Arrangements for:

National Progression Awards in Computer Games Development at SCQF levels 4, 5 and 6

Group Award Code: G9RP 44, G9RR 45 and G9RT 46

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Acknowledgement

SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of Higher National qualifications.

History of changes

It is anticipated that changes will take place during the life of the qualification, and this section will record these changes. This document is the latest version and incorporates the changes summarised below.

Version number	Description	Date	Authorised by

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1 Introduction

This is the Arrangements Document for the ***National Progression Awards in Computer Games Development, at SCQF levels 4, 5 and 6 , which were validated on 27 May 2010.*** This document includes: background information on the development of the Group Award, its aims, guidance on access, details of the Group Award structure, and guidance on delivery.

The National Progression Awards in Computer Games Development provide an introduction to, and qualification in, Computer Games Development. The course is designed to improve the current SQA provision at SCQF levels 4, 5 and 6 and to provide progression to HNC/D in Computer Games Development (SCQF levels 7/8) recently validated by SQA.

2 Rationale for the development of the qualifications

Computer games are being used increasingly for leisure, in education and work-based training with players interacting via personal computers, consoles, PDAs, mobile devices and web browsers. Computer gaming is now a growing industry, with Scotland one of the global leaders. In Scotland there are more than 50 companies, mostly based in Dundee, Edinburgh and Glasgow. These companies rely on a range of creative skills such as art, design, animation, audio and programming. Employers increasingly expect candidates to have critical thinking and problem solving abilities, to be good communicators and able to work within a group/team, as these are essential skills for working in a modern business environment.

It was announced in December 2009 that Scotland's computer games industry was to be given an investment of £2.5m from the UK government. The Scottish government has also announced that Scottish-based games developers will receive almost £1m of European money. The aim is to create 30 new companies, assist 80 others, stimulate 400 new jobs and build the skills of a further 300 workers.

In addition, in the Budget in March 2010, the Chancellor announced that the government would offer tax breaks to the UK gaming industry. Tiga, the trade association that represents UK games developers, announced tax relief would create 3, 500 more jobs over the next five years. Tiga Chief Executive Richard Wilson said this would allow the UK to 'compete on a global stage'. He predicted it would allow £457m to be invested in new games over the next five years.

Many colleges and universities in Scotland offer computer gaming or related courses. The number of candidates studying computing subjects in secondary education has fallen. As a result fewer candidates are enrolling onto Computing Science or related courses in further and higher education. Employers in the computer games industry require graduates to possess the appropriate range of skills.

In order to meet Curriculum for Excellence Technologies Outcomes and Expectations (levels 1 to 3), all school pupils in Scotland must have experience of computer games development. Currently SQA does not offer qualifications in computer games development at SCQF levels 4, 5 and 6. Learning how to develop computer games offers young people opportunities

to develop their skills for life and skills for work within a creative and work-related context, allowing them to see the links between the classroom and the world of work.

This award, at SCQF levels 4, 5 and 6, is designed to enable candidates to:

- investigate the computing gaming industry/genres/hardware/trends and emerging technologies
- gain an understanding of underlying concepts and the fundamental principles involved in digital gaming planning and design
- gain the knowledge and skills required in the creation of media assets and games development
- work with others to test a game and give constructive feedback
- collaborate with others in an enterprise activity to promote/market a game

Although there are no explicit Enterprise Units included, one aim of the awards is to develop candidates' personal qualities and the attributes essential for success in working life. The following aspects of enterprise skills have been embedded throughout the Units as follows:

- becoming adaptable and possessing a positive attitude to change
- becoming confident in setting goals, reflecting and learning from experience
- developing an enterprising attitude
- developing an understanding of the world of work
- fostering a positive attitude to learning
- participating in enterprise activities
- undertaking flexible approaches to solving problems
- undertaking self and peer evaluation

SCQF level descriptors were used as a working guide to determine the level outcomes of each Award.

Progression from NPA/NC

Each Unit of the National Progression Award in Computer Games Development will be available as part of a suite of Units available for a NC in Digital Media Computing and also as part of a suite of Units in development for a NC in Computer Games Development.

Candidates who undertake this award at SCQF level 4 could expect to progress onto the next levels:

NPA in Computer Games Development at SCQF level 5 or
NC in Digital Media Computing at SCQF level 5

Candidates could also progress onto any of the following:
NPA in Computer Networks and Systems at SCQF level 5
NPA in Computers and Digital Photography at SCQF level 5
NPA in Digital Media Animation at SCQF level 5
NPA in Digital Media Editing at SCQF level 5
NPA in Website Enterprise at SCQF level 5

