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Oxford Cambridge and RSA

Cambridge **TECHNICALS LEVEL 3**

IT

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Unit 5

Virtual and augmented reality

Model assignment

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Contents

Please note:

You can use this assignment to provide evidence for summative assessment, which is when the learner has completed their learning for this unit and is ready to be assessed against the grading criteria.

You can use this assignment as it is, or you can modify it or write your own; we give more information in this document under Guidance for tutors.

Guidance for tutors on using this assignment

General

OCR Cambridge Technical model assignments are available to download from our website: www.ocr.org.uk.

The purpose of this assignment is to provide a scenario and set of tasks that are typical of how IT professionals would use Virtual or augmented reality, to enable you to assess your learner against the requirements specified in the grading criteria. The scenario and its tasks are intended to give a work-relevant reason for applying the skills, knowledge and understanding needed to achieve the unit.

This assignment will not instruct learners how to meet the highest grade. Whether learners achieve a pass, merit or distinction will depend on what evidence they produce.

You can modify the scenario we provide in this assignment to make it more relevant to your local or regional needs. Please refer to the information under 'Modifying the model assignment' later in this section.

You don't have to use this assignment. You can use it as a guide to help you to design your own assignment, and we provide an assignment checking service. You'll find more information on these matters in section 8 of the qualification handbook.

In the tasks, we'll refer to the format of evidence. Learners are **not** required to follow that format **unless** we tell them otherwise.

It's essential that the work every learner produces is their own. Please make sure you read through the information we give on authenticity in section 8 of the qualification handbook and make sure that your learners and any staff involved in assessment understand how important authenticity is.

We provide this assignment to be used for summative assessment. You must not use it for practice or for formative assessment.

Before using this assignment to carry out assessment

Learners will need to take part in a planned learning programme that covers the knowledge, understanding and skills of the unit.

When your learners are ready to be assessed, they must be provided with a copy of the following sections of this assignment:

- General information for learners
- Assignment for learners
- Evidence Checklist

They may carry out preparation prior to undertaking the tasks and there is no time limit for this.

When completing the assignment

You should use this assignment in conjunction with the unit specification and qualification handbook.

- Learners must be allowed sufficient time to complete all of the tasks. The amount of time may vary depending on the nature of the tasks and the ability of individual learners. To help with your planning against each of the tasks we have given an indication of how long it should take.
- Learners can produce evidence in several sessions.

Resources to complete the tasks

There are no specific resources that you need to make available to learners when they are taking this assignment. You'll need to give them a copy of the scenario and the tasks.

Time

You should plan for learners to have 5–8 hours to complete this assignment.

Learners must be allowed sufficient time to complete all the tasks. The amount of time may vary depending on the nature of the tasks and the ability of individual learners. To help with your planning, against each of the tasks we've given an indication of how long it should take.

Learners can produce evidence in several sessions.

Format of evidence

Learners have to produce evidence that demonstrates how they have met the grading criteria. At the very least they must produce evidence that meets **all** of the pass criteria.

Please make sure your learners realise that missing just one pass criterion means they will not pass the unit, even if they have successfully met the merit and distinction criteria.

We have stated the format in which the evidence **could** be presented for each task. Learners are **not** required to follow the format we have given **unless** we have told them otherwise. For example, if we say 'You could include a report on …' the evidence does not have to follow any specific reporting conventions. You can modify the format of the evidence but you must make sure the format allows the learner to access all of the grading criteria. If we require that evidence **must** take a specific format, we will make that clear in the task for learners. Where we prescribe the evidence required, the format may have alternative layouts, we state this as 'You must produce the planning documentation' or 'Your evidence must include a maintenance plan'. Please look out for this and make sure learners realise that we have prescribed the evidence required and they must produce the evidence in an appropriate format.

If we have not specified a format for evidence learners are free to use the format that they feel is most appropriate for the purpose and target audience for each individual task.

For more guidance on generation and collection of evidence, please refer to the section 8 'Internal Assessment', in the qualification handbook.

Authenticity

Authenticity in assessment is about making sure the work the learner produces for assessment is their own. We give information on authenticity in the qualification handbook under section 8. You must read through this and make sure all staff involved in assessment and your learners understand how important authenticity is.

