappropriate responses for a number of questions. 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 in this exam series.

Comments on Individual Questions:

Question No.

Question	Comment
1	Most candidates were able to correctly link the description to the most appropriate component of a hand held device.
2a	Most candidates were able to identify 2 relevant stages of the systems lifecycle. However, explaining what the processes this would involve in the context of the PDC scenario was answered less well. There was a tendency for candidates to give generic responses rather than contextualised responses. Some candidates' responses suggested a lack of understanding of the systems lifecycle, and often focussed on stages in the delivery of a parcel.
2b	Many candidates gave generic responses, stating that the system would not work, rather than disadvantages of not following the systems lifecycle.
3a	Many candidates were able to answer this question well, typically describing the use of strong passwords. Poor examination technique meant that some candidates had not read the question and gave actions that PDC would take to modify their website. These answers were not worthy of credit.
3b	The majority of candidates gave good answers stating what the term encryption meant.
3c	Most candidates were able to explain one advantage of parcel tracking information being available on the PDC website. Some candidates gave more than one advantage, others gave a disadvantage. Neither of these types of answers were worthy of credit.
4a	This question asked candidates to describe two items of hardware that are needed to send and receive information wirelessly. Many candidates showed a lack of knowledge regarding this. This is disappointing considering it was one of the research points on the pre-release material. Many candidates gave incorrect answers such as 'mobile phone' and 'Ethernet cable', neither of which are

	needed to create a wireless network.
4b	Many candidates failed to give answers in context to this question. Generic responses about not needing cables were seen most, as were responses about being mobile.
5	The responses given by many candidates were disappointing. At best candidates talked about the technology and how it works without linking it to the scenario and how its use would benefit PDC. Rote learning about NFC, many of which included incorrect information, was frequently seen and did not explain how and why PDC would use the technology.
6	Many candidates gave good responses including the information listed, and in some instances relevant additional details. Use of space was generally appropriate, and most could be considered appropriate to use as an online form.
7a	Few candidates scored well on this question with many giving generic answers that would not be suitable to send using EDI. Customer details were the most frequently seen incorrect answer.
7b	Responses to this question were given in two general ways. Candidates that had independently studied the context were able to give well thought explanations that were in context and answered the question well. Those that had not studied the context, or had simply used a third party for their research resource gave answers about not needing to fax the information to the company. Some candidates confused the store sending their delivery order to PDC with the store sending the parcel to the customer.
7c	Those candidates that had studied the case study were able to answer this well. The most commonly seen incorrect response talked about using translators to convert between different EDI types. This generic response, not contextualised was not worthy of credit.
8	Many candidates were able to identify relevant aspects of the DPA and describe steps which PDC needed to take in order to comply, and so were able to access MB2. Where candidates were able to develop their answers and explain how this could be achieved they were able to access MB3 with relative ease.

B064 Creative Use of ICT

General Comments:

B064 is a well-established unit and one which learners seem to enjoy completing. Although there was a decline in entries again this examination series it was pleasing to still see a number of new centres making entries. Assessment in general this series was a little generous especially within the upper quartile of the mark range. As stated in previous reports, this specification aims to mark positively rewarding the work produced and not penalising omissions, however, full marks for each task should only be awarded for work which is the best one could possibly expect a learners 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 centres had opted to submit work in a digital format however there are still a number of centres opting 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. Due to the complexity of websites and possible large file size of other products, entering students using B064/02 and posting the evidence on optical media or memory stick can avoid hours of frustration trying to upload work to the OCR repository. If using the repository please double check the work is assigned to the correct learner. When submitting digitally, the media needs to be checked carefully for viruses.

When submitting files electronically care needs to be taken that only file formats are used which appear on the "Accepted file formats list", which can be found within appendix **a** of the course specification, are used. Proprietary 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 submitted as HTML and media files only. A number of centres submitted Serif websites and Scratch files in the proprietary format which is not appropriate. Instructions which illustrate how to compile Scratch projects to an executable file can be found on the Scratch website. It would also be helpful that before submission that centres check, that the products still function as intended. Websites will often work on learners' 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 learners' 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.

A number of clerical errors were found and dealt with this session. Whilst using the electronic Unit Recording Sheets (URS) eliminates the possibility of arithmetic errors, as marks are automatically summed, care still needs to be taken to avoid errors when transferring marks into interchange.

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 learners **under any circumstances**.

Comments on the work:

The analysis task requires learners to analyse existing solutions of a similar nature to the one they intend to produce and produced a design specification for their own proposed product. The analysis of the existing solutions can be completed at a low level of control and learners can share ideas with one another as to what best practices are. Learners should then enter controlled conditions to write up the research and propose their own solution. Centres need to be careful that learners don't try and submit collaborative research as this is not allowed. The final piece of work needs to be solely a learners' 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 learners should summarise the feelings of the group and quote / paraphrase within their research notes what others had to say. 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 learners would present their research, then a solution but there was no link between the two. When presenting the proposed solution learners should state how their decisions have been influenced by their research.

The design specifications produced are part of the analysis task 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 was missing or not detailed enough for the award of a mark within mark band 3. In other cases the design specifications became interspersed with content from the design task which made it hard to agree centres marks. User requirements and success criteria should be explained rather than just stated for the award of higher marks for this task. Hardware and software requirements should also be fully covered.

The design task should be conducted under controlled conditions and requires learners 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 learners produced screen layout designs but omitted any plans for rollovers or animations they intended to create. Where learners choose 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 learners need to fully design all elements of their solution in enough detail so another ICT literate person could create their solution without any issues. The design work in general was too vague this session with many learners being awarded high marks for very outline designs. 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. Worryingly this session, there was an increase in learners being awarded marks for the design task where screen layouts and elements had not been designed. Mark band 3 for this criterion also requires learners 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 learners 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 learners 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, for example, which together form the actual product. 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 mean 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 learners 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 learners 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 further evidence of developing elements for the solution would have helped to confirm the marks awarded. Too frequently, again this session learners 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 learners to show how elements had 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 learners have produced. The choice of software needs to be appropriate for the solution chosen. Online web editors are also becoming more popular however care needs to be taken if using these ensuring that learners don’t simply use predefined templates and that the editor provides enough function 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 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 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 learners 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 learners 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 learners followed their time plan, although many learners also state how they followed their designs which are not required but additional reflection causes no harm. A good place to include these notes is within the evaluation section although to prevent it being omitted learners could complete it once the product has been completed. Some wonderful games were produced this session 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 learners to follow the test strategy which they developed in the design task to check that their product works the way in which they intended. All of the mark bands within the testing task require some form of user testing and unfortunately some learners 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 ***at home*** 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 class room loaded with different software provide an excellent opportunity for learners to test under different situations. If due to network restrictions learners 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, and the benefits of testing under each different situation would be ideal replica evidence.

The evaluation task should be carried out under controlled conditions and should critique the product made and the learners' performance when working within groups. For the award of mark band 3 learners 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. Even for the award of mark band 2 learners 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 achieved (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.

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