

Higher National Unit Specification

General information for centres

Unit title: Researching Multimedia Applications for Practical Re-Delivery

Unit code: DE31 34

Unit purpose: This Unit is designed to provide candidates with the knowledge and skills required to convert a multimedia application from one distribution medium to another. This includes examination of the media elements included in the application, consideration of Intellectual Property Rights and the processes required. One example of such a conversion is that of converting a CD-ROM application to a World Wide Web site. Candidates should examine an existing multimedia application for suitability for conversion to delivery by another mechanism and carry out the processes required. These processes include: redesign, and conversion of media elements.

On completion of the Unit the candidate should be able to:

1. Conduct research into a broad range of multimedia applications in current creative and interactive digital practice.
2. Select and assess an existing multimedia application.
3. Convert multimedia elements for re-purposing.
4. Construct and test a re-purposed multimedia application.

Credit value: 1 HN Credit at SCQF level 7: (8 SCQF credit points at SCQF level 7*)

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

Recommended prior knowledge and skills: Access to this Unit is at the discretion of the centre. However, it is recommended that candidates should have some prior knowledge and skills in multimedia applications. This may be evidenced by the possession of relevant National Units, HN Units or experience. It is strongly recommended that candidates have previously completed or are concurrently undertaking the HN Unit, D75W 34, Multimedia: Developing Multimedia Applications or an equivalent Unit.

Core skills: There may be opportunities to gather evidence towards core skills in this Unit, although there is no automatic certification of core skills or core skills components.

Context for delivery: If this Unit is delivered as part of a group award, it is recommended that it should be taught and assessed within the subject area of the group award to which it contributes.

General information for centres (cont)

Assessment: Outcome 1 requires candidates to produce a portfolio of short reports on multimedia products. In Outcome 2 candidates will document a feasibility study. Outcome 3 is a practical outcome with candidates using software tools to convert media elements to the required formats. Outcome 4 requires candidates to construct the repurposed application using the components converted for Outcome Three.

Assessment for this Unit is most usefully undertaken as a project as the four outcomes contain the stages required for the completion of the project.

Higher National Unit specification: statement of standards

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The sections of the Unit stating the Outcomes, knowledge and/or skills, and evidence requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Conduct research into a broad range of multimedia applications in current creative and interactive digital practice.

Knowledge and/or skills

- Identify types of multimedia product.
- Identify intended audience of a multimedia product.
- Identify media components used within a product.
- Evaluate effectiveness of included media components.
- Evaluate effectiveness of multimedia product.

Evidence requirements

Candidates will need evidence to demonstrate their knowledge and/or skills by showing that they can submit a portfolio of evidence of individual research of not less than five pieces of multimedia used in current creative and interactive digital practice. None of the pieces may be more than five years old. At least one piece must be a reference work, at least one must be entertainment related, at least one must be currently delivered by a remote mechanism (such as Web based) and at least one must be a locally delivered mechanism (such as a CD-ROM). At least two products should contain interactive elements.

For each piece of multimedia product considered, the candidate should produce a short commentary stating the:

- Source of the product (publisher, Web address etc.)
- Type of multimedia product.
- Intended audience of the piece.
- Media elements used (number and type).
- Effectiveness of use of media elements
- Effectiveness of multimedia application.
- Effectiveness of interactive elements (where appropriate).

Higher National Unit specification: statement of standards (cont)

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The discussion of each piece of multimedia must not be less than two hundred words and will not exceed three hundred words. Therefore, the completed report must be between 1000 and 1500 words in length.

Assessment guidelines

Candidates will probably benefit from the provision of a pro-forma for each of the documents required.

A broad range of multimedia products exist and should be considered, such as kiosk, advertisement, promotional, educational, recreational and reference.

Outcome 2

Select and assess an existing multimedia application.

Knowledge and/or skills

- Select a suitable project to re-purpose
- Determine the media element space/bandwidth requirements of current application.
- Determine the quality requirements of current application.
- Reverse engineer the design of the existing multimedia application.
- Observe Copyright / Intellectual Property Rights attached to the existing application.
- Determine media element quality requirements of the re-deployed application.
- Determine media element space/bandwidth requirements of the re-deployed application
- Identify Software tools for media conversion

Evidence requirements

Candidates will need evidence to demonstrate their knowledge and/or skills by showing that they can undertake a feasibility study to ensure that a multimedia product can be repurposed to a different delivery medium. Evidence must be presented as a document (either paper based or electronic) that includes at least the following information:

- Source multimedia application:
 - Author / date of creation.
 - Copyright status of application. If the copyright lies with a third party, written permission to use the work must be obtained and included.
 - List of media assets, describing type, size and ownership.
 - Diagram/other design representation of paths through application.