Group work

This assignment has been written to allow for group work – for example working in small teams (no more than four members) to gather information on the requirements and produce the feasibility report, to produce the application designs and to create the prototype. You must be sure that each learner can produce evidence of their own contribution to each grading criterion. When learners are working in teams, you must make sure that:

- all team members have equal opportunity to evidence their skills, knowledge and understanding
- you consider the team composition, for example with regard to learners' preferred learning/reviewing styles
- you consider the number of team members (though this is less important than the management and structure of the team) – small groups of three to six learners could comprise a team
- you monitor the team as work progresses so that you can be confident all learners are meeting the grading criteria.

You can give constructive feedback to learners about working as a group and direct them on team working skills because evidence of team working skills is not required by the unit.

If witness statements are used to support learners' evidence, you have to complete an individual statement for each learner.

After completing the assignment

Once the learner has submitted their work to you to be assessed, you must judge or 'mark' the work against the grading criteria for the unit and identify one grade for the unit. For further information about assessment, please refer to section 8 of the qualification handbook.

Your assessment decisions must be quality assured across the cohort of learners in your centre who are being entered for the same unit. This must be done through an internal standardisation process. We give information on internal assessment and standardisation in the qualification handbook.

Reworking the assignment

If you and the learner feel they've not performed at their best during the assessment, the learner can, at your discretion, improve their work and resubmit it to you for assessment. If a learner is working on improving their work before it is resubmitted, you and the learner must continue to make sure the work is the learner's own.

Any feedback you give to the learner must not direct them on how to improve their work. You can identify what area of the work could be improved but you cannot give the learner any details about how they could improve it. You must follow the guidelines given in section 8 of the qualification handbook under 'Authenticity of learner work'.

Modifying the model assignment

The tasks in this assignment allow learners access to the full range of grades detailed in the grading criteria of this unit.

If you modify this assignment you must **not** change the grading criteria provided in the tasks for the learner or in the evidence checklist. These grading criteria are taken from the unit.

You can modify the scenario to suit your local or regional needs and the tasks may be contextualised to match any changes you have made to the scenario. If you supply your own drawings to support a different scenario, these must be sufficiently detailed for learners to complete the tasks.

You can modify the type of evidence and the format it takes, unless we expressly state that evidence must take a specific format.

You must also make sure that you avoid discrimination, bias and stereotyping and support equality and diversity. For more information, please see the section 'Designing your own assignments for internally assessed units' in section 8 of the qualification handbook.

If modifications are made to the model assignment, whether to the scenario alone, or to both the scenario and individual tasks, it's your responsibility to make sure that all grading criteria can still be met and that learners can access the full range of grades.

If you are using this model assignment and delivering the Introductory Diploma, Foundation Diploma or Diploma, you have an opportunity to secure meaningful employer involvement by working with an employer to modify it.

General information for learners

Q   *What do I need to do to pass this assignment?*

A   You need to produce evidence to meet the requirements of **all** the pass criteria for the unit this assignment relates to. If you miss just one pass criterion, you will not achieve this unit and will receive an unclassified result.

Q   *What do I need to do if I want to get a merit or distinction for this assignment?*

A   For a merit, you need to produce evidence to meet the requirements of **all** the pass criteria for the unit this assignment relates to **and** you need to produce evidence to meet **all** the merit criteria.

    For a distinction, in addition to the above, you also need to meet **all** the distinction criteria for this unit.

Q   *What help will I get?*

A   Your tutor will support you when completing this assignment and will make sure that you know what resources or facilities you need and are allowed to use. We've given your tutor information about how much support they can give you.

Q   *What if I don't understand something?*

A   It's your responsibility to read the assignment carefully and make sure you understand what you need to do and what you should hand in. If you are not sure, check with your tutor.

Q   *I've been told I must not plagiarise. What does this mean?*

A   Plagiarism is when you take someone else's work and pass this off as your own, or if you fail to acknowledge sources properly. This includes information taken from the internet.

    It's not just about presenting a whole copied assignment as your own; you will also be plagiarising if you use the ideas or words of others without acknowledgement, and this is why it's important to reference your work correctly (see Q&A below for more information on referencing).