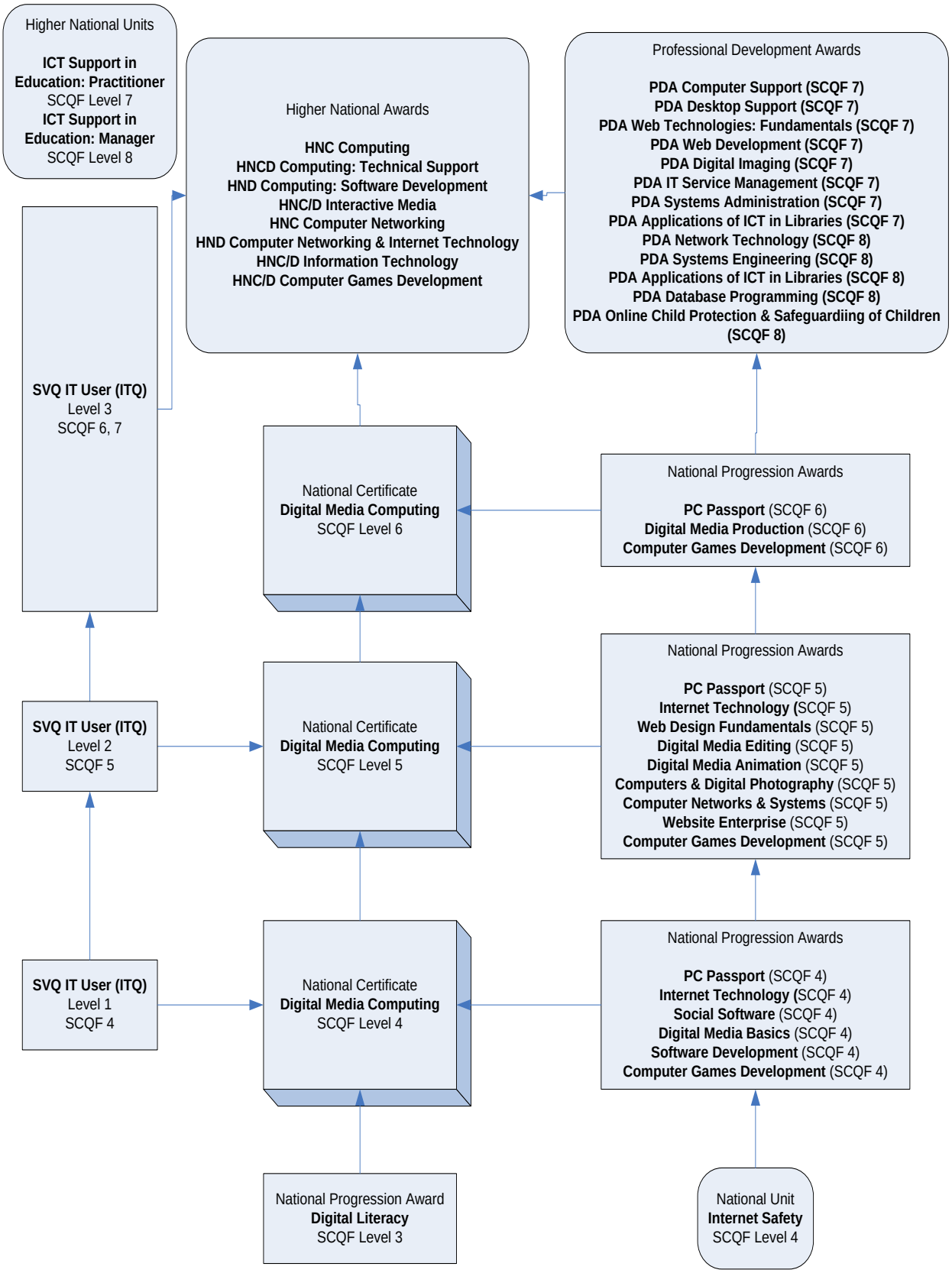
Candidates who undertake this award at SCQF level 5 could expect to progress onto the next level:

NPA in Computer Games Development SCQF level 6 or
NC in Digital Media Computing and SCQF level 6

Candidates could also progress onto:
NPA in Digital Media Production SCQF 6

Progression to higher education

Candidates may undertake subsequent HN Units and/or awards in Computing at SCQF level 7 or above and follow the progression pathways within the Scottish Credit and Qualifications framework.


Higher National Units
ICT Support in Education: Practitioner
SCQF Level 7
ICT Support in Education: Manager
SCQF Level 8
Higher National Awards
HNC Computing
HNCD Computing: Technical Support
HND Computing: Software Development
HNC/D Interactive Media
HNC Computer Networking
HND Computer Networking & Internet Technology
HNC/D Information Technology
HNC/D Computer Games Development
Professional Development Awards
PDA Computer Support (SCQF 7)
PDA Desktop Support (SCQF 7)
PDA Web Technologies: Fundamentals (SCQF 7)
PDA Web Development (SCQF 7)
PDA Digital Imaging (SCQF 7)
PDA IT Service Management (SCQF 7)
PDA Systems Administration (SCQF 7)
PDA Applications of ICT in Libraries (SCQF 7)
PDA Network Technology (SCQF 8)
PDA Systems Engineering (SCQF 8)
PDA Applications of ICT in Libraries (SCQF 8)
PDA Database Programming (SCQF 8)
PDA Online Child Protection & Safeguardiing of Children (SCQF 8)
SVQ IT User (ITQ)
Level 3
SCQF 6, 7
National Certificate
Digital Media Computing
SCQF Level 6
National Progression Awards
PC Passport (SCQF 6)
Digital Media Production (SCQF 6)
Computer Games Development (SCQF 6)
SVQ IT User (ITQ)
Level 2
SCQF 5
National Certificate
Digital Media Computing
SCQF Level 5
National Progression Awards
PC Passport (SCQF 5)
Internet Technology (SCQF 5)
Web Design Fundamentals (SCQF 5)
Digital Media Editing (SCQF 5)
Digital Media Animation (SCQF 5)
Computers & Digital Photography (SCQF 5)
Computer Networks & Systems (SCQF 5)
Website Enterprise (SCQF 5)
Computer Games Development (SCQF 5)
SVQ IT User (ITQ)
Level 1
SCQF 4
National Certificate
Digital Media Computing
SCQF Level 4
National Progression Awards
PC Passport (SCQF 4)
Internet Technology (SCQF 4)
Social Software (SCQF 4)
Digital Media Basics (SCQF 4)
Software Development (SCQF 4)
Computer Games Development (SCQF 4)
National Progression Award
Digital Literacy
SCQF Level 3
National Unit
Internet Safety
SCQF Level 4

