

UNIT 9: MULTIMEDIA (ADVANCED)

ABOUT THIS UNIT

This unit will help you to take a given presentation brief and:

- decide on the type of effects that are relevant to the subject matter and the target audience
- design original presentations that include sound, graphics and animation
- create the presentation that you have designed
- deliver the presentations to the target audience.

You will use your multimedia skills to design and create two multimedia presentations, one on your own and one as a member of a team. You will evaluate the total product, including hardware and software used.

This unit builds on work done in Unit 1: Presenting information (Advanced) and may be used as an introduction to Unit 7: Programming (Advanced). It may also contribute to Unit 20: Animation, sound & video (Advanced).

The work in this unit follows on from Unit 7: Multimedia (Intermediate).

This unit will be assessed through your portfolio work only. The grade awarded will be your grade for the unit.

WHAT YOU NEED TO LEARN

The relevant topics are:

- design
- presentation
- technical terms
- accuracy and suitability
- techniques
- evaluation
- standard ways of working.

You will meet new technical terms in each of these topics, and you will need to learn how people use these terms, and then to use them correctly yourself.

Design

Design can take up to half the time required for you to complete a multimedia production.

You will learn to:

- decide, perhaps with a client, the main theme or message
- decide on the maximum time and costs of the production
- list what you want your production to achieve
- decide key words or ideas that you will need to develop
- jot down your original ideas
- produce storyboards
- consider available sound libraries and decide what sounds you need to create
- decide what images you want to create and consider sources for images
- decide how much text you want to use
- decide on suitable software
- choose the file formats that you will use

- think about ways of linking your ideas
- decide whether animation will be useful
- decide how and when to include video sequences
- consider how much you want users to respond to your screens of information
- think how to allow for those responses
- decide where users must be able to back-track to earlier screens
- draw a diagram showing the structure of your presentation
- prepare production scripts
- decide how to finish your production
- draw up a plan with deadlines for different stages and allowing for changes.

You must respect copyright laws and learn how to apply to use copyright materials. Copying is lawful if you obtain permission and many opportunities exist to copy pictures, words, sounds and animations. Your design must consider such sources and how you might want to edit them. You must also be aware of any other relevant legal or ethical considerations.

The different types of software which may be used are many and varied depending upon what you plan to include in the finished product, but could include some of the following or their equivalents:

- multimedia software such as Macromedia Director or Asymetrix Tool Book
- for html there is MS Front Page, Macromedia Dreamweaver, Adobe Page Mill, Word
- graphics software such as Adobe PhotoShop or Coral Photo Paint
- CAD software such as AutoCAD and Coral Draw
- for audio you could use Cakewalk or create CDs using Nero.

The list is by no means exhaustive.

You will also learn to design the testing of your presentation. Proper testing ensures that your production works as you intend, and you should include trying out your product on a typical user.

Presentation

Presentation looks at the way information is set out to create the most effective product.

You will learn how to set out your information appropriately by sensible choice and use of:

- colour
- highlights
- borders and shading
- captions
- timing
- scaling
- pictures
- sounds and volume
- spacing
- tables
- drawing
- moving sequences.

Technical terms

You need to learn and use the following technical terms related to presentations:

- bullet points
- graphics
- program
- buttons

- authoring
- interaction
- clipart
- hypertext
- hot spots and hotkeys.

Accuracy and suitability

You will learn to design a presentation that uses style and language to match your audience and your message. You need to use an appropriate style and reading age, and you can experiment with tools that try to assess both. You will practise combining language, images and sounds that accurately convey the mood of your presentation.

Spell-checkers will help with accuracy of spelling and a thesaurus will help you to choose the right words.

You will avoid obvious factual errors and will learn to check the accuracy of any unusual facts that you present by having at least two independent sources that agree.

You will also learn about different genres. Sometimes, you may want to gain attention with the unexpected, however, you must learn what is normally expected on a particular theme and for a particular audience.

Techniques

You will learn how to put together, in a pleasing way, a selection of existing words, sounds and images and extend this to ways of producing your own words, sounds and images. You will use the majority of the following essential skills to build presentations which deliver your message to your particular audience:

- scanning and editing images
- scanning and editing text
- creating and editing sounds
- creating pictures
- creating drawings, diagrams, charts
- creating animations
- creating interactive or hypertext links
- creating interactive user buttons or screen hot spots
- importing files
- converting file formats
- writing authoring scripts or html to program sequences of sound, text, animation and graphics
- editing and testing your multimedia programs
- writing instructions for users in plain English.

Technical terms

You need to learn and use the following technical terms related to multimedia techniques:

- crop
- object
- bitmap
- file formats for images (such as BMP, PCX, GIF, TIF, JPEG, FLI, AVI)
- file formats for sound (MID, WAV)
- technical documentation
- user documentation.