    Plagiarism has serious consequences; you could lose the grade for this unit or you may not be allowed to achieve the whole qualification.

    Always remember that the work you produce must be your own work. You will be asked to sign a declaration to say that it is.

Q   *What is referencing and where can I find out more information about it?*

A   Referencing is the process of acknowledging the work of others. If you use someone else's words and ideas in your assignment, you must acknowledge it, and this is done through referencing.

    You should think about why you want to use and reference other people's work. If you need to show your own knowledge or understanding about an aspect of subject content in your assignment, then just quoting and referencing someone else's work will not show that **you** know or understand it. Make sure it's clear in your work how you are using the material you have referenced **to inform** your thoughts, ideas or conclusions.

    You can find more information about how to reference in the *The OCR Guide to Referencing* available on our website: http://www.ocr.org.uk/i-want-to/skills-guides/.

Q   ***Can I work in a group?***

A   Yes. However, if you work in a group at any stage, you must still produce work that shows your individual contribution. Your tutor can advise you how to do this.

Q   ***Does my work for each task need to be in a particular format?***

A   You can present your work in a variety of ways – it can be handwritten, word-processed, on video or in digital media. What you choose should be appropriate to the task(s) and your tutor can advise you. There may be times when you need proof that you have completed the work yourself: for example, if you do something during work placement that you want to use as evidence, the tutor might ask the employer to provide a witness statement.

Make sure you check the wording in each task carefully. For each task, we'll tell you if your evidence has to be in a specific format:

- If we say use the word '**must**', for example 'You must produce a report' or 'Your evidence/work must include a diagram', then you must produce the work in the stated format.
- If we use the word '**could**', for example 'You could include sketches of your ideas' or 'You could do this by annotating your diagram', this means that you are not required to follow the format we have given, but you must make sure that the work you do produce allows you to demonstrate the requirements of the grading criteria.

If you are unsure about what evidence you need, please ask your tutor.

Q   ***Can I ask my tutor for feedback on my work?***

A   Yes, but they can't give you detailed feedback.

We have given your tutor instructions on what kind of feedback they can give you. For example, they are **not** allowed to tell you exactly what to do to make your work better, but they **can** remind you about what they've taught you and you can use this additional learning to try and improve your work independently. They can say what they've noticed might be wrong with your work, for example if your work is descriptive where an evaluation is required, but your tutor can't tell you specifically what you need to do to change it from a description to an evaluation – you will need to work out what you need to do and then do it for yourself.

Q   ***When I have finished, what do I need to do?***

A   If you have included the personal details (such as name, address or date of birth) of someone other than yourself in your work, this must be blanked out (anonymised) – your tutor will tell you how to do this. You don't need to do this for information contained in references.

You can complete the evidence checklist to show your tutor where they can find the evidence for each grading criterion in your work.

You should make sure your work is labelled, titled and in the correct order for assessing.

Hand in the work that you've completed for each task to your tutor. They might ask to see your draft work, so please keep your draft work in a safe place.

Q   ***How will my work be assessed?***

A   Your work will be marked by someone in your centre who has been authorised to do so. They will use the information in the grading criteria to decide which grade your work meets. The grading criteria are detailed in each unit and are also given in the tasks within this assignment. Please ask your tutor if you are unsure what the grading criteria are for this assignment.

Assignment for learners
Unit 5: Virtual and Augmented Reality

Scenario

The Business Technologies Association [BTA] is an association for business men and women. Anyone who runs their own business and wants to promote their product(s) and/or service(s) is eligible to join the BTA. Twice a year there is a conference where members meet to view and discuss new ideas and technologies which could lead to increased sales for the members' businesses. For one of this year's conferences you have been asked to prepare and present a presentation to members on 'Understanding virtual and augmented reality'. Most of the audience will know little or nothing about the technologies and will want to fully understand virtual and augmented reality, particularly how they have evolved, who uses them and how they may be used in their own businesses to raise sales.

The presentation should make full use of video, images, sound, text and could include live or simulated use of applications of augmented and/or virtual reality if deemed appropriate.