Higher National Unit specification: statement of standards (cont)

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- Target multimedia application
 - Asset sheets for each of the required media assets, describing type, estimated size after conversion and software tool/tools required to perform the conversion. Version numbers of software tools used must be noted.

The document must confirm, on the basis of the information contained in the document, that the conversion is possible from:

- A media element perspective. (For example, quality requirements are met)
- From a technical perspective. (For example, software is available to perform the required conversions.
- The legal perspective. (For example, copyright requirements are observed)

In exceptional circumstances, if one required asset cannot be converted satisfactorily, candidates can recreate a new version of the asset. If this option is chosen it must be documented, including a justification of the decision and the size and quality of the new asset. Software used to create the new asset must be noted. Legal requirements must be observed in the creation of the new asset.

If asset management software is available this must be used to hold the required asset information. In the absence of dedicated asset management software other software could be used, such as a spreadsheet or database package.

The application to be re-purposed must be given to candidates, along with a brief detailing at least the medium to be used for the re-targeting.

It is assumed that a CD-ROM multimedia product is to be re-purposed as a Web site (or vice versa) but as long as two different media are used, with different space/bandwidth and quality requirements this will be satisfactory.

Unless significant changes are made, repurposing from one medium to another closely allied medium will not be sufficient. For example, re-targeting a CD-ROM based multimedia application to DVD will not be regarded as appropriate.

Assessment guidelines

If using a software solution to track assets, it may be prudent to ensure that sufficient fields are provided to meet the requirements of both Outcome 2 and Outcome 3.

Higher National Unit specification: statement of standards (cont)

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Outcome 3

Convert multimedia elements for re-purposing.

Knowledge and/or skills

- Select tools to convert multimedia elements.
- Use tools to convert multimedia elements.
- Selection of file formats / compression.
- Document converted assets.

Evidence requirements

Candidates will need evidence to demonstrate their knowledge and/or skills by showing that they can convert all of the multimedia assets required into a form suitable for the re-purposed application. The assets should be submitted in a machine-readable format.

Multimedia assets must include at least one example of a graphic, a video clip an audio clip, and where appropriate, an animation. Each converted asset must be documented with an asset sheet containing at least the following information:

- Source of original.
- Date of conversion.
- Size of original.
- Quality of original
- File format of original
- Name of person performing conversion
- Size of asset after conversion
- Quality of asset after conversion
- File format after conversion
- Tool(s) used to perform conversion

Assessment guidelines

Candidates should be encouraged to document each asset as soon as it is discovered.

It is assumed that the output from a previous Outcome will be used as the input for this Outcome. If another approach is used, then the level of detail supplied should be at least equivalent to that produced for Outcome 1. Where it is impractical or impossible to directly convert one multimedia asset using available tools, it would be appropriate for the candidate to re-build the multimedia asset using appropriate tools – for example, an animation developed in a proprietary format that cannot be converted using available tools. If using a software solution to track assets, it may be prudent to ensure that sufficient fields are provided to meet the requirements of both Outcome 2 and Outcome 3.

Higher National Unit specification: statement of standards (cont)

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Outcome 4

Construct and test a re-purposed multimedia application

Knowledge and/or skills

- Redesign application for target medium.
- Implement and document application for target medium.
- Test re-purposed multimedia application.
- Document testing of re-purposed multimedia application.

Evidence requirements

Candidates will need evidence to demonstrate their knowledge and/or skills by showing that they can design, implement, test and document a re-purposed application.

Submission should be in the form of a document containing the following sections

- Design (including such items as flow charts, storyboards and mood boards) This design must be matched against the design derived from the original application, and differences noted.
- Design of testing strategy, including tests for all major paths. The design of the testing strategy should include details of the policy to be used for testing, e.g. incremental testing. (It may not be practicable to produce a full coverage test plan, but it is anticipated that at least thirty tests should appear in the test plan)
- Results of testing, based on the test plan.
- Remedial work undertaken as a result of defects found during testing.
- It is anticipated that faults will be detected during testing. A submission that does not admit to having defects removed at some stage in the development process will be deemed unsatisfactory.
- Confirmation of defect removal should be presented in the form of a re-test.

The application that has formed the basis for this repurposing exercise must be available for comparison.