Evaluation

Studying commercial productions will help you to judge your own work. You will learn that some judgements are a matter of taste whereas others can be more objective.

Objective criteria

You will learn to consider formally whether:

- your presentation meets your list of intentions
- you have met your deadlines
- you have kept within your budget
- your work is accurate (factually and in its spelling)
- any client or sample user has expressed approval
- normally sighted users can read easily any text on the screens
- your structure diagram corresponds with the way your presentation works
- your presentation works for all possible paths
- your presentation is robust (handling erroneous input unobtrusively)
- users understand the words in your presentation
- users can follow your instructions easily
- it is easy for users to repeat important sequences.

Subjective criteria

Subjective criteria are more difficult to evaluate and you will have to seek more than one opinion to help you arrive at judgements such as the following:

- do the sounds that you use really enhance your production or do they serve little purpose?
- does your message come across clearly (not necessarily on a single use of your presentation)?
- have you used the right language for your potential users?
- have you used the appropriate amount of text?
- are your animations a distraction or do they genuinely assist understanding?
- do video sequences (if used) enhance the presentation?
- can people use your production almost intuitively?
- for any automatic sequences, do users have enough time to digest what is happening?

It is unlikely that you will achieve a production that matches its intentions first time. You will learn to evaluate your production through its different stages and sometimes you will want to revise your original intentions. You will learn that this is a fruitful use of evaluation.

Another aspect of evaluation concerns software and hardware. With experience you will learn to judge the strengths and weaknesses of software tools such as authoring packages and you might choose to avoid limitations of some authoring packages by working on some parts of your presentation with specialised software. This could apply to graphics, animation, sound or text.

When your production is complete, you must be able to assess the quality and the limitations of the software and hardware at your disposal. This means being able to produce well-argued answers backed up by evidence to questions such as the following:

- how easy is it to produce animations?
- how easy is it to use a range of common file formats?
- does the software allow your presentations to work easily at different screen resolutions?
- what are the advantages and disadvantages of authoring that is icon-based rather than script-based?
- does the package take advantage of compression techniques for managing sound and animation?

- how easy is it to do arithmetic inside the package?
- does the text-handling allow a range of common word-processing services such as emboldening?
- how clear is the manual?

Standard ways of working

Note

See Unit 1: Presenting information (Advanced) for full details of the standard ways of working which you need to know and use. This is a shortened version of the requirements written to apply specifically to this unit.

The way you manage your work during the investigation, analysis and report production is also important. You need to learn to:

- plan your work to produce what is required to given deadlines
- save work regularly
- use file names that are sensible and that help to remind you of the contents
- store files where you can easily find them in the directory/folder structure
- keep a log of any ICT problems you encounter and how you solve them
- keep information secure (eg protection from theft, loss, viruses, fire)
- protect confidentiality (eg prevention of illegal access to medical or criminal records)
- observe copyright laws (eg not using the work of others without permission)
- keep dated backup copies of files on another disk and in another location
- evaluate your work and suggest how it might be improved
- for your written work, and where text is used, proof-read your products (on screen) to ensure accuracy and economic use of material.

ASSESSMENT EVIDENCE

You need to produce two multimedia productions, one individually and one as part of a team, which effectively combine the elements of sound, text, animation and graphics and include facilities for user interaction. An evaluation of the authoring tools used is also required.

To achieve a grade E your work must show:	To achieve a grade C your work must show:	To achieve a grade A your work must show:
<ul style="list-style-type: none"> • the purpose of each presentation, clearly identifying the audience for which it is prepared and their interest in it • use and combination of sound, text, colour, animation and graphics appropriately in each presentation and good facilities for user interaction • composition of original text, sounds and images which together form effective presentations which are suitable for your audience • an accurate outline to your presentations (eg storyboard) and a concise guide to any user interaction involved • that you can work effectively in a team which designs and produces an appropriate presentation, giving details of your contribution to the project • a clear progression towards your solution. 	<ul style="list-style-type: none"> • good use of a wide range of text, colour, animation, sounds and images, drawing together knowledge, understanding and skills to produce effective presentations • effective planning and testing, including testing by someone from the target audience, and details of any revisions that have taken place • details of how the various features of each presentation were used to impart relevant information, to the target audience, in a clear and concise manner • that you can work independently to produce your work to agreed deadlines. 	<ul style="list-style-type: none"> • presentation of information in a way which is coherent, concise and has good continuity, thereby putting over a message which is easily understood by the target audience • a clear, accurate and detailed review of the presentations, which discusses suitability for purpose, identifies good and bad features and suggests possible improvements • written work which uses technical language fluently and which has been checked and proof-read to remove most spelling and grammatical errors.

