Cambridge TECHNICALS

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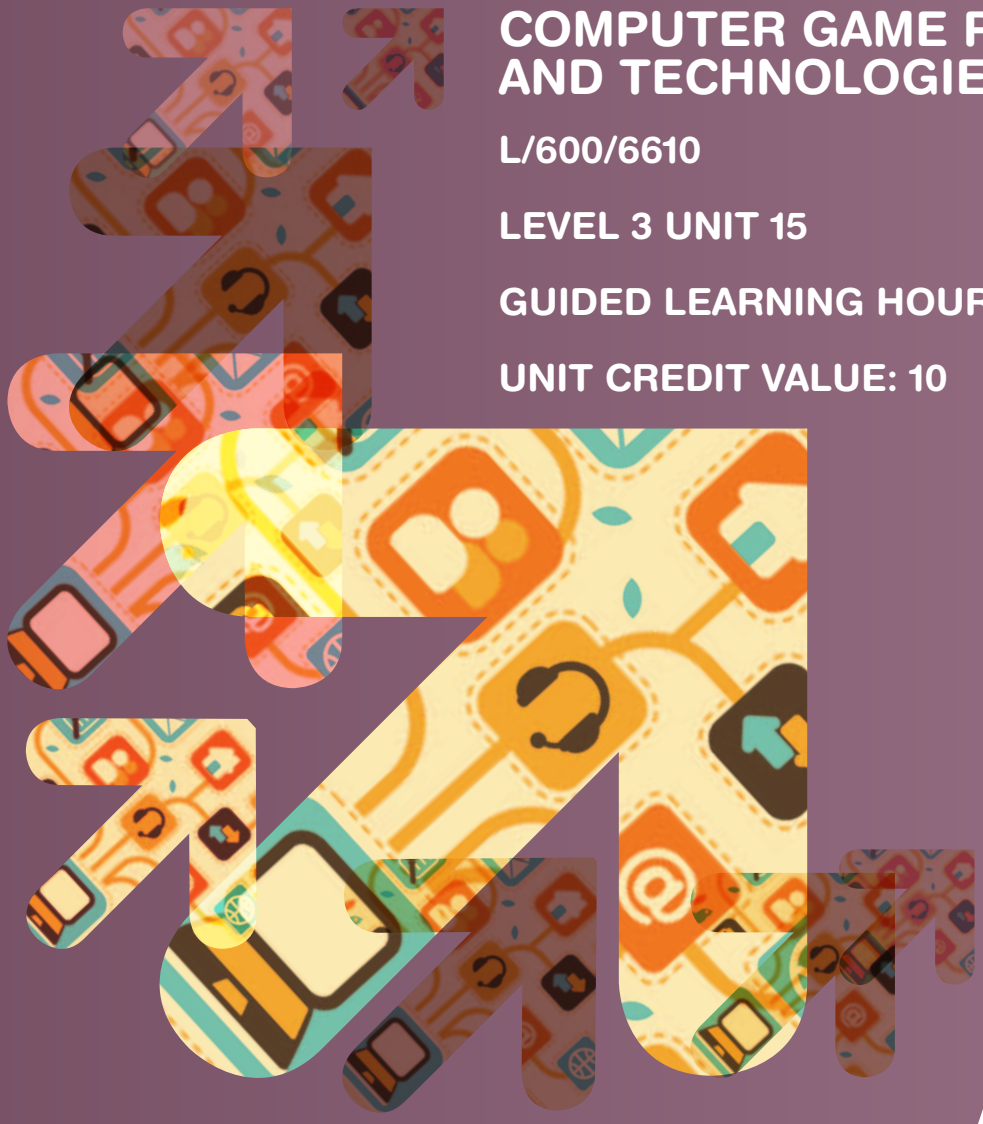
OCR LEVEL 3 CAMBRIDGE TECHNICAL

CERTIFICATE/DIPLOMA IN

IT



COMPUTER GAME PLATFORMS AND TECHNOLOGIES

L/600/6610

LEVEL 3 UNIT 15

GUIDED LEARNING HOURS: 60

UNIT CREDIT VALUE: 10

OCR

COMPUTER GAME PLATFORMS AND TECHNOLOGIES

L/600/6610

LEVEL 3 UNIT 15

AIM OF THE UNIT

This unit's aim is to provide learners with an understanding of computer game hardware and software technologies, their use and the creation of playable systems.

This unit will give the learners the skills to assemble and connect combinations of computer hardware and software technologies into playable systems. With the games industry constantly evolving in terms of technology it is important that learners keep up to day with as many of the latest developments they can. Learners considering entering the games industry will need to have a basic awareness of the different systems that are used to support the gameplay.

