



Set assignment

DRAFT

LEVEL 3 CAMBRIDGE ADVANCED NATIONAL (AAQ) IN

COMPUTING: APPLICATION DEVELOPMENT

Extended Certificate H129

For first teaching in 2025

F163: Game development

Introduction

This is Sample Assessment Material (SAM). It is an example set assignment that we publish alongside a new specification to help illustrate the intended style and structure of our set assignments.

During the lifetime of the qualification, updates to the set assignment template may happen. We always recommend you look at the most recent set of past set assignments where available.

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Designed and tested with teachers and students



Helping young people develop an ethical view of the world



Equality, diversity, inclusion and belonging (EDIB) are part of everything we do

Summary of updates

Date	Version	Page number	Summary of change
July 2023	1 DRAFT	All	Creation of document

Teacher support

We have a range of support services to help you at every stage, from preparation to delivery.

Our teacher support is designed to make teaching our qualifications straightforward, whether you are an experienced teacher, new to teaching, new to OCR, or not a subject specialist of the qualification you are teaching.

We offer free access to services such as <u>Access to Scripts</u>, <u>ExamBuilder</u> and <u>ActiveResults</u>, and you'll find comprehensive teaching resources and a range of professional development courses on our teacher website, <u>Teach Cambridge</u>.

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- Specification and non-exam assessment advice
- Updates on resource developments and training opportunities
- Information on our subject networks giving an opportunity to share ideas and expertise.

Further help and support

Visit our subject pages to find out more about the assessment and request trial access to **Teach Cambridge**.

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Contact details are available on the **final page** of the SAM.

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OCR is part of Cambridge University Press & Assessment, which has clear commitments to champion sustainability, diversity, trust and respect for our people and planet.

We are committed to supporting a curriculum that helps young people develop an ethical view of the world. This enables them to take social responsibility, understand environmental issues and prepare them for the green jobs of the future.

Our equality, diversity, inclusion and belonging principles are that we:

- · are respectful and considerate
- celebrate differences and promote positive attitudes to belonging
- include perspectives that reflect the diverse cultural and lifestyle backgrounds of our society
- challenge prejudicial views and unconscious biases
- promote a safe and supportive approach to learning
- are accessible and fair, creating positive experiences for all
- provide opportunities for everyone to perform at their best
- are contemporary, relevant and equip everyone to live and thrive in a global, diverse world
- create a shared sense of identity in a modern mixed society with one humanity.

To learn more, including our work on accessibility in our assessment materials, visit our <u>People and planet page</u>.



OCR-set Assignment Sample Assessment Material

OCR Level 3 Cambridge Advanced National (AAQ) in Application Development (Extended Certificate)

Unit F163: Game development

Scenario Title: Retro game with a modern twist

This is a sample OCR-set assignment which should only be used for practice.

This assignment **must not** be used for live assessment of students.

The live assignments will be available on our secure website, 'Teach Cambridge'.

The OCR administrative codes linked to this unit are:

unit entry code F163

certification code H129

The regulated qualification number linked to this unit is: TBC

Duration

About 15 hours of supervised time (GLH) (work that **must** be completed under teacher supervised conditions)

All this material **can** be photocopied. Any photocopying will be done under the terms of the Copyright Designs and Patents Act 1988 solely for the purposes of assessment.

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Information and instructions for Teachers

Using this assignment

This assignment provides a scenario and set of related tasks that reflect the development of a game prototype based on a set of client requirements.

The assignment:

- Is written so that students have the opportunity to meet the requirements of all assessment criteria for the unit.
- Will tell students if their evidence must be in a specific format. If the task does not specify a format, students can choose the format to use.
- Must be completed under teacher supervision. Any exceptions to this will be stated in the assessment guidance.

You must:

- Use an OCR-set assignment for summative assessment of students.
- Familiarise yourself with the assessment criteria and assessment guidance for the tasks. These are given at the end of each student task. They are also with the unit content in **Section 4** of the Specification.
 - Assessment guidance is only given where additional information is needed. There might not be assessment guidance for each criterion.
- Make sure students understand that the assessment criteria and assessment guidance tell them in detail what to do in each task.
- Read and understand all the rules and guidance in Section 6 of the Specification before your students start the set assignments.
- Make sure that your students complete the tasks and that you assess the tasks fully in line with the rules and guidance in **Section 6** of the Specification.
- Give your students the Application Development Student guide to NEA assignments before they start the assignments.

You must not:

- Use live OCR-set assignments for practice or formative assessment. This sample assessment material **can** be used for practice or formative assessment.
- Use this sample assessment material for live assessment of students.
- Allow group work for any task in this assignment.
- Change any part of the OCR-set assignments or assessment criteria.

Pages 1-4 are for teachers only. Please do not give Pages 1-4 to your students.

You can give any or all of the pages that follow to your students.



Tasks for students and assessment criteria

Unit F163: Game development

Scenario Title: Retro game with a modern twist Scenario

You work as a freelance games developer and have been commissioned by a popular games company to develop a new game.