Progression pathways within Scottish Credit & Qualifications Framework

SCQF level	SQA National Units, Courses and Group Awards	Higher Education	Scottish Vocational Qualifications	SCQF level
12		Doctorates		12
11		Masters	SVQ 5	11
10		Honours Degree		10
9		Ordinary Degree		9
8		Higher National Diploma	SVQ 4	8
7	Advanced Higher	Higher National Certificate		7
6	Higher		SVQ 3	6
5	**Intermediate 2**		SVQ 2	5
4	Intermediate 1		SVQ 1	4
3	Access 3			3
2	Access 2			2
1	Access 1			1

- 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

Market research was undertaken to gauge support for an NPA in Computer Games Development from relevant educators across Scotland, and to obtain initial feedback on the use of existing Units that could be contextualised for such a course.

Summary of the survey responses

- 94.6% of responses from computing educators (school teachers, college and university lecturers) supported the development of NPAs in Computer Games Development.
- The percentage of centres likely to support the NPA being developed at levels 4 was 88.9%, level 5 97.2% and level 6 83.3%.
- 82.1 % stated that they would be likely to offer any of the proposed courses.

- Feedback (positive and negative) from the second survey led the QDT to conclude that the best option would be to write a new course which aimed to achieve the following at each level:
  - investigate/analyse the computing gaming industry/genres/hardware/trends and emerging technologies
  - design a game (becoming more complex at each level)
  - create assets for a game(becoming more complex at each level)
  - create a game (becoming more complex at each level)
  - work with others to test a game and give constructive feedback
  - collaborate with others in an enterprise activity to promote/market a game

The main findings of the market research and consultation processes led to the final contents of the awards consisting of three hierarchical one credit Units at each level:

1 Computer Games: Design
2 Computer Games: Media Assets
3 Computer Games: Development

3 Aims of the Group Award(s)

3.1 Principal aims of the Group Award(s)

1 To develop candidates' creativity and communication skills through knowledge of digital media creation and design processes.
2 To develop candidates' knowledge of computer games design methodologies.
3 To develop candidates' knowledge of computer games development environments.
4 To develop candidates' knowledge of computer games platforms, environments and genres.
5 To prepare candidates for progression to further study in computing or related disciplines.

3.2 Specific aims of the Group Award(s)

6 To develop candidates' knowledge and skills in planning, developing and evaluating.
7 To develop learning and transferable skills (including Core Skills in *Communication*, *Information and Communication Technology*, *Literacy*, *Numeracy*, *Problem Solving* and *Working with Others*).
8 To develop study and research skills.
9 To enable progression within the SCQF.
10 To provide candidates with opportunities to develop personal qualities and attributes essential for success in working life, including entrepreneurial skills.

3.3 Target groups

The award is particularly suited to the following groups:

- S3 and S4 schools pupils who will undertake the qualification as part of a school's vocational education programme. For such candidates the NPA provides a good basis for progression on to any of the suite NPAs at SCQF levels 5 and 6.
- S5 and S6 school pupils who will undertake the qualification as a broadening of the Computing Science and Digital Media curriculum.
- Students at colleges who will be using the NPA within full or part-time college programmes such as part of a NC in Digital Media Computing or a NC in Digital Games Development.
- Adults returning to education with an interest in computer game design and related courses.

3.4 Employment opportunities

It is recognised that candidates who demonstrate the basic Core Skills coupled with an understanding of the use of digital technology are more likely to gain employment than those with just IT skills.

4 Access to Group Award(s)

Entry is at the discretion of the presenting centre, however, it would be beneficial to the candidates if they possessed basic IT skills at SCQF level below the course of intended study.

The recommended Core Skills entry profile for the SCQF level 4 award is shown below. Core Skills profiles for subsequent awards would be at the discretion of the centre.

5 Group Award(s) structure

5.1 Framework

NPA in Computer Games Development at SCQF level 4

Unit title	Code	SCQF credit points	SCQF level	SQA credit value
Computer Games: Design	F915 10	6	4	1
Computer Games: Media Assets	F916 10	6	4	1
Computer Games: Development	F917 10	6	4	1

NPA in Computer Games Development at SCQF level 5

Unit title	Code	SCQF credit points	SCQF level	SQA credit value
Computer Games: Design	F915 11	6	5	1
Computer Games: Media Assets	F916 11	6	5	1
Computer Games: Development	F917 11	6	5	1

NPA in Computer Games Development at SCQF level 6

Unit title	Code	SCQF credit points	SCQF level	SQA credit value
Computer Games: Design	F915 12	6	6	1
Computer Games: Media Assets	F916 12	6	6	1
Computer Games: Development	F917 12	6	6	1

An identical structure was adopted at each level to provide smooth progression from level to level and also to facilitate a hierarchy within SQA's awarding system. A qualification hierarchy permits candidates to undertake similar activities and gain accreditation based on the highest level of competence that they are able to demonstrate. For example, candidates within a single class may undertake the same Knowledge and Skills but gain different levels of qualification. One may exit with a SCQF level 4 (Intermediate 1) award and another with a SCQF level 5 (Intermediate 2) award. The Units have been written with progressive Outcomes: performance from level to level is differentiated by Performance Criteria and Evidence Requirements.