The tasks

Task 1: Create and deliver a presentation to the Business Technologies Association [BTA] audience

(This task should take between 3 and 4 hours)

Learning Outcome 1: **Understand virtual and augmented reality and how they may be used**, is assessed in this task.

Your task is to:

Describe the uses made today of virtual and augmented reality by organisations. You should describe different uses for virtual and augmented reality, giving examples of where and how they are used. It must be clear to your audience when you are describing either, virtual or augmented reality applications and their uses.

You should identify one example of a virtual reality resource and consider the impact that the use of this technology has had on society.

You should identify one example of an augmented reality resource and assess the impact that the use of this technology has had on society.

Pass	Merit	Distinction
P1: Describe the uses of virtual and augmented reality by organisations.	M1: Explain the impact that an identified virtual reality resource has had on society.	D1: Assess the impact that an identified augmented reality resource has had on society.
Evidence		
A presentation with detailed speaker notes – P1, M1, D1		
The presentation evidence should include a video recording or the PowerPoint/Prezi file you created, complete with the detailed speaker notes that you used in the presentation to the BTA audience. The slides and notes must be fit for purpose for whatever level you are working at with bullet points for the key points and with the detail in the speaker notes. Throughout the task it is important that you correctly reference all sources used, following appropriate conventions.		

After a very successful presentation to the members of the BTA, you have been approached by two members. The first is a local builder who has a small business and wants to explore the possibility of improving his sales of new houses and flats by using virtual reality. He's offering you a 'design only' contract for a virtual reality product.

The second contact after your presentation is a travel agency which sells holidays to high income earners who are looking for something out of the ordinary. They are offering you your second 'design only' contract. They want to explore uses of augmented reality in their business in order to promote extra sales of their holidays.

Task 2: *Produce a design specification for a virtual reality resource for an identified purpose.*

(This task should take between 4 and 5 hours)

Design contract 1:

Your manager has been approached by a local builder following your presentation. He asks you to meet the builder to explore the possibility of some new business. The builder explains to you that he wants to sell houses 'off-plan'. This, he tells you, means encouraging prospective buyers to agree to purchase and pay a deposit before the house has been built. The builder has found this difficult with only the complicated building drawings to show the prospective buyers. What he wants to explore with you is creating virtual reality properties where new buyers could come to his office and, by using virtual reality, walk through the rooms in the house or flat before it is actually built. This, he thinks, will encourage the buyers to pay deposits, which in turn will help his cash flow by funding the building.

Your manager tells you that given the budget that he has negotiated with the builder, you should spend 4 to 5 hours researching and creating the design.

Design contract 2:

The travel agency specialises in big-game photo safaris, deep sea diving, mountain biking and extreme sports holidays. Informed by your presentation, they now see a business marketing opportunity by using augmented reality on different surfaces. They want to show a range of exotic holiday locations, and details about them, on potential customers' personal mobile devices when these are pointed at trigger points in their travel agencies or even at the T shirts worn by their agency staff.

Again, they understand both the concept and the development of the technologies but have no idea how to go about getting them, using them and updating/adding new images and trigger points. They have a budget and timescale within which you must work. For the evidence requirements, see below.

Pass	Merit	Distinction
P2: Produce a design specification for a virtual reality resource for an identified purpose.		
P3: Produce a design specification for an augmented reality resource for an identified purpose.		
Evidence		

P2, P3

Your evidence can be written, recorded, drawn, created digitally or could be all of these formats combined together into a single design package. However, you must show evidence that you have considered all of the separate parts that make up the whole design process which are listed below:

- understanding the aims of the product (e.g. intended outcome, success criteria, information to be delivered, where the product is to be used)
- the design tools used (e.g. storyboarding, mind mapping, mood boards)

- the nature of the product (e.g. single user product, multiuser product)
- details of your client's target audience (e.g. their age group, gender and income bracket)
- trigger image(s) and the stage(s) that follow on from the trigger being accessed.
- content including resource plan
- hardware and software requirements
- a financial plan
- quality plan

Task 3: *Create a virtual or augmented reality resource*

(This task should take between 7 and 9 hours)

Learning Outcome 3: **Be able to create a virtual or augmented reality resources**, is assessed in this task.