The client has specified the game must:

- Appeal to an older audience of age 50+.
- Have a 'retro' feel but with a modern twist.
- Be based on an original 2D platform game from the 1980s or 1990s, but be different in its look and feel so that it is more like a modern game.
- Have a rating of PEGI 16 or below.

The client has also specified that although game functionality may be similar, your game must have some new features that differentiates it from the original game. It must not be an exact copy of the original game.

Your game should include features that make it appealing and engaging for the intended audience. It should increase in level of difficulty as players move through at least three different levels or scenes.

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Task 1 Planning and designing the high-fidelity game prototype

Topic Areas 1, 2 and 4 are assessed in this task.

The task is:

Plan and design the game prototype that you have been commissioned to develop.

You will:

- Plan and design the game prototype.
- Describe how the game prototype will be tested.

Your evidence **must** include:

- A game design document.
- Planning and design documentation.
- Written evidence.

Use the assessment criteria below to tell you what you need to do in more detail.

Pass	Merit	Distinction
P1: Describe a concept for a game prototype that meets the client requirements as detailed in the scenario.		D1: Discuss how the planned game and gameplay elements maintain player interest and engagement in the game
P2: Identify the assets required for the game prototype.	M1: Explain how assets are used in combination in the game prototype.	prototype.
P3: Design game visuals appropriate for the game prototype.		
P4: Describe the game mechanics to be used in the game prototype.	M2: Plan game mechanics appropriate for the game prototype using game planning tools.	D2: Discuss how the planned game mechanics are used in combination to maintain player interest and engagement in the game prototype.
P5: Describe how the game prototype will be tested.	M3: Justify the appropriateness of the testing.	

Assessment guidance

This assessment guidance gives you information to meet the assessment criteria. There might not be additional assessment guidance for each criterion. It is only given where it is needed. You must read this guidance before you complete your evidence.

Assessment Criteria	Assessment guidance
P1	Students must describe a concept for a game prototype which meets all the client requirements. The description of the concept must include the content in Topic Area 1.2.1.
P2	Students must identify the essential assets required for the game prototype. To achieve this criterion, students are not required to identify all non-essential assets. This assessment criterion could be evidenced in an assets list and/or via the design(s) for the game visuals (P3).
P3	Students must design the game visuals for the game prototype using at least one of the game design tools in Topic Area 2.1.2. The design(s) must contain enough detail for them to be interpreted by someone who hasn't seen them before.
P4	Students must describe the game mechanics that they will use in the game prototype that are essential to the gameplay.
P5	Students must describe the testing methods and testing types they will use to test the game prototype and the elements of the game prototype they intend to test. The description of how the game prototype will be tested could include the content in Topic Area 4.1.
M1	Students must explain how the essential assets identified in P2 will be used in the game prototype. Students must explain which of the essential assets will be static and which will work in combination. This assessment criterion could be evidenced in an assets list and/or via annotations on the design(s) for the game visuals.
M2	Students must plan all the game mechanics detailed in P4 using at least one of the game planning tools in Topic Area 2.1.2. Where students do not achieve P4, it is still possible to achieve M2. The planning must contain enough detail for it to be interpreted by someone who hasn't seen them before.
M3	Students must justify the approach to testing detailed in P5.
D1	Students could include the content in Topic Areas 1.2.2 and 1.2.3 in the discussion.
D2	Students could include the content in Topic Area 1.2.4 in the discussion.

Task 2 Creating the high-fidelity game prototype

Topic Areas 1 and 3 are assessed in this task.

The task is:

Create the game prototype that you planned and designed in Task 1.

You will:

- Source and prepare assets for use in the game prototype.
- Use game engine tools and/or programming techniques to create the game prototype.

Your evidence **must** include:

 An export of the game prototype which allows it to be played without installing any specialist software or video/screen recordings demonstrating the game prototype.

Use the assessment criteria below to tell you what you need to do in more detail.

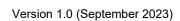
Pass	Merit	Distinction	
P6: Source assets appropriate for use in the game prototype.	M4: Prepare assets appropriately for use in the game prototype.		
P7: Create an appropriate game environment using game engine tools.			
P8: Implement character and/or object movement and navigation appropriate for the game prototype.	M5: Implement collision detection appropriate for the game prototype.	D3: Create a cohesive game prototype combining game environment, assets and mechanics.	
P9: Implement game play controls appropriate for the game prototype.	M6: Implement scoring and timing mechanisms	D4: Implement player interaction and feedback	
P10: Implement game start and end mechanisms appropriate for the game prototype.	appropriate for the game prototype.	appropriate for the game prototype.	

Assessment guidance

This assessment guidance gives you information to meet the assessment criteria. There might not be additional assessment guidance for each criterion. It is only given where it is needed. You must read this guidance before you complete your evidence.