This approach allows candidates to build a portfolio of assessment evidence and exit with an award at SCQF level 4, 5 or 6 depending on the contents of their portfolios. Tutors may deliver the same body of knowledge while permitting candidates to gain different levels of achievement.

The following Core Skills are signposted at every opportunity:

- Communication
- Information and Communication Technology
- Literacy
- Numeracy
- Problem solving
- Working with Others

Core Skills Mapping

		Communication		Numeracy		Information Technology	Problem Solving			Working with Others
Unit code	**Unit title**	**Oral**	**Written**	**Using Graphical Info**	**Using Number**	**Using IT**	**Critical Thinking**	**Planning and Organising**	**Reviewing and Evaluating**	**WwO**
F915 10	**Computer Games: Design SCQF level 4**		S			S	S	S		S
F916 10	**Computer Games: Media Assets SCQF level 4**	*S*	*S*		*S*	*S*	*S*	*S*		*S*
F917 10	**Computer Games: Development SCQF level 4**	S	S			S	S	S	S	S
F915 11	**Computer Games: Design SCQF level 5**	*S*	*S*	*S*	*S*	*S*	*S*	*S*		*S*
F916 11	**Computer Games: Media Assets SCQF level 5**	*S*	*S*		*S*	*S*	*S*	*S*	*S*	*S*
F917 11	**Computer Games: Development SCQF level 5**	*S*	*S*		*S*	*S*	*S*		*S*	*S*
F915 12	**Computer Games: Design SCQF level 6**	*S*	*S*	*S*	*S*	*S*	*S*	*S*	*S*	*S*
F916 12	**Computer Games: Media Assets SCQF level 6**	*S*	*S*		*S*	*S*	*S*	*S*	*S*	*S*
F917 12	**Computer Games: Development SCQF level 6**	*S*	*S*		*S*	*S*	*S*	*S*	*S*	*S*

S = signposted/E = embedded

5.2 Mapping information

Aims

Unit code	Unit title	1	2	3	4	5	6	7	8	9	10
F915 10	Computer Games: Design		✓		✓	✓		✓	✓	✓	
F916 10	Computer Games: Media Assets	✓				✓	✓	✓		✓	
F917 10	Computer Games: Development			✓		✓	✓	✓		✓	✓
F915 11	Computer Games: Design:		✓		✓	✓	✓	✓	✓	✓	
F916 11	Computer Games: Media Assets	✓				✓	✓	✓		✓	
F917 11	Computer Games: Development			✓		✓	✓	✓		✓	✓
F915 12	Computer Games: Design		✓		✓	✓	✓	✓	✓	✓	
F916 12	Computer Games: Media Assets	✓				✓	✓	✓		✓	
F917 12	Computer Games: Development			✓		✓	✓	✓		✓	✓

The Units are compatible with the relevant National Occupational Standards:

Interactive Media and Computer Games

IM2 Obtain Assets for Use in Interactive Media Products
IM3 Prepare Assets for Use in Interactive Media Products
IM5 Design User Interfaces for Interactive Media Products
IM6 Use Authoring Tools to Create Interactive Media Products
IM8 Determine the Implementation of Designs for Interactive Media Products
IM13 Conduct User Testing Of Interactive Media Products
IM20 Design Electronic Games
IM15 Write and Edit Copy for Interactive Media Products
IM16 Plan Content for Web and Multimedia Products
IM22 Test Electronic Games
IM23 Create Narrative Scripts for Interactive Media Products
IM24 Create 2D Animations for Interactive Media Products
IM27 Create Sound Effects for Interactive Media Products
IM28 Create Music for Interactive Media Products

The Units/Awards may also address knowledge and understanding, awareness and performance statements in the following National Occupational Standards:

IM7 Code Scripts to Provide Functionality for Interactive Media Products
IM12 Devise and Evaluate User Testing of Interactive Media Products
IM21 Program Electronic Games

Table below illustrates possible NOS mapping:

Unit code	Unit title	IM 2	IM 3	IM 5	IM 6	IM 7	IM 8	IM 12	IM 13	IM 15	IM 16	IM 20	IM 21	IM 22	IM 23	IM 24	IM 27	IM 28
F915 10	**Computer Games: Design SCQF level 4**			✓							✓	✓			✓			
F916 10	**Computer Games: Media Assets SCQF level 4**	✓	✓				✓									✓	✓	✓
F917 10	**Computer Games: Development SCQF level 4**	✓	✓		✓	✓	✓				✓		✓	✓				
F915 11	**Computer Games: DesignSCQF level 5**			✓							✓	✓			✓			
F916 11	**Computer Games: Media Assets SCQF level 5**	✓	✓				✓									✓	✓	✓
F917 11	**Computer Games: Development SCQF level 5**	✓	✓		✓	✓	✓				✓		✓	✓				
F915 12	**Computer Games: Design SCQF level 6**			✓							✓	✓			✓			
F916 12	**Computer Games: Media Assets SCQF level 6**	✓	✓				✓		✓							✓	✓	✓
F917 12	**Computer Games: Development SCQF level 6**	✓			✓	✓		✓	✓		✓		✓	✓				

5.3 Articulation, professional recognition and credit transfer

This is a new qualification and no credit transfer arrangements apply.

