**OCR-set Assignment**

**Sample Assessment Material**

OCR Level 3 Alternative Academic Qualification Cambridge Advanced National in Computing: Application Development

Unit F165: Immersive technology solution development

Scenario Title: School curriculum area marketing

Valid for assessment from September 20XX to 20XX.
For use by students beginning the qualification in September 20XX.

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 F165
* certification code H129

**The regulated qualification number linked to this unit is:** 610/3975/5

**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 an immersive technology solution prototype for a specific purpose based on a set of client requirements.

You can give this to students on or after 1 June 202X to help them understand it before they start using it for assessment. The dates for which students can use it for assessment are shown on the front cover.

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 unsupervised time allowed will be stated below and explained in the assessment guidance.

We have estimated that this assignment will take about 15 hours of supervised time to complete. Students should need approximately:

* 6 hours to complete Task 1.
* 7 hours to complete Task 2.
* 2 hours to complete Task 3.

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 5** 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 7** 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 7** of the Specification.
* Give your students the **Application Development**[**Student guide to NEA assignment**](https://www.ocr.org.uk/Images/620503-student-guide-to-nea-assignments.pdf)**s** **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 F165: Immersive technology solution development**

**Scenario Title: School curriculum area marketing**

Valid for assessment from September 20XX to 20XX.

For use by students beginning the qualification in September 20XX.

## Scenario

Your school management team is planning an open evening which showcases the facilities, resources and courses offered for sixth form students.

The management team is concerned that over the last few years, attendance at open evenings by prospective students and their parents has been in decline.

To widen the reach and appeal of the open evening, the school management team want to offer an immersive technology solution to enhance the open evening experience. The solution is to be developed using AR, VR or MR. It must be appropriate **either** for students and parents that attend in person **or** for students and parents that cannot, or choose not to, attend in person.

You have been asked by the school management team to choose a curriculum area and to showcase it by developing a high-fidelity immersive technology prototype.

The school management team have the following requirements for the immersive technology prototype:

* Students and parents must be able to move around to access information about the chosen curriculum area
* It must showcase of the facilities and resources of the chosen curriculum area.
* It must include details of the post 16 qualification(s) offered by the chosen curriculum area.
* It must include examples of students sharing their experiences of the chosen curriculum area.

The school management team have asked that the immersive technology prototype uses a range of assets and is accessible to students and parents using an appropriate device.

## Task 1

**Planning and designing the high-fidelity immersive technology prototype**

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

**The task is:**

Plan and design the immersive technology prototype for the chosen curriculum area. The prototype will be developed using AR, VR or MR.

You will:

* Document the requirements.
* Plan and design the immersive technology prototype.
* Describe how the immersive technology prototype will be tested.

Your evidence **must** include:

* Written evidence.
* Planning and design documentation.

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

|  |  |  |
| --- | --- | --- |
| **Pass** | **Merit** | **Distinction** |
| **P1: Describe** the client and user requirements for the immersive technology prototype. (PO2) | **M1: Explain** howthetechnical requirements meet the client and user requirements. (PO2) | **D1: Justify** how the design for the immersive technology prototype meet the client and user requirements. (PO3) |
| **P2: Document** appropriate ideas for the immersive technology prototype. (PO4) |  |
| **P3: Design** the layout for the immersive technology prototype. (PO4) | **M2: Plan** how users will interact with the immersive technology prototype. (PO4) | **D2: Discuss** how the immersive technology prototype enhances the user experience. (PO3) |
| **P4: Identify** the assets required for the immersive technology prototype. (PO2) | **M3: Explain** how assets will be used in combination in the immersive technology prototype. (PO2) |
| **P5: Describe** the functionality of the immersive technology prototype.(PO2) |  |
| **P6: Describe** how the immersive technology prototype will be tested. (PO2) | **M4: Justify** the appropriateness of the testing.(PO3) |  |

**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 both the client **and** user requirements. Students **must** expand the description into specific requirements which can be used as criteria to review against in **Task 3**. This assessment criterion **could** be evidenced in a requirements specification.
 |
| **P2** | * Students **must** document ideas for the immersive technology prototype based on the requirements described in P1. Students **must** use at least **one** of the tools in Topic Area 2.2. Students **must** document at least **two** ideas on a mind map, for example.
 |
| **P3** | * Students **must** design the immersive technology prototype using the tools in Topic Area 2.2. The designs **must** clearly show the intended layout and contain enough detail for them to be interpreted by someone who hasn’t seen them before.
 |
| **P4** | * Students **must** identify the essential assets required for the immersive technology 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.
 |
| **P5** | * Students **must** describe the immersive technology prototype functionality required to meet client and user requirements described in P1. The description **must** include references to triggers and layers.
 |
| **P6** | * Students **must** describe the testing methods and testing types they will use to test the immersive technology prototype and the elements of the immersive technology prototype they intend to test. The description of how the immersive technology prototype will be tested **could** include the content in Topic Area 4.1.
 |
| **M1** | * Students **must** explain how the technical requirements will meet the client and user requirements detailed in P1. The explanation **must** reference hardware devices and software. Where students do not achieve P1, it is still possible to achieve M1. This assessment criterion **could** be evidenced in a requirements specification.
 |
| **M2** | * Students **must** plan how users will interact with the immersive technology prototype. Students **could** use the planning tools in Topic Area 2.2. The planning **must** contain enough detail for it to be interpreted by someone who hasn’t seen it before.
 |
| **M3** | * Students **must** explain how the essential assets identified in P4 will be used in the immersive technology prototype. Students **must** explain which of the essential assets will be static and which will work in combination as triggers and layers. This assessment criterion **could** be evidenced in an assets list and/or via annotations on the designs for intended layout (P3).
 |
| **M4** | * Students **must** justify the approach to testing detailed in P6.
 |
| **D1** | * There is no assessment guidance for this criterion.
 |
| **D2** | * There is no assessment guidance for this criterion.
 |

