

Crack the code!

**TOP
SECRET**

D202 SPB 0906

SUPPORT NOTES FOR TEACHERS

14 November 2006

Introduction

These notes should be read in conjunction with the Moderators' Report for D202 which offers feedback on the most recent moderation series.

Updates since the previous issue are indicated by a vertical line in the margin.

Before tackling the SPB, students should have acquired the appropriate ICT skills, knowledge and understanding as specified in the 'What You Need To Learn' and 'ICT skills' sections of the Unit 2 specification.

Students must have access to a range of appropriate multimedia software (see pages 92/93 of the spec). Some suggestions can also be found at the end of this document.

The D202 SPB 0906 is valid for moderation in May and December 2007 and in May and December 2008.



Section 1 Using the SPB

Access and Navigation


The SPB is a complete, integrated digital publication and is intended to be accessed on-screen. Although it may be useful to print off sections for reference purposes, students may be disadvantaged if they do not work from the interactive on-screen brief.

Although the links in the navigation bar are roughly in sequence, students should be reminded that one task often depends on one or more other tasks and they should make use of the interactive nature of the brief.


Where more than one page relates to a main task (such as the eportfolio), they appear as a submenu from the main link.

The symbol  at the top of each page allows students to print the page. A new feature is indicated by the symbol  which allows students to listen to the contents of the page. This feature will be activated once the feedback period is over.

Mark Alerts

Indicated by the symbol , each Mark Alert is a series of questions with tick boxes. Clicking the symbol opens another web page and students may tick the questions onscreen or print the list and complete on paper. Students should check that they can check off each item to help them ensure that they have met the requirements and that their work is fit for purpose.


Helpful hints


In addition to Mark Alert checklists, the SPB features short hints and tips denoted by the symbol . The symbol appears at the end of the sentence or paragraph to which the hint relates. Clicking on the symbol opens a popup window in the top left area of the screen. The window must be closed by the student. Those using Internet Explorer can also view the hints by rolling over the symbol.


Section 2 What, where, who?

What evidence is required?

Students do not need to submit evidence of everything they do during their work on the project.

The symbol  indicates a task to be done.

The symbol  indicates a stage where evidence must be saved for the eportfolio. There is also a summary document attached to the eportfolio page.

Students should not be tempted to omit tasks which are not preceded by the  symbol as they are crucial to success. A good example is an instruction to test a product. It is not necessary for students to write long commentaries explaining how they achieved each task.

Students must ensure that they present the products as clearly as possible, remembering that moderators will view all evidence on screen.

The Moderator's Toolkit

There is no longer a list of acceptable file formats. This has been replaced by a Moderator's Toolkit which specifies the readers and players that all moderators will have available. It is each student's responsibility to ensure that their eportfolio only includes files which can be read using the toolkit. It will be updated when necessary.

Legal requirements

Students must not include any assets for which they do not have permission and should also bear in mind that whilst the eportfolio is produced for education purposes, the individual products each have an audience and purpose. Even if permission can be gained for study/educational purposes, would it be acceptable bearing in mind the intended purpose e.g. display in a public place, distribution to individuals? Students should be aware that if they do not fully comply with legal requirements they restrict their marks as they are not demonstrating good awareness of audience and purpose.

Where does the work have to be carried out?

Work on the products themselves must be carried out within the controlled environment and the teacher must be able to authenticate each student's complete eportfolio with confidence.

However, there is much that can be done away from the controlled environment.

Acceptable activities include:

- reviewing and updating the plan - this will change the focus of the plan for the students and they are more likely to view it as an ongoing process rather than a one off task
- commenting on progress - what is going well, what is not going so well - this could be a separate column on the plan or a separate document and will assist with the final review
- researching appropriate sources of information related to the scenario and products, keeping records of where information was found and how it could be used
- initial design documents for the products and feedback from others on these designs
- prototyping of own or others' products - gathering feedback from test users so that products can be improved where appropriate
- reviewing final products and the eportfolio

Who can help?

Although students must work independently at level 2, this does not mean that they are on their own!

Test users should be asked to try out and comment on products under development and this should be viewed as an ongoing process. Students should not wait until products are complete when it will be too late to take advantage of any suggestions for improvements.