ESSENTIAL INFORMATION FOR TEACHERS

Teaching strategies

Students need to spend time exercising skills in working separately with text, sound and various forms of graphics, including animation, before they begin to build their own presentations. Students may start by considering what they consider to be weak points of existing multimedia CDs, simultaneously being stimulated to emulate the good use of attractive techniques.

Authoring packages vary considerably in the language they use in discussing the elements of multimedia presentations. The most useful approach may be to think of presentations as being built from separate events or objects which allows the possibility of strong links with Unit 7: Programming (Advanced). Such an approach also lends itself to the splitting of a presentation into separate parts for which different students can take individual responsibility. This consequently reinforces the need for user documentation and technical documentation.

There is no need for students to build all forms of multimedia elements into each presentation, for the different elements should occur only because they enhance the presentation, not because they demonstrate compulsory techniques. It is reasonable, however, to assume that work at this level goes beyond the equivalent of slide-show sequences with negligible interaction. It would be a mistake to lay down a set number of screens for a presentation but, to ensure that the production reaches a suitable level, one could have in mind that the complexity should require at least 30 screens and a dozen routes through the material. It is important at the design stage that students are encouraged to extend the complexity of their work to an appropriately challenging level.

Teaching the sense of balance between different elements is extremely challenging. Teachers may like to combat the general myth that all multimedia productions should be sparing in their use of words – a multimedia examination of a play or book, for instance, would quite properly contain large amounts of text. Animations can easily degenerate into meaningless transformations of images but come into their own when they show users how to complete a practical physical task or understand how something works.

Documentation is a measure of quality. It is the area most likely to prove difficult for students, but the requirements for an E grade set reasonably achievable targets for all students.

Students who enjoy facilities for work with video may wish to incorporate video sequences into their work. Similarly, students could make use of digital cameras if these are available. All students need to spend time ensuring that what they are trying to present is clear and accurate – usually, mistakes in the message are more common than mistakes in using different media to present the message.

It is probably worth having a stock of possible scenarios for students to consider. Ideally, however, they will decide the themes of their presentations by perceiving a need, often their own, and responding to it.

Assessment strategies

The result of your assessment of student evidence is an overall uniform mark for the unit. This is then used to generate a unit grade. It also contributes to the total uniform mark for the qualification that in turn is used to generate a qualification grade.

The mark you award must take into account the extent to which the evidence matches the requirements of the banner, the set of criteria in the grade E column of the grid, and the grading standards, represented progressively by the criteria in the grade C and grade A columns. Thus the overall mark you determine for a particular student is based on best-fit judgements of the evidence against successive sets of criteria presented as cumulative grade descriptions for grades E, C and A.

When grading student evidence you should consider the following general qualities that distinguish between the three grades:

- increasing depth and breadth of understanding
- increasing coherence, evaluation and analysis
- increasing independence and originality
- increasing objectivity and critical understanding.

Grade E

To achieve an E grade, students should aim to provide evidence that covers all the requirements stated in the E grade criteria of the assessment grid. It may be, however, that a student demonstrates considerable effort and skill in some areas at the expense of coverage of another. Professional judgement should be used to decide the extent to which the relative strengths shown in most of the criteria compensate for any weaknesses.

There must be a clear indication of the purpose of each presentation, and identification of the type and interests of the audience. For instance, is it a technical presentation to technically qualified people or to those with no technical knowledge? Or perhaps a sales presentation to salespeople or to potential purchasers? In each case the focus would be different and the audience interests would also be different. It is expected, but not necessarily required, that the two presentations would target different audiences or serve different purposes.

Students must use a range of text, colour, sounds, images, animation and audience interaction across the presentations, but not necessarily all of those features in each presentation.

There must be an accurate outline, using an appropriate method, which must include details of the level and style of user interaction (buttons, hot spots, etc), and an indication of the development of the presentation starting with rough drafts and ending with a finished product.

Working as part of a team is an important aspect of multimedia productions and the student should show ability to manage part of a much larger project, and integrate their work into a complex whole.

Grade C

At C grade level, students should be able to show that where a particular feature has been selected it has been used because of the effect it will produce, and that this in turn will add to the effectiveness of the presentation (eg the inclusion of animation is for a purpose, not just to show that the student can use it). The student is expected, at this level, to justify the use of any feature with respect to the target audience for the presentation. Justification of audience interaction would also feature, together with notes of any changes made because of audience reaction.

There should be evidence to indicate that the presentations have been planned and tested, showing checking and revision at various stages. Students should be encouraged to keep all

of their work throughout the tasks and selectively include relevant evidence on completion. An action plan is not required, but students must produce evidence of planning the outcomes, not the activities.

Students should take an independent approach to solving problems and preparing presentations, although assistance and guidance from tutors is allowed, particularly in determining the selection of subject for the presentations and in the use of software. Originality of approach and non-dependence on others are the keys to this criterion.