Having successfully produced and evidenced two design specifications, one for each client, you are now asked by one of them to go on to the next stage of creating a product. This is either a virtual or an augmented reality (but not both). You must develop one of your design concepts by:

- creating the trigger points of interest [in agreement with your client (P4);
- creating layer(s)/overlay(s) as required (P4);
- creating a test plan and testing your product as you build it and again when it is finished, recording all the results of your testing as evidence (P5);
- testing the product, make changes and adjustments to it, basing these on your test results, recording the changes that had to be made as evidence (M2);
- evaluating the design, project management and the creation stages of your resource and identifying potential improvements for similar future projects (D2).

Pass	Merit	Distinction
P4: Develop a virtual reality or an augmented reality resource for an identified purpose.		
P5: Test the product during creation and once complete.	M2: Make adjustments to the design based on outcomes of testing.	D2: Evaluate the development stages during the creation of the resource.

Evidence

The product - P4

The evidence will be the completed product, along with evidence that the product works as intended. This evidence of how well the product you created from your design actually works (the functionality), could be video recorded evidence or the completed product is made available for review by the moderator.

The test plan and results - P5

This documentation will include your full test plan and results, which will confirm the testing of how well your product worked during creation and again at the end of the final testing stage.

The test results and change audit log - M2

The evidence will be both the test results from your multiple tests and the supporting documentation (which could be aided by photos/video) of the changes you made to the design after testing it. It could also be supported by the addition to the test plans of updated documentation i.e. plans, storyboards, mood boards, etc.

A summary report - D2

The evidence will be the documented evaluation of all the stages.

Task 4: *Predict future applications*

(This task should take between 2 and 3 hours)

Learning Outcome 4: **Be able to predict future applications for virtual and augmented reality**, is assessed in this task.

Following your successful presentation to the conference and the business generated from it, your manager asks you to make a second presentation, about the future of VR and AR, to the BTA members.

Your task is to:

- suggest possible future roles for virtual and augmented reality in future applications. You must consider examples of virtual reality and examples of augmented reality (P6).
- use the research into the current uses of virtual and augmented reality applications, that you did in LO1, to evaluate and describe to them the specific benefits to be gained by adapting these applications into other, new and creative uses which you must identify (M3).

Again, both virtual and augmented reality products should be considered and examples of instances of where a product's initial designed use has now been changed/redesigned so that it can be used for a different purpose [repurposing].

Pass	Merit	Distinction
P6: Suggest possible future roles of virtual and augmented reality in future applications.	M3: Evaluate the specific benefits to be gained by repurposing current examples of virtual and augmented reality into identified roles.	
Evidence		
A report - P6, M3 This should meet your client's needs in the way you have been instructed to above.		

Evidence Checklist
OCR Level 3 Cambridge Technicals in IT
Unit 5: Virtual and Augmented Reality

LEARNER NAME:

For PASS have you: (as a minimum you have to show you can meet every pass criterion to complete the unit)	Where can your tutor find the evidence? Give page no(s)/digital timings, etc.
Described the uses of virtual and augmented reality by organisations (P1) e.g A presentation with detailed speaker notes	
Produced a design specification for a virtual reality resource for an identified purpose (P2) e.g. A design specification	
Produced a design specification for an augmented reality resource for an identified purpose (P3) e.g. A design specification	
Developed a virtual reality or an augmented reality resource for an identified purpose (P4) e.g. The product	
Tested the product during creation and once complete (P5) e.g. A test plan and results	
Suggested possible future roles of virtual and augmented reality in future applications (P6) e.g. A report	

For Merit have you:	Where can your tutor find the evidence? Give page no(s)/digital timings, etc.
Explained the impact that an identified virtual reality resource has had on society (M1) e.g. A presentation with detailed speaker notes	
Made adjustments to the design based on outcomes of testing (M2) e.g. The test results and change audit log	
Evaluated the specific benefits to be gained by repurposing current examples of virtual and augmented reality into identified roles (M3) e.g. A report	

For Distinction have you:	Where can your tutor find the evidence? Give page no(s)/digital timings, etc.
Assessed the impact that an identified augmented reality resource has had on society (D1) e.g. A presentation with detailed speaker notes	
Evaluated the development stages during the creation of the resource (D2) e.g. A summary report	

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