6 Approaches to delivery and assessment

If the Units are undertaken in the context of the NPA in Computer Games Development at levels 4, 5 or 6 the following sequence of delivery is recommended:

1 Computer Games: Design
2 Computer Games: Media Assets
3 Computer Games: Development

A suggested delivery schedule is show in the table below.

Unit code	Unit title	level	Mandatory (M) /Optional(O)	Credit value	Block I/ Semester I	Block II/ Semester II	Block III
F915 10	Computer Games: Design	4	M	6	I		
F916 10	Computer Games: Media Assets	4	M	6		II	
F917 10	Computer Games: Development	4	M	6			III
F915 11	Computer Games: Design	5	M	6	I		
FF916 11	Computer Games: Media Assets	5	M	6		II	
F917 11	Computer Games: Development	5	M	6			III
F915 12	Computer Games: Design	6	M	6	I		
F916 12	Computer Games: Media Assets	6	M	6		II	
F917 12	Computer Games: Development	6	M	6			III

A portfolio approach to assessment should be taken. The portfolio may be paper or electronic (digital). The portfolio should be constructed over the period of each Unit, with candidates contributing material to the portfolio on an on-going basis. The contents of the portfolio must be clearly labelled and related to specific evidence requirements. The inclusion of specific items in the candidate's portfolio should be negotiated between the candidate and the assessor; only the 'best' example of the candidate's work should be stored.

Candidates are encouraged to use the Internet in any research, however, the evidence produced must be the candidate's own words. Assessors should ensure themselves of the authenticity of candidate's evidence.

Written and/or oral recorded evidence is required which demonstrates that the candidate has achieved all three outcomes to the standard specified in the Outcome and Performance Criteria. It is essential that each candidate identifies their own contribution to the task if working in a group and that they provide evidence for their own portfolio.
The evidence for all three outcomes should be obtained under controlled, supervised conditions within school/college.

An assessor observation checklist is required which authenticates that candidates have completed the above tasks. An assessor must endorse each candidate checklist with their name, signature and date.

These awards have been developed to encourage the following themes:

Creativity
Core Skills
Skills for Work
Enterprise.

Each Unit has been designed to encourage the candidate to:

- **Be creative.** Candidates are encouraged to:
  - Design their own narrative for a Computer Game.
  - Design and create their own characters, objects, levels.
  - Create and capture sounds and graphics.
  - Design how the user interacts with their game
  - Undertake an activity to promote their game.
  - Improve the candidates **Core Skills**
  - Improve the candidates Skills for Work in Interactive Media and Computer Games

- develop candidates' personal qualities by encouraging then to:
  - develop an enterprising attitude
  - develop an understanding of the world of work
  - participate in **enterprise** activities
  - undertake self and peer evaluation
  - foster a positive attitude to learning
  - undertake flexible approaches to solving problems
  - become adaptable and posses a positive attitude to change
  - be confident to set goals, reflect and learn from experience

Expertise Required

Experience in Computer Games Development is not essential to deliver these Units but would be desirable. Familiarity of the following software packages would be desirable:

Sound editing
Graphic editing
Video editing

Software Development/Programming
Project Management

The Group Award can be offered in the following modes:

- Full-time: full-time fast track; part-time (day or evening); distance or open learning
- A combination of modes such as part-time study with some open-learning provision

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003), SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

If **an e-portfolio** is used to capture candidates' work, it may take one of a variety of forms, ranging from general purpose digital repositories to specialised e-portfolio products. For example, a web log could be used to record candidate activity over the duration of a Unit. Specific entries to the blog could provide sufficient evidence in their own right (for example, a required identification) or could link to a file stored in another web service (such as a file hosting site). The use of a blog would aid authentication since any record of a candidate's day-to-day activities would provide implicit evidence of participation and ownership

If a candidate is undertaking a Unit in combination with other Units as part of the NPA Computer Games Development then the evidence should be retained as part of a portfolio of work. This evidence will be required for subsequent units (for example, the work produced for Units in Computer Games: Design is used in Computer Games: Media Assets and Computer Games: Development).