Deadlines for the work must be set and, unless re-negotiated for valid reasons, must be met.

Grade A

At A grade level, the presentation should be persuasive in its arguments, coherent and have excellent continuity; there should be no unintentional or distracting breaks or switches from scene to scene. The information it seeks to present should be accurate, concise and easily understood by the target audience. Some effort should have been made to poll the audience to see if they understood the message.

There should be a high level of understanding of the various techniques involved and documentation should make appropriate and wide use of technical language, where necessary explaining the terms used. All spelling mistakes and obvious grammatical errors should have been removed from the documents.

The student should produce an evaluation of their work which discusses the complexities of the problems and of their solutions which led to the final product. The work should include more than one suggestion of how the product could be improved and descriptions of at least two things which went well and two things which did not go so well. If the student feels that their work cannot be improved, or that they did not encounter problems, there should be a reasoned argument to support this opinion.

Key skills

This guidance highlights the most relevant key skills opportunities in this unit. It contains suggestions only. You will need to check that students have produced all the evidence required to meet part A **and** part B of the key skills specifications. Students may need to develop additional evidence elsewhere to meet fully the requirements of the key skills specifications.

Guidance is referenced in two ways:

K – keys to attainment

These are key skills or aspects of key skills which students should achieve as they meet the vocational requirements of the units. Only part B of the key skill is highlighted – you will need to check that students achieve part A.

S – signposting

These are opportunities that can be incorporated naturally into the learning programme.

COMMUNICATION, LEVEL 3		Key skills reference	
When students are:	They should be able to develop the following key skills evidence:		
<ul style="list-style-type: none"> working as part of a team in producing the presentations, you could provide evidence for all or part of the discussion skills – for instance, through your contribution to group discussions when planning the project, or chairing a meeting where you create opportunities for everyone to contribute 	C3.1a	Contribute to a group discussion about a complex subject.	S
	C3.1b	Make a presentation about a complex subject, using at least one image to illustrate complex points.	S
	C3.2	Read and synthesise information from two extended documents about a complex subject. One of these documents should include at least one image.	S
	C3.3	Write two different types of documents about complex subjects. One piece of writing should be an extended document and include at least one image.	S
<ul style="list-style-type: none"> producing design notes, evaluation, etc, there are many areas from outline planning through to finished product evaluation which provide opportunities for you to write. Each 	C3.3	Write two different types of documents about complex subjects. One piece of writing should be an extended document and include at least one image.	S

COMMUNICATION, LEVEL 3 (continued)		Key skills reference
When students are:	They should be able to develop the following key skills evidence:	
opportunity will require its own style. Some will involve the use of the vocabulary specific to multimedia. All will require attention to spelling, grammar, etc		
IMPROVING OWN LEARNING AND PERFORMANCE, LEVEL 3		Key skills reference
When students are:	They should be able to develop the following key skills evidence:	
	Provide at least one substantial example of meeting the standard for LP3.1 and LP3.2.	
<ul style="list-style-type: none"> planning work, including the setting of deadlines, this may provide some evidence towards this key skill. For instance, you will need to decide which types of features you will use, and why, and you will then need to establish targets 	LP3.1 Agree targets and plan how these will be met over an extended period of time, using support from appropriate people.	S
<ul style="list-style-type: none"> testing and revising work, working independently to produce it to agreed deadlines and seeking feedback from a member of the target audience 	LP3.2 Take responsibility for your learning by using your plan, and seeking feedback and support from relevant sources, to help meet targets. Improve your performance by: <ul style="list-style-type: none"> studying a complex subject learning through a complex practical activity further study or practical activity that involves independent learning. 	S

WORKING WITH OTHERS, LEVEL 3		Key skills reference
When students are:	They should be able to develop the following key skills evidence:	
<ul style="list-style-type: none"> • working as part of a team developing one of the presentations, you will need to plan individual contributions • working in a development team and planning and testing your work as you seek to fulfil the objectives, you will need to maintain good working relationships and cooperation which may provide opportunities to evidence part, or all, of the ‘Working towards WO3.2’ • reviewing your group work as a working body, something which is always difficult, you must be objective and you will need to assess how the product meets its aims in imparting information, and what could have been done better, etc. This should provide some evidence towards the ‘Reviewing the activity’ key skill 	<p>Provide at least one substantial example of meeting the standard for WO3.1, WO3.2 and WO3.3 (you must show you can work in both one-to-one and group situations).</p> <p>WO3.1 Plan complex work with others, agreeing objectives, responsibilities and working arrangements.</p>	S
	<p>WO3.2 Seek to establish and maintain cooperative working relationships over an extended period of time, agreeing changes to achieve agreed objectives.</p>	S
	<p>WO3.3 Review work with others and agree ways of improving collaborative work in the future.</p>	S