ASSESSMENT AND GRADING CRITERIA

Learning Outcome (LO) The learner will:	**Pass** The assessment criteria are the pass requirements for this unit. The learner can:	**Merit** To achieve a merit the evidence must show that, in addition to the pass criteria, the learner is able to:	**Distinction** To achieve a distinction the evidence must show that, in addition to the pass and merit criteria, the learner is able to:
1 Understand game platform types	P1 describe game platform types with some appropriate use of subject terminology	M1 describe how computer games platform types have developed over time	D1 explore potential future gaming platform types
2 Understand hardware technologies for game platforms	P2 describe hardware technologies for game platforms with some appropriate use of subject terminology	M2 describe mobile technologies for game platforms	D2 evaluate the suitability of mobile technologies for game play
3 Understand software technologies for game platforms	P3 describe software technologies for game platforms expressing ideas with some appropriate use of subject terminology	M3 discuss the different software technologies for multiple platform usage	D3 justify the choice of platform on which to run an identified software technology
4 Be able to connect and configure platforms and devices to enable gameplay	P4 apply techniques to connect and configure platforms and devices with some assistance	M4 explain the different connection types for multiplayer gaming	D4 justify how the connection types are appropriate for the different multiplayer gaming experiences

TEACHING CONTENT

The unit content describes what has to be taught to ensure that learners are able to access the highest grade.

Anything which follows an i.e. details what must be taught as part of that area of content.

Anything which follows an e.g. is illustrative, it should be noted that where e.g. is used , learners must know and be able to apply relevant examples to their work though these do not need to be the same ones specified in the unit content.

LO1 Understand game platform types

- development history e.g. age of sector, developments, timescales
- **platforms**
  - arcade games e.g. coin operated, vector-based, laser disc-based;
  - consoles: e.g. Wii, Playstation, Xbox,
  - PC's e.g. offline, online; interactive
  - mobile e.g. handheld (PSP, DS), PDA (personal data assistants), phone/smartphone,
  - other e.g. television
- limitations of platforms.

LO2 Understand hardware technologies for game platforms

- human-computer interface e.g. devices; button configurations; user-centred, interactivity;
- processor (e.g. types; speed;)
- graphic processor (e.g. types; speed; pixels, polygons, nurbs)
- memory (e.g. capacity, RAM type, unified)
- display (e.g. built-in/external; colour/monochrome)
- sound (e.g. hardware (Cards and processors), mono/stereo/3D/surround, memory)
- game storage e.g. medium (DVD, UMD), standard, size
- interfaces (e.g. paddle, wheel, joystick, 360 kinect, voice)
- mobile technologies (e.g. phones/smartphones, PSP, DS, iPad)
- connectivity (e.g. stand alone; controller ports; network, internet, wireless, Bluetooth)
- power supply (e.g. internal and external)

- **mobile platforms**
  - iPhones
  - blackberry
  - android phones
  - hybrid machines
  - cellular phones
  - iPads
- other.

LO3 Understand software technologies for game platforms

- dependencies
- operating systems: e.g. PC/Macintosh, hand held, mobile
- drivers e.g. graphics, sound, networks, interface
- application software e.g. Java, J2ME, C#, C++, J2SE
- software scripting, e.g. UnrealScript, Maya Embedded Language, ActionScript, JavaScript
- sound and graphical API's (e.g. OpenGL ES, DirectX, Java/Java SE).

LO4 Be able to connect and configure platforms and devices to enable gameplay

- console to display
- console to console
- local area network (LAN)
- wide area network (WAN)
- wireless
- cabled devices to platforms e.g. mouse, paddle, joystick, wheel, guitar, pedals, 360 Kinect
- wireless devices to platforms e.g. joystick, controller, wheel
- PC devices e.g. graphics/sound cards, network interface controller (NIC).

- **installation**
  - install PC games
  - install console games
  - install mobile games
  - configure PC games
  - configure console games
  - configure mobile games.

DELIVERY GUIDANCE

To teach this unit the tutor will need to have access to a wide variety of peripherals, platforms and networks for the learners. This will enable the learners to complete the practical exercises. The practical exercises should involve the learners connecting the peripherals to different platforms and the platforms to networks enabling gameplay.

To teach the unit tutors could follow the learning outcomes.

Understand game platform types
The learners could be taught the different types of platforms available (Arcade, Consoles, PC, Mobile, Television etc) and investigate the different features and limitations of each platform as small groups. If each group is given a separate area of research, they can then report back and explain to the wider group allowing more depth of research than individual working.

The learners should then research the historical development of the different game platforms and experience of playing some different platform including historical games will give a good insight to the development to the features and any limitations. Groups discussions on the limitations may be initially obvious but learners should identify how the initial technologies have been improved and expanded to the current technologies.

The learner will need to investigate emerging technologies and advances in technology for each platform type and how potential future platforms may further improve the gamin experiences. Group research and discussions will open ideas as to developments and ideas as to the scope.

Understand hardware technologies for game platforms
Here the learners will need to understand the hardware technologies available for the game platforms and in particular to explore the expanding market in mobile technologies, looking at comparing the different technologies in terms of playability. Due to the vast range of options and the speed of technological developments within this sector, group working will ensure a depth and breadth of research and group feedback will inform the wider group with the variety and choice. This could be a mixture of lectures, investigations and practical exercises which could involve handling the technologies available.