Assessment guidelines

It is anticipated that the input for Outcome 4 will be produced from previous Outcomes, but under exceptional circumstances a brief may be substituted if it covers all of the material that would normally be produced by the previous outcomes.

Administrative Information

Unit code: DE31 34

Unit title: Researching Multimedia Applications for Practical Re-Delivery

Superclass category: CB

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Higher National Unit specification: support notes

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This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

This Unit is designed for inclusion in the framework of Interactive Multimedia, but may find use in other frameworks. As the Unit requires an existing multimedia product as input it is strongly advised that candidates have already completed or are concurrently undertaking the HN Unit, Multimedia: Developing Multimedia Applications, (D75W 34) or an equivalent Unit.

Guidance on the delivery and assessment of this Unit

Outcome 1

This Outcome requires candidates to research the range of multimedia products in terms of both the target audience, the type of product and the use of multimedia. The evaluation portions of this Outcome are, and must be, to an extent subjective and candidates should be exposed to a tutor led session where some products are discussed in these terms. The idea of being inspired by the work of others could be inculcated here, but the concept of copyright and infringement should also be included in the discussion. At this level it may be a challenge for candidates to express opinions on subjective matters, and they should be encouraged to do so. Although the issues raised in this Outcome have implications for the other topics in the Unit, delivery of the Outcome need not be the first topic delivered in the Unit and centres may find it useful to run this Outcome in parallel with the other 3 Outcomes.

Outcome 2

This Outcome requires candidates to make a judgment based on a set of criteria, most of which are objective. Candidates should be introduced to the different media components that may appear in a multimedia product, and why that component is presented in that particular format. (Such issues as download speed, quality and size could be raised here). The software tools that can be used to perform format conversion could be introduced here, along with their capabilities and limitations. As an example, the differences between vector and raster graphics could be discussed here (if not already introduced in a different Unit) and the limitations of software in converting between raster and vector formats could be discussed. The problems in enlarging small/low resolution images could also be raised here. Although not strictly required until Outcome 3, candidates may benefit from exposure to the software tools.

Higher National Unit specification: support notes

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Outcome 3

This Outcome requires candidates to perform the conversions. As such candidates will need to be proficient (practiced) in the use of the software. Centres should have a range of software to hand to allow candidates to investigate the different approaches taken by the vendors. It may be useful to compare the facilities provided by high end software with the facilities provided by free or public domain software.

Outcome 4

Apart from ensuring that the centre has appropriate authoring software for the intended application little guidance should be needed. Emphasis on working in an orderly manner should be made.

Open learning

If this Unit is delivered by open or distance learning methods, additional planning and resources may be required for candidate support, assessment and quality assurance. A combination of new and traditional authentication tools may have to be devised for assessment and re-assessment purposes. For further information and advice, please see *Assessment and Quality Assurance for Open and Distance Learning* (SQA, February 2001 - publication code A1030)

Special needs

This Unit specification is intended to ensure that there are no artificial barriers to learning or assessment. Special needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering special alternative Outcomes for Units. For information on these, please refer to the SQA document *Guidance on Special Assessment Arrangements* (SQA, 2001).

General information for candidates

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This Unit is designed to provide you with the knowledge and skills required to convert a multimedia application from one distribution medium to another. This involves examination of the media elements included in the application, consideration of Intellectual Property Rights and the processes required. Therefore, this Unit is about transforming a multimedia product so that it can be re-used in different circumstances.

Outcome One is intended to introduce to you to the broad range of multimedia products that are available, asking you to look at a selection of multimedia products and discussing the main features. You will be asked to give your opinion on the multimedia products that you have investigated. In particular you will be asked to discuss the effectiveness of the piece, from the point of view of the components and the product itself (it may be that a product has some very good components and some poor components – how does this affect the overall impression?)

Outcome Two involves the preparatory work for re-purposing, and is effectively a feasibility study where you have to decide if a multimedia product can be successfully converted. In order to do this you will have to examine all of the components in turn to ensure that the conversion can be made. There are a couple of factors to be considered, including the size and quality implications of the conversion. The issue of copyright must also be considered.

Outcome Three requires you to perform the conversion processes for all of the identified media elements. This will mean that you will have to work with a number of different pieces of software to convert the different media elements. You will be asked to record the conversion processes as you do them.

Outcome Four is where the converted components are built up to form the repurposed application. You will be asked to build the application, develop a plan of how the new product will be tested and perform the testing process to confirm that the product works as advertised. As part of the testing process you will find defects in the product (this is almost inevitable). You will be asked to remedy these defects and document the process of repairing them.