Resource requirements
Candidates must be able to access equipment and materials to provide them with opportunities to participate in activities in a learning environment similar to that of a real digital media work place or games studio.
In particular, candidates will need access to the following hardware and software:

- A **minimum of two** different gaming platforms such as:
  - Portable gaming platform (psp, nds, pandora, gp2x wiz)
  - Games console (xbox360, ps3)
  - PC (Windows, Mac OS X, Linux)
  - Software platforms (flash, java)
  - Mobile OS (Symbian, RIM Blackberry, Windows mobile, Apple iPhone OS, Google Android, Other (Palm/Linux))

- A minimum of two control (input) devices such as:
  - analogue/digital controls
  - touch screen, pointing device
  - position sensor, movement sensor/accelerometer
  - microphone
  - camera
  - gps

- **A minimum of two** output devices such as:
- external display (television screen, monitor, projector), built-in display
- speakers
- force feedback, rumble/vibration
- **A minimum of two** backing storage media and media used to store player data such as saved games.
  - internal flash memory
  - hard disc
  - DVD
  - removable flash memory

- Access to digital media hardware such as:
  - a digital camera
  - microphone
  - video camera

- Access to different Gaming software of different genres such as:
  - casual games
  - simulations
  - action
  - role play
  - educational

- Access to the internet that will allow students to source information and media assets.
- Access to Project Management Software is desirable but not essential
- Access to digital media software to allow the creation and/or modification of media assets such as graphics, sound, video and 3D editing software such as:

Media Editing Software

Product	**Website**
Graphics Software	
Aviary (online editing)	http://aviary.com
Adobe Photoshop Elements	http://www.adobe.com/uk/products/photoshopelwin
Adobe Illustrator	http://www.adobe.com/uk/products/illustrator
Serif DrawPlus	http://www.serif.com/education/products/drawplus.asp
Serif PhotoPlus	http://www.serif.com/education/products/photoplus.asp
Sumopaint (online editing)	http://www.sumopaint.com
Picnik	http://www.picnik.com

Vuvox (online editing)
http://www.vuvox.com
Photosynth http://www.photosynth.net

Sound Software
Audacity http://audacity.sourceforge.net
Garageband http://www.apple.com/ilife/garageband
Aviary Myna http://aviary.com/tools/myna
LoopLabs http://www.looplabs.com
Adobe Audition http://www.adobe.com/uk/products/audition

Video Software
iMovie http://www.apple.com/ilife/imovie
Windows Movie Maker
http://download.live.com/MovieMaker
Adobe Premiere Elements
http://www.adobe.com/uk/products/premiereel
Serif MoviePlus
http://www.serif.com/education/products/movieplus.asp
Kudlian I Can Animate
http://www.kudlian.net/products/icananimate
Jaycut (online editing)
http://jaycut.com
Pixorial http://www.pixorial.com

3D Software
Google Sketchup http://sketchup.google.com
Blender http://www.blender.org
Autodesk Maya http://students.autodesk.com
Autodesk 3DS Max
http://students.autodesk.com
Serif ImpactPlus http://www.serif.com/impactplus/impactplus

- Access to a Games Development Environment

These Units allow centres the widest possible choice of development environments. Some GDE links are given below:

Product	**Website**
XNA Game Studio	http://msdn.microsoft.com/en-gb/xna/default.aspx
RealmCrafter	http://www.realmcrafter.com/
Silverlight	http://silverlight.net/
GameStudio/3DGameStudio	http://www.conitec.net/english/gstudio/
Crystal Space	http://www.crystalspace3d.org/main/Main_Page
CELstart	http://www.crystalspace3d.org/main/CELstart
Scratch	http://scratch.mit.edu/
StarLogo TNG	http://education.mit.edu/drupal/starlogo-tng
Kodu	http://research.microsoft.com/en-us/projects/kodu/
Aurora (for NeverWinter Nights)	http://nwn.bioware.com/
Scriptease for Aurora (NWN)	http://www.cs.ualberta.ca/~script/
Adventure Author (based on NWN)	http://judyrobertson.typepad.com/adventure_author/downloads.html
Stagecast Creator	http://www.stagecast.com/

Game Maker	http://www.yoyogames.com/
Product	**Website**
Visual Basic 6	http://msdn.microsoft.com/en-us/vbrun/default.aspx
Gtk Radiant with *** (see list below)	http://www.qeradiant.com/
*** World Of Padman	http://padworld.myexp.de/index.php?files=main
*** Wolfenstein -Enemy Territory	http://www.splashdamage.com/wolfet#undefined
*** Tremulous	http://tremulous.net/
*** Warsow	http://www.warsow.net/
*** Urban Terror	http://www.urbanterror.info/
SD Radiant (Splash Damage)	http://www.splashdamage.com
Wolfenstein Enemy Territory SDK	http://wiki.splashdamage.com/index.php/Wolfenstein:_Enemy_Territory_SDK
Alice	http://www.alice.org/
Adobe (Macromedia) Flash	http://www.adobe.com/
Dark GDK	http://gdk.thegamecreators.com/
DarkBasic	http://www.darkbasic.com
BlitzBasic	http://www.blitzbasic.com
Blender	http://www.blender.org/
The Games Factory 1.06	http://www.clickteam.co.uk/downloadcenter.php?i=113
The Games Factory 2	http://www.clickteam.co.uk/tgf2.php
Klik and Play for Schools	http://www.abandoneer.com/games.php?gameid=34
Visual3D	http://www.visual3d.net/
Unreal Development Kit	http://www.udk.com/
Americas Army	http://www.americasarmy.com/
Unity	http://unity3d.com/
Panda 3D	http://www.panda3d.org/index.php
TrueSpace	http://www.caligari.com/
Ajax Animator	http://antimatter15.com/wp/ajax-animator/
Open Dialect	http://dialect.openmodeling.net/wiki
Salasaga	http://www.salasaga.org/
O3D (api for Java)	http://code.google.com/apis/o3d/
PyGame (req Python)	http://www.pygame.org/news.html
Python	http://www.python.org
Java	http://www.java.com/en/
Thinking Worlds	http://www.thinkingworlds.com
Promethean ActivInspire	http://www.prometheanplanet.com/server.php?show=nav.19251
Atmosphir	http://www.atmosphir.com/atmosphir
MissionMaker	http://www.immersiveeducation.org
Sims Carnival Game Creator	http://www.simscarnival.com/
Platinum Sandbox	http://sandboxgamemaker.com/
OpenSim	http://opensimulator.org/wiki/Main_Page
iPhone Dev Kit	http://developer.apple.com/iphone/
3DVia	http://www.3ds.com/products/3dvia/
Adventure Game Studio	http://www.adventuregamestudio.co.uk
PushButton Engine	http://pushbuttonengine.com
FlashDevelop	http://www.flashdevelop.org