Learners should then be able to evaluate the different mobile hardware technologies and their suitability for game play. Group discussion will identify areas for further discussion or consideration.

Understand software technologies for game platforms
Here the learners need to be encouraged to develop an in-depth understanding of the software technologies available for game platforms. They should extend their discussion from the hardware to identify the software used on them. They should research different software technologies and consider all aspects of software requirements for developing on different platforms. This is ideal group/team working where discussions and new ideas will help wider thinking.

Here the learners will also benefit from having practical gameplay on the different systems; this will give them the opportunity to compare the hardware and software specifications and the differences in performance in the game play with different platforms. They should share their findings and views as discussions with the group.

Be able to connect and configure platforms and devices to enable gameplay
In this outcome the learners will need to be given the opportunity to connect and configure platforms and devices to enable gameplay including connecting the connections needed for multiplayer gaming. They should practice across a range of platforms including mobile technologies and understand the configuration settings and devices that they will use.

The learners should carry out practical exercises using a variety of different platforms, peripherals and software. This works well with tutor demonstrating, then the learners carrying out practical exercises and recording their findings. If it is difficult to provide the learners with individual exercise they could work in groups, each taking a different role to ensure practical and hands-on experience for all.

SUGGESTED ASSESSMENT SCENARIOS AND TASK PLUS GUIDANCE ON ASSESSING THE SUGGESTED TASKS

To evidence any research, the learners will be expected to provide the websites, magazines they have used.

Assessment Criteria P1, M1, D1

Learners must create detailed evidence on the different types of game platforms available which could be in the form of a report or presentation. They will need to describe the different game platforms available using appropriate terminology. They will need to look at all the game platforms identified in the teaching content for learning outcome 1.

For merit criterion M1 learners will need to research the history of computer games platforms, it would be expected they research multiple platforms and look how the platform types have developed over time. This may be included as a clear and additional section in the original evidence on current platforms P1.

For distinction criterion D1 learners will need to show they have explored/researched in some detail any potential for future gaming platforms types in the market place. This may be included in the original evidence as a clearly separate section or as a separate report. This may be ideas that the learner has for developments or platforms that have been suggested as being in development by the leading gaming organisations.

Assessment Criteria P2, M2, D2

P2 Learners will need to describe at least six of the hardware technologies identified in the teaching content for learning outcome 2 describing their features. This could be for a range of platform types which may include mobile. This could be presented as a report or presentation.

For merit criterion M2 learners will need to show they have explored the mobile technologies for game platforms. This means they need to describe at least 3 different mobile technologies. This could be an extension of the evidence for P2, or a separate document. Annotated screenshots and photos will help evidence this.

For distinction criterion D2 learners will need to evaluate the suitability of mobile technologies. This should include the cross platform usage of software or repurposing. They should consider at least five mobile technologies which may include those within the learning outcome or include new technologies. They will need to evaluate the suitability of them for game play in different formats and giving clear descriptions of the technologies including connectivity and costs.

Assessment Criteria P3, M3, D3

P3 Learners must describe types of software technologies for game platforms to include operating systems, drivers and graphics. This should include examples of operating systems, application and scripting software. This could be presented in the form of a report, and should include some appropriate use of subject terminology.

For merit criterion M3 learners must discuss the different software technologies for multiple platforms excluding operating systems. They should discuss and detail the usage of these technologies. Evidence for this could be supported by photographic evidence that the learners have used different technologies with multiple platforms in addition to the discussions of these from the learners which could be presented in the form of a report.

For distinction criterion D3 the learners must justify the choices of platform on which to run an identified software technology. This is best achieved if they are given a scenario which gives them the opportunity to look at a number of different platforms to play an identified software technology and to compare any differences with a view to justifying the choice of platform for the user and the technology. This could be evidenced in the form of a report or table that compares the choices with detail.

Assessment Criteria P4, M4, D4

P4 The learners will need to provide evidence they have connected and configured at least two different platforms types, devices and games ready for game play. This could be evidenced in a report which could be supported with observation reports and photos with annotations.

For merit criterion M4 learners must explain the different ways in which you could connect for multiplayer gaming for at least three of those identified in the learning outcome. This could be evidenced in the form of a report, presentation or leaflet for new users and supported by detailed annotated photos for connecting different multiplayer games

For distinction criterion D4 learners must justify from the available connection types how each is appropriate for the different multiplayer gaming experiences. It may be beneficial for the

learners to be given a scenario which enables them to research and discuss different connections for different users with a view to providing a final judgment. This could be an expansion on the merit criteria and learners should include costs, speed, number of users and user locations. Findings should be well documented and justifications clearly explained.

MAPPING WITHIN THE QUALIFICATION TO THE OTHER UNITS

Unit 13 Installing and upgrading software

LINKS TO NOS

4.2 Data Analysis

5.2 Software Development

CONTACT US

Staff at the OCR Customer Contact Centre are available to take your call between 8am and 5.30pm, Monday to Friday.

We're always delighted to answer questions and give advice.

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