Assessment Criteria	Assessment guidance
Task 2	 Ideally students will create the game prototype planned and designed in Task 1. However, if students deviate from the plan(s) and/or design(s) they should not be penalised when assessing Task 2.
	To confirm assessment decisions made for this task, the OCR assessor will need to be able to see the final game prototype. Therefore, students must provide either:
	 The final game prototype in a format which allows it to be played without the need to install any specialist software and instructions on how to play the game.
	 Video/screen recordings of the final game prototype being demonstrated. This is especially useful if the skill level required to play the game is high.
P6	Students must source assets for use in the game prototype that are appropriate for the game concept detailed in P1. The final game prototype will be sufficient evidence for this assessment criterion.
P7	Using assets sourced in P6, students must create a game environment (screens/rooms/levels/stage), appropriate for the game concept detailed in P1. Students must use the game engine tools in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.
P8	Students must add character and/or object movement and navigation to the game prototype, so the game functions as intended. Students must use the game engine tools and/or programming techniques in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.
P9	Students must add game play controls to the game prototype, so the game functions as intended. Students must use the game engine tools and/or programming techniques in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.
P10	Students must add game start and end mechanisms to the game prototype, so the game functions as intended. Students must use the game engine tools and/or programming techniques in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.
M4	Students must prepare all assets sourced in P6, so they are appropriate for use in the game prototype. Topic Area 3.1 has examples of techniques students could use to prepare assets. Students could prepare assets in the game engine software or in external graphic software. The final game prototype will be sufficient evidence for this assessment criterion.

M5	• Students must add collision detection to the game prototype, so the game functions as intended. Students must use the game engine tools and/or programming techniques in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.
M6	Students must add scoring and timing mechanisms to the game prototype, so the game functions as intended. Students must use the game engine tools and/or programming techniques in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.
D3	Students must create a game prototype where all components of the game work, and fit, together. The final game prototype will be sufficient evidence for this assessment criterion.
D4	Students must add player interaction and feedback to the game prototype, so the game functions as intended. Students must use the game engine tools and/or programming techniques in Topic Area 3.2. The final game prototype will be sufficient evidence for this assessment criterion.



Task 3 Testing and reviewing the high-fidelity game prototype

Topic Areas 4 and 5 are assessed in this task.

The task is:

Test and review the game prototype you created in Task 2.

You will:

- Test the game prototype using the testing described in **Task 1**.
- Review the game prototype.

Your evidence must include:

- Documented test results.
- Written evidence.

Use the assessment criteria below to tell you what you need to do in more detail.

Pass	Merit	Distinction	
P11: Test the game prototype and document results.	M7: Analyse test results documenting any required remedial action.	D5: Discuss potential improvements and further development opportunities	
P12: Assess the suitability of the game prototype for meeting the requirements.		for the game prototype.	

Assessment guidance

This assessment guidance gives you information to meet the assessment criteria. There might not be additional assessment guidance for each criterion. It is only given where it is needed. You must read this guidance before you complete your evidence.

Assessment Criteria	Assessment guidance
P11	Students must test the game prototype and document results. Ideally students will use the approach described and justified in Task 1 . However, if students deviate from the proposed testing they should not be penalised.
	Students must have evidence of the actual test results. For example, screen shots, photographs or video/screen recordings.
P12	Students must assess the suitability of the game prototype for meeting the requirements in Topic Area 5.1.
M7	Students must analyse the test results generated in P11 and explain any remedial action required to resolve the issues found during testing. Students are not expected to fix errors found in the game prototype during final testing.
D5	 Having assessed the suitability of the game prototype (P12) and analysed test results (M7), students must discuss potential improvements and further developments to the game prototype.

Template for test table

Test number	Test type	Test description	Test data	Expected result	Actual result	Remedial action required



NEA command words

The table below shows the command words that may be used in the NEA assignments and/or assessment criteria.

Command Word	Meaning
Adapt	Change to make suitable for a new use or purpose
Analyse	 Separate or break down information into parts and identify their characteristics or elements Explain the different elements of a topic or argument and make reasoned comments Explain the impacts of actions using a logical chain of reasoning
Assess	Offer a reasoned judgement of the standard or quality of situations or skills. The reasoned judgement is informed by relevant facts
Calculate	Work out the numerical value. Show your working unless otherwise stated
Classify	 Arrange in categories according to shared qualities or characteristics
Compare	Give an account of the similarities and differences between two or more items, situations or actions.
Conclude	Judge or decide something
Describe	Give an account that includes the relevant characteristics, qualities or events
Discuss (how/whether/etc)	Present, analyse and evaluate relevant points (for example, for/against an argument) to make a reasoned judgement
Evaluate	Make a reasoned qualitative judgement considering different factors and using available knowledge/experience
Examine	To look at, inspect, or scrutinise carefully, or in detail
Explain	 Give reasons for and/or causes of something Make something clear by describing and/or giving information
Interpret	 Translate information into recognisable form Convey one's understanding to others, e.g. in a performance
Investigate	Inquire into (a situation or problem)
Justify	Give valid reasons for offering an opinion or reaching a conclusion
Research	Do detailed study in order to discover (new) information or reach a (new) understanding
Summarise	Express the most important facts or ideas about something in a short and clear form

We might also use other command words but these will be:

- Commonly used words whose meaning will be made clear from the context in which they are used
- Subject specific words drawn from the unit content.



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