7 General information for centres

Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website **www.sqa.org.uk/assessmentarrangements**.

Internal and external verification

All instruments of assessment used within this/these Group Award(s) should be internally verified, using the appropriate policy within the centre and the guidelines set by SQA.

External verification will be carried out by SQA to ensure that internal assessment is within the national guidelines for these qualifications.

Further information on internal and external verification can be found in *SQA's Guide to Assessment* **(www.sqa.org.uk)**.

8 General information for candidates

The National Progression Award in Computer Games Development at SCQF levels, 4, 5 and 6 is intended to prepare you for progression to further study in Computer Games Development, Digital Media Studies, Computing Science and IT subjects. The awards provide a foundation in the knowledge and skills of Computer Games Development that will be necessary if you intend to later specialise in aspects of Computer Games Development, Digital Media Studies, Computing Science and IT subjects.

There are three Units within each NPA:

- Computer Games: Design
- Computer Games: Media Assets
- Computer Games: Development

Computer Games: Design

You will acquire an understanding of the underlying concepts and fundamental principles involved in digital gaming planning and design. You will learn how to recognise and distinguish differences between numerous gaming platforms, environments and genres. You will be introduced to fundamental methods used in the planning and design stages involved in the production of a digital game. You will plan and design a level in a digital game. At SQCF level 5 you will be introduced to the role of the games designer and at SCQF level 6 you will build on your knowledge of hardware in gaming technology and investigate graphics and sound technology used by various types of digital gaming platforms. You will investigate emerging technologies in gaming and analyse how this technology will affect games and peoples' expectations of games. You will investigate what organisations and activities are involved in the investment, creation, production and distribution of games and evaluate external factors to be considered when

designing a digital game. You will evaluate design methods used in the planning and design stages involved in the production of a digital game. You will plan and design a digital game to a given brief.

Computer Games: Media Assets

You will acquire an understanding of the different types of media asset required for developing a digital game. You will learn how to plan and produce media assets for use in a game development environment.

Computer Games: Development

You will gain an understanding of the processes involved in the final stages of development of a digital game. You will learn how to use your chosen game development environment to bring together all the parts and produce a working game. You will gain an understanding of the evaluation process and then go on to plan and deliver a promotional activity. At SCQF level 5 you will devise a test strategy then test the game thoroughly, recording the results. You will gain an understanding of the evaluation process and complete a user review of a game that applies a scoring/rating system. You will finally plan and create a promotional activity. At SCQF level 6 you will identify, plan and perform the main promotional activities undertaken in a computer games product launch.

Unit assessment styles

You will be expected to create a portfolio of your work. The portfolio may be paper or electronic (digital). The portfolio should be constructed over the period of the Unit, with you contributing material to the portfolio on an on-going basis. The contents of the portfolio must be clearly labelled and related to specific Evidence Requirements. The inclusion of specific items in your portfolio may be negotiated between you and your assessor; with only the ‘best’ example of work being stored.

If the Unit is not undertaken as a stand-alone Unit then the evidence should be retained as part of a portfolio of work and will be required as a pre requisite to subsequent Units in Computer Games: Media Assets and Computer Games: Development

Conditions for attaining the award

In order to achieve the award you must successfully complete all three Units at the appropriate SCQF level.

Progression routes

Each Unit of the National Progression Award in Computer Games Development will be available as part of a suite of Units available for a NC in Digital Media Computing.

Employer needs

Employers increasingly expect candidates to be able to think critically, solve problems and work in a group or team. These skills are considered to be essential for working in a modern business environment. The ability to

communicate effectively is often quoted in many current job advertisements, as is the ability to present information accurately.

Employment opportunities

It is recognised that candidates who demonstrate the basic Core Skills coupled with an understanding of the use of digital technology are more likely to gain employment than those with just IT skills.

9 Glossary of terms

SCQF: This stands for the Scottish Credit and Qualification Framework, which is a new way of speaking about qualifications and how they inter-relate. We use SCQF terminology throughout this guide to refer to credits and levels. For further information on the SCQF visit the SCQF website at **www.scqf.org.uk**

SCQF credit points: One HN credit is equivalent to 8 SCQF credit points. This applies to all HN Units, irrespective of their level.

SCQF levels: The SCQF covers 12 levels of learning. HN Units will normally be at levels 6–9. Graded Units will be at level 7 and 8.