There is no doubt that students who take careful account of feedback from reliable test users improve their chances of higher marks. Test users can be peers, teachers or other adults who can offer constructive feedback.

Reviewers comment on final outcomes and the eportfolio, and these comments will be used in the final review. It is often helpful to gather reviewers' feedback as work is completed but students must take care to record the feedback for later use. Reviewers should also be asked to comment on the student's work on the project as a whole.

Time should be allocated on the plan for gathering and responding to test user feedback and for gathering reviewer feedback. Students should check when suitable test users and reviewers are available for comment before including them in the plan.

Section 3 Tackling the SPB

The Scenario

Crack the Code! is meant to be fun! The aim is to produce one final product, the game, which consists of a number of components. Each of these components should be viewed as a product in itself.

Students need to be clear about the audience for the game and the purpose of each component. They should explore the examples given at various places in the SPB and other relevant sources before starting work on the design of individual components.

Planning

It cannot be emphasised too strongly that students must start out with a workable plan which gives them a clear overview of timings and objectives and allows them to monitor their progress during the project. Teachers should give as much guidance as necessary to achieve this. Although this may affect the marks for strand (a), benefits can be expected throughout the rest of the project. The following paragraphs, extracted from the Principal Moderator's Report, underline the importance of this:

To help them manage the project and meet the deadline, candidates need a workable, upfront plan that identifies the main tasks, breaks them down where appropriate into more manageable subtasks, puts them in a logical order and divides up the available time between them, differentiating between work to be completed in class and work to be done elsewhere.

The plan is meant to be an evolving document that is in constant use during the project and as such provides a comprehensive project history.

Irrespective of which type of plan they produced, a significant number of candidates did not allocate a sensible amount of time to tasks and subtasks. In some cases, no timings at all were given. Many failed to show evidence of their use of the plan to track and monitor progress. In some instances, it was clear that the plan had been produced retrospectively.

As students are reading the SPB, they may find it helpful to write notes on what is required to help them understand what the objectives of the SPB are and what they are required to do. From these notes they will be able to generate their plan. Remind them that if it takes time, it should be in the plan.

There is much that students can do outside of the controlled environment - for example, planning, research, design and prototyping. This should be built into their project plans. One possibility would be to create two columns, one for class work and one for homework.

We would expect students to give an indication of time for sub-tasks. They will need to estimate this in order to calculate time needed for main tasks and it is often an adjustment of some sub-tasks that needs to be carried out to stay on track. If students are giving times as lessons, eg, 1 lesson, they must indicate somewhere on their plans how long a lesson is.

Students should discuss their initial plans with their teacher and check that they have selected appropriate tasks for completion as homework. These tasks should be clearly shown on the plan. Teachers should offer feedback at this stage that will enable the student to formulate a workable plan, bearing in mind that it is perfectly acceptable to make adjustments later.

We recommend that students identify interim checkpoints on their plan when they will discuss progress-to-date with their teacher and make any adjustments that are necessary.

The eportfolio checklist indicates that an initial plan should be included as well as a final plan. Interim plans should only be submitted if they are really needed for clarification. A comments column is a very good way of indicating decisions and changes made. Students might also consider using text boxes or a separate project diary/log.

Design

Candidates who produce detailed up-front designs and use feedback from others to refine them are most likely to produce outcomes that are fit for purpose.

We are looking for a visualisation, not a perfect reproduction, of the finished product.

Candidates need to be clear that a storyboard will enable them to develop their ideas about the 'look and feel' of the product, eg colour schemes, fonts, placement of assets, number and types of asset to be used, navigation etc. Would the candidate be able to implement the product from the designs they have created?

Retrospective 'designs' are totally unacceptable.

Gathering Assets

Students must use their assets table to provide evidence to show which sources they have used, what assets they have used from their chosen sources, how they have edited them, where they have used them and why they are appropriate.

It is important that students indicate how they have prepared assets for use in their products. For each asset this might be achieved in the assets table, by annotation of the original or final version or by a commentary. However, we do not require a narrative description of the process itself.