## Task 2

**Creating the high-fidelity immersive technology prototype**

Topic Areas 1 and 3 are assessed in this task

**The task is:**

Create the immersive technology prototype that you planned and designed in **Task 1**.

You will:

* Source assets for use in the immersive technology prototype.
* Use software tools and techniques to create the immersive technology prototype.

Your evidence **must** include:

* The final immersive technology prototype in a format which allows it to be viewed/used without the need to install any specialist software **or** video/screen recordings demonstrating the immersive technology prototype.

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

|  |  |  |
| --- | --- | --- |
| **Pass** | **Merit** | **Distinction** |
| **P7**: **Source** assets appropriate for use in the immersive technology prototype. (PO4) | **M5: Prepare** assets appropriately for use in the immersive technology prototype. (PO4) |  |
| **P8: Implement** layers appropriate for the immersive technology prototype. (PO4) | **M6: Use** software features and techniques to combine content appropriately in the immersive technology prototype. (PO4) | **D3:** **Create** a cohesive immersive technology prototype combining environment, assets and actions. (PO4) |
| **P9**: **Implement** triggers appropriate for the immersive technology prototype.(PO4) | **D4: Implement** supporting technologies appropriate for the immersive technology prototype. (PO4) |
| **P10**: **Implement** user interaction appropriate for the immersive technology prototype. (PO4) |

**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 immersive technology 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 immersive technology prototype. Therefore, students **must** provide either:
	+ The final immersive technology prototype in a format which allows it to be viewed/used without the need to install any specialist software.
	+ Video/screen recordings of the final immersive technology prototype being demonstrated.
* Some software will output the immersive technology prototype, online, with a QR code to access it. In this case students **must** produce a video demonstrating the immersive technology prototype as a QR code to an online version is not suitable evidence.
 |
| **P7** | * Students **must** source assets for use in the immersive technology prototype. The assets sourced must be appropriate for the requirements detailed in the scenario. The final immersive technology prototype will be sufficient evidence for this assessment criterion.
 |
| **P8** | * Students **must** add layers to the immersive technology prototype, so it functions as intended. Students **must** use the software features and techniques in Topic Area 3.2. The final immersive technology prototype will be sufficient evidence for this assessment criterion.
 |
| **P9** | * Students **must** add triggers to the immersive technology prototype, so it functions as intended. Students **must** use the software features and techniques in Topic Area 3.2. The final immersive technology prototype will be sufficient evidence for this assessment criterion.
 |
| **P10** | * Students **must** add user interaction to the immersive technology prototype, so it functions as intended. Students **must** use the software features and techniques in Topic Area 3.2. The final immersive technology prototype will be sufficient evidence for this assessment criterion.
 |
| **M5** | * Students **must** prepare **all** assets sourced in P7, so they are appropriate for use in the immersive technology prototype. Topic Area 3.1 has examples of techniques students could use to prepare assets**.** The final immersive technology prototype will be sufficient evidence for this assessment criterion.
 |
| **M6** | * Students **must** combine content so there is a smooth transition from one item to another using the software features and techniques in Topic Area 3.2. The final immersive technology prototype will be sufficient evidence for this assessment criterion.
 |
| **D3** | * Students **must** create an immersive technology prototype where the assets and actions work cohesively together to form the immersive environment. The immersive technology prototype **must** function as intended and meet the requirements of the scenario. Students **must** use the techniques in Topic Area 3.1 and software features and techniques in Topic Area 3.2. The final immersive technology prototype will be sufficient evidence for this assessment criterion.
 |
| **D4** | * Students **must** implement at least **two** of the supporting technologies in Topic Area 1.2.4. The final immersive technology prototype will be sufficient evidence for this assessment criterion.
 |

Task 3
**Testing and reviewing the high-fidelity immersive technology prototype.**

Topic Areas 4 and 5 are assessed in this task.

**The task is:**

Test and review the immersive technology prototype that you created in **Task 2**.

You will:

* Test the immersive technology prototype using the testing described in **Task 1**.
* Review the immersive technology 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 immersive technology prototype and document results.(PO4) | **M7**: **Analyse** test results documenting any required remedial action. (PO3) | **D5:** **Discuss** potential improvements and further development opportunities. (PO3) |
| **P12: Assess** the suitability of the immersive technology prototype for meeting the requirements. (PO3) |  |

**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 immersive technology 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 immersive technology 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 immersive technology prototype during final testing.
 |
| **D5** | * Having assessed the suitability of the immersive technology prototype (P12) and analysed test results (M7), students **must** discuss potential improvements and further developments to the immersive technology 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.