Subject Unit: Subject Units contain vocational/subject content and are designed to test a specific set of knowledge and skills.

Graded Unit: Graded Units assess candidates' ability to integrate what they have learned while working towards the Units of the Group Award. Their purpose is to add value to the Group Award, making it more than the sum of its parts, and to encourage candidates to retain and adapt their skills and knowledge.

Dedicated Unit to cover Core Skills: This is a non-subject Unit that is written to cover one or more particular Core Skills.

Embedded Core Skills: This is where the development of a Core Skill is incorporated into the Unit and where the Unit assessment also covers the requirements of Core Skill assessment at a particular level.

Signposted Core Skills: This refers to the opportunities to develop a particular Core Skill at a specified level that lie outwith automatic certification.

Qualification Design Team: The QDT works in conjunction with a Qualification Manager/Development Manager to steer the development of the HNC/HND from its inception/revision through to validation. The group is made up of key stakeholders representing the interests of centres, employers, universities and other relevant organisations.

Consortium-devised HNCs and HNDs are those developments or revisions undertaken by a group of centres in partnership with SQA.

Specialist single centre and specialist collaborative devised HNCs and HNDs are those developments or revisions led by a single centre or small group of centres who provide knowledge and skills in a specialist area. Like consortium-devised HNCs and HNDs, these developments or revisions will also be supported by SQA.

10 Appendices

Appendix 1: Market Research

Appendix 1: Market Research

New NPAs in Computer Games Development SCQF Levels 4, 5 and 6

1. Who are you?

	Response Percent	Response Count
School Teacher	**77.5%**	**31**
College Lecturer	15.0%	6
University Lecturer	2.5%	1
Employer	0.0%	0
Other	5.0%	2
answered question		**40**
skipped question		**1**

2. Do you in general support the development of NPAs in Computer Games?

	Response Percent	Response Count
No	5.1%	2
Yes	**94.9%**	**37**
Comments (if any)		3
answered question		**39**
skipped question		**2**

3. If yes, at what levels? Select all that apply.

	Response Percent	Response Count
Level 4	89.5%	34
Level 5	**97.4%**	**37**
Level 6	84.2%	32
answered question		**38**
skipped question		**3**

4. Do you support the proposed structure for Level 4?

	Response Percent	Response Count
No	17.2%	5
Yes	82.8%	24
Comments		9
answered question		29
skipped question		12

5. Do you support the proposed structure for Level 5?

	Response Percent	Response Count
No	20.7%	6
Yes	79.3%	23
Comments		6
answered question		29
skipped question		12

6. Do you support the proposed structure for Level 6?

	Response Percent	Response Count
No	27.6%	8
Yes	72.4%	21
Comments		11
answered question		29
skipped question		12

7. Should the NPAs in Computer Games be part of the NC Digital Media frameworks?

	Response Percent	Response Count
No	17.9%	5
Yes	82.1%	23
Comments		3
answered question		28
skipped question		13

8. Do you think that the NPA in Computer Games Development at level 6 should provide progression opportunities for HNC/D developments?

	Response Percent	Response Count
No	6.5%	2
Yes	93.5%	29
Comments		3
answered question		31
skipped question		10

9. If applicable, is your centre likely to offer any of the proposed NPAs?

	Response Percent	Response Count
No	20.0%	6
Yes	80.0%	24
Comments		10
answered question		30
skipped question		11

FE and HE opinion on Computer Games Development

1. Please enter the name of your Education Establishment

	Response Count
	23
answered question	23
skipped question	0

2. Do you support the introduction of a new qualification in Computer Games Development?

	Response Percent	Response Count
Yes	95.7%	22
No	4.3%	1
answered question		23
skipped question		0

3. If yes, at what level? Select all that apply.

	Response Percent	Response Count
SCQF Level 4 (Intermediate 1)	77.3%	17
SCQF Level 5 (Intermediate 2)	**100.0%**	**22**
SCQF Level 6 (Higher)	90.9%	20
answered question		22
skipped question		1

4. The proposed structure at each level will consist of three units: 1. Computer Games: Design 2. Computer Games: Media Assets 3. Computer Games: Development Do you agree with the proposed structure?

	Response Percent	Response Count
Yes	95.5%	21
No	4.5%	1
	Comment	7
	answered question	22
	skipped question	1

5. Do you agree that the Units should be written so as to be compatible with the relevant National Occupational Standards in Interactive Media and Computer Games?

	Response Percent	Response Count
Yes	95.5%	21
No	4.5%	1
	answered question	22
	skipped question	1

Computer Games Development

1. Who are you?

	Response Percent	Response Count
S3 pupil	**42.7%**	**158**
S4 pupil	31.1%	115
S5 pupil	26.2%	97
answered question		**370**
skipped question		**0**

2. Do you support the introduction of a new qualification in Computer Games Development?

	Response Percent	Response Count
Yes	**88.1%**	**326**
No	11.9%	44
answered question		**370**
skipped question		**0**

3. If yes, at what level?

	Response Percent	Response Count
Level 4 (Intermediate 1)	25.2%	83
Level 5 (Intermediate 2)	**64.1%**	**211**
Level 6 (Higher)	52.6%	173
answered question		**329**
skipped question		**41**