The websites listed in the SPB allow students to use images provided the terms and conditions are followed. The students must check what the conditions of use for each asset and obtain permission for use where necessary or acknowledge copyright.

They should be reminded that a search engine such as Google is unlikely to be the source of a digital asset.

To optimise file sizes, students should ensure that their images are not saved at a resolution that is too high (big file sizes) nor too low (pixelated images).

Monitoring

This section suggests that students keep a project diary or log where they record progress, problems and actions as they go along. This is optional but many students find this method helpful when it comes to writing commentaries and the project review. Alternatively, students may prefer to use the project plan for this purpose.

The project review

Students are reminded at every stage to gather evidence of feedback and problems for the project review. As noted on the 'Keeping Track' page, a document such as a project diary or log will aid this process.

Students should aim to produce a detailed evaluation of all aspects of the project listed in the review notes document (now linked from the review page), avoiding long narratives of what they did and how they did it, and making two or more specific and valid suggestions for improvement.

Section 4 The Game

General

The game consists of a number of components. The three levels require a short movie, a short video and some multimedia puzzles. They are accessed via an interactive map which also provides links to the instructions, a coding sheet and the game ending. The game opens with a splash screen.

Students should take careful note of the requirements, paying particular attention to the purpose.

Storyboards should be sufficiently detailed to clarify ideas, allow constructive feedback and facilitate implementation. They may be produced on paper and scanned or produced electronically. Students should also show how testing, acting on feedback and refining their designs influenced the finished product.

Any suitable software may be used to construct the game. Students are free to make use of software features such as wizards. However, they should be clear that wizards are only intended to help them, not do the job for them. They should customise the output from wizards to ensure that the products are fit for purpose. It must, of course, be possible to play the game using only the Moderator's Toolkit and students should not assume that further readers will be added to the toolkit before their work is moderated. Additions to the toolkit will be notified to centres registered for email alerts.

The target audience and the theme

Students are free to identify the age range of the audience but should make their choice clear in the game instructions and in their commentary.

Students should choose a theme which interests them and which will appeal to the target audience.

This theme must run throughout the game so it is important that students select a topic that allows them to create the products and ask suitable questions about them.

The game

At each level of the game players must answer questions to find parts of a code. The final code must consist of nine letters and/or numbers. Students may choose the number of questions asked at each level but the complete code must be a combination of nine letters and/or numbers. It follows from the wording of the brief that there must be at least two questions at each level.

As all the components are inter-related, students should try to take advantage of this by re-purposing assets where possible.

Students should create a game folder (with sub-folders as required) to store all components of the game as they go along.

Level 1 movie

The movie must run for between 40 and 60 seconds before the questions appear. Any length within these parameters is acceptable. The questions should then stay on screen until the user closes the window.

The movie must consist entirely of still images related to the chosen theme, some of which must be from primary sources. It is not acceptable for teachers to make images available to students.

Students are required to produce an original soundtrack for the movie. This does not have to be music, it could be verbal or other sounds but it must be suitable for the content and the audience. Sound is often of poor quality when recorded using a digital camera or phone. Students might consider recording and editing the soundtrack separately.

Groups may work together to gather the raw sound so long as they edit the material individually. However, only those involved in the recording may use it. It is also acceptable to gather and edit existing sound files, with permission if necessary bearing in mind the intended audience and purpose. It is not, however, acceptable for teachers to supply the original sound files.

Students should produce a timeline type storyboard for their movie. If a timeline is constructed as part of the design process, students are more likely to create a product that is within the acceptable limits.

Students may use any software capable of producing a movie that is fit for audience and purpose.

Level 2 Talking heads

This product must be a video. Students will need to book out equipment and this should be built into their project plans.

Students may choose to film one person talking or two people conversing about something related to their chosen theme.

Students are required to produce and submit a script for the video. This can be a simple text document with the sequence of speakers and what they will say.

Students are required to shoot raw digital video footage and then edit it - including an audible commentary. They must ensure that the video and the sound track are of an acceptable quality. Small groups may produce a common script and take raw video footage together so long as they edit the material individually. It is not acceptable for teachers to make raw video footage available to students.

The video must run for between 60 and 90 seconds, including the questions if they are part of the video. Any length within these parameters is acceptable. The video must be filmed from at least two camera angles.

The questions may be asked by one of the cast at the end of the video. This may be signed or subtitled for accessibility. Alternatively, the questions may be provided from a separate link on the map.

Students may use any suitable software to edit the video. They need to experiment and test with different file formats, display sizes, frame rate and bit rates in order to get the balance right between acceptable file size and fitness for purpose.

Level 3 Puzzles

The number of puzzles will depend on the number of letters or numbers to be found at this level and whether the student chooses to create a complex puzzle or a series of simpler ones.

Students must create a flowchart for the level to show how the puzzles will link together. They are also expected to create a storyboard for each screen.

Any suitable multimedia authoring software may be used to create the puzzles.

The interactive map

The map is central to the game as all other components can be accessed from here.

Students are free to produce any type of map, with or without roads. It must be clear what links there are and the design must reflect the chosen theme.

Hotspots or other visual links should be used to indicate where links will take the user.

When creating the map, students should ask for feedback on the design but it will not be a useable component at this stage.

The splash screen

Splash screens are used in the games industry to introduce the name of the game and the distributor e.g. EA Games and sometimes the developer, along with other information.

The examples do not fill the whole screen but are provided to give students ideas.

This does not have to be complicated and should certainly not be very long. It can be a timed intro or an introductory screen with something to click on to move to the map. .

Students should aim for something which attracts the attention of potential players and should include the name of the game. It can be tested in isolation as it only leads into the map.

The instructions and coding sheet

The onscreen instructions must identify the chosen target audience and contain the information listed in the SPB.

The coding sheet must be a printable document. The example shows three questions at each level but students should not feel obliged to follow suit.

The game ending

Students may need assistance with this section - ensuring that the two files are stored within the same folder in the eportfolio and altering the txt file to match their correct code. This is perfectly acceptable.

The code is case-sensitive so students may wish to decide whether to use capitals or lower case and include this information in the instructions.

Students should not attempt to edit the Flash movie.

Section 5: The eportfolio

The maximum size for the eportfolio has been increased to 30 MB for this SPB. However, students should be reminded that they will easily exceed this figure if they include unnecessary files such as prototype movies and other files that are not used in the final products. The eportfolio must be viewable in any common browser.

The eportfolio must be viewable in any common browser. Any suitable software may be used to construct the eportfolio - specialised web authoring software is not essential. However, students should be discouraged from using Powerpoint or other presentation software for this purpose. Those who do so must convert the eportfolio to html. The Powerpoint viewer in the Moderator's Toolkit is there to allow moderators to view evidence files within the eportfolio. Students should be encouraged to test their eportfolios in more than one browser.

Students should ensure that they provide working links to all the specified items of evidence even when the eportfolio is transferred from the network. One possibility would be to allow students access to a standalone computer for testing purpose. If this only has the Moderator's Toolkit installed then students will also be able to check that their eportfolio conforms to the technical specification.

Students should try to create a showcase for their products, incorporating assets such as movies or audio feedback where appropriate. They should, however, avoid inappropriate assets which are not relevant to the audience and purpose.

There must be an easily recognisable home/index page giving key information including: candidate name and number, centre name and number, unit name and number and date.

Students should allocate sufficient time to the design of the eportfolio, aiming for consistency of presentation and good layout using colour schemes that are conducive to on-screen viewing. They should introduce evidence with helpful comments.

Students should aim to produce detailed commentaries contextualising the evidence.

There is no need to include evidence of testing the eportfolio. It should be possible to infer that testing has occurred and to judge its effectiveness by the quality of the product.

There is a link to an eportfolio checklist which includes most, if not all, of the items that students should include. Additional items should only be added if these are necessary for assessment to be effective.

Some possible software choices

Movie Maker, Producer, Flash, PowerPoint, Matchware Mediator, Adobe Premier Elements, Ulead Video Studio, Mediator, SWiSHmax, Sothink SWF Quicker, Dreamweaver, Fireworks, Freehand, FrontPage

Dance EJ, Audacity, Magix Music Maker, Garage Band