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Unit 6
Application design

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 an Application Designer would use application design skills, 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

Learners will need access to the internet to research different application development models.

Learners will need access to sample documentation for the different stages of the application development, e.g. requirements documentation and feasibility study documentation. They will need access to suitable application design and development software to create their designs and prototype.

Learners will need access to a 'client' to gather the client's requirements, to present their designs to and negotiate any adaptations with, for the trialing of their prototype, and to provide feedback on the prototype. This client could be the tutor or an engaged employer who is providing a meaningful contribution to this unit assessment.

You will need to give learners a copy of the scenario and the tasks. Learners are not expected to generate data for a database for their application. The client brief provides the words and phrases to be used. Learners will be expected to source suitable images to accompany the words and phrases and to produce audio recordings in English of the words and phrases that will play when activated during the three learning activities.

There are resource requirements for this assignment. Every learner will need access to the following resources:

- For task 1 the internet for research on different application development models.
- For task 2 requirements and feasibility study sample documentation to gather detailed requirements from the client.
- For task 3 suitable design software to create the designs for the application.
- For task 4 suitable development software to produce the prototype and software to enable the client and/or user to use the prototype.

Time

You should plan for learners to have 10–14 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 said what format the evidence **could** take 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 doesn't 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 tasks for learners.

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.

Information to support the scenario

For this unit the learner is only required to produce a prototype for an application design which they present to the client. The development of the full product could be used for unit 9 – Product Development. For those learners following the Level 3 diploma qualifications this unit is mandatory for the Application Developer pathway.

Synoptic assessment could be used across a number of units where learners create prototypes in the qualification, e.g. unit 15 – Games Design and Prototyping, unit 21 – Web Design and Prototyping. This unit can also be linked to unit 8 – Project Management.

The unit could involve employer engagement to assist with developing a scenario which reflects industry requirements within the learners' area. An employer could also act as the client when learners are gathering requirements. The employer could be the client for the meeting and provide feedback and negotiate on the adaptation of the learner's design. The employer could represent the client and provide feedback on the prototype.

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 6: Application Design

Scenario

Part A – Training

You are an application designer for Progress Computing Solutions and are required to take part in all the stages of designing an application.

Part of your role is to train new application designers to the company to help them understand the processes and the way Progress Computing Solutions develops applications for clients. This role requires you to describe each stage of the application design process as you carry out this training process.

Part B – Designing the application

A local language school wants to have an application designed to enable customers to access and use a new language learning product and has approached Progress Computing Solutions to design a suitable application for them. The client knows very little about how applications are designed, their technical capabilities, the costs involved and the legal requirements. They have ideas for their application with regard to the content and what they want it to be able to do but they are relying on the application designer to provide them with guidance.

You will be required to:

- compare different application development models and select which model you will use for your application design;
- gather and document the client's requirements;
- identify possible solutions and produce a feasibility study for the client;
- prepare their designs and present them to the client;
- negotiate and document any adaptations agreed with the client;
- develop a prototype;
- test the prototype and gather feedback from the client/user;
- analyse the feedback and implement any changes required.

Throughout the process of designing the application you will describe the various stages that they work through and include relevant documentation at each stage of the process.

Part C – Client brief

The client wants to meet the needs of people who enrol on an intensive English language course at their language school. They want to enable their customers to work independently on additional language training which is fun to use.

They want users' progress and usage of the product to be able to be viewed by staff. When users first access the product they will need to be able to select their native language and they will then be shown the words on screen in both their native language and English. All recordings will be in English as that is the language the users are learning.

The client wants users to be able to access at least three learning activities to learn words and phrases. They would like the user to be able to select any of the three activities to work on.

One activity should involve repetition of the words and phrases with suitable images and a recording of the word or phrase spoken in English. They would like a record and play back facility so that users can record themselves saying the word or phrase and compare how they sound with the recorded speaker.

Another learning activity could be based on memory. This would use the same words, images, recordings of the spoken words and written words as in the first activity.

A third activity could be based on the speed and accuracy of the user in associating the spoken words with the correct image.

There needs to be some form of scoring system so that users are motivated to achieve high scores and improve. Sound and animation could be included to provide interest and excitement and to celebrate the completion of each section.

The words and associated images, text and recorded words must remain consistent throughout.

The client initially wants to see what the application looks like and how well it performs for one language (English) and one subject area (snacks and drinks). If this proves successful they would be interested in having the application developed to include more subjects and languages.

These are the words and phrases connected with snacks and drinks that the client wants to be used. Initially two other languages have been provided with English so that users can select a native language to use with the product.

English	Italian	Polish
mineral water	acqua minerale	woda mineralna
a black coffee	un caffè nero	czarna kawa
tea with lemon	tè con limone	herbata z cytryną
sugar	zucchero	cukier
milk	latte	mleko
salt	sale	sól
pepper	pepe	pieprz
A table for two please.	Un tavolo per due, per favour.	Stolik dla dwojga proszę.
Here is the menu.	Ecco il menu.	Oto menu.
Do you want to order?	Volete ordinare?	Chcesz zamówić?

The tasks

Task 1: Application development models

(This task should take between 1 and 1.25 hours)

Learning Outcome 1 (part) : ***Understand how applications are designed***, is assessed in this task.

Your task is to:

Consider the similarities and differences between different application development models. Learners should also explain how the different application development models are appropriate for different types of project.

Pass	Merit	Distinction
	M1: Compare and contrast different application development models	
Evidence		

A handout – M1

This is to be given to trainee application designers to provide them with a comparison of the differences and similarities of the various application development models and the choice of a particular model for a particular product design.

The handout should consider the similarities and differences between different application development models. You should explain how the different application development models are appropriate for different types of project. You should select which development model you would use for this application design based on the overall client brief that you have been given.

The handout must be in your own words and provide a comprehensive summary of your findings.

It is important that you correctly reference all sources used, following appropriate conventions.

Task 2: *Requirements analysis and feasibility study*

(This task should take between 2 and 3 hours)

Learning Outcome 1 (part): ***Understand how applications are designed*** is assessed, in this task.

Learning Outcome 2: ***Be able to investigate potential solutions for application developments****,* is assessed in this task.

Your task is to:

Describe the key activities of the requirements analysis stage in application development for the model you have been given or chosen. You should include what the requirements analysis stage is and why it is important.

Establish the requirements of the client for the application development. You will need to review the client brief and meet with the client to gather as much information as possible about the client's requirements for the application. You must document the specific requirements, together with any constraints and limitations on the solution or its development.

Based on the client requirements that you have established, you should identify potential solutions and undertake a feasibility study. The feasibility study should consider the client and/or user need for which the application solution is to be designed. The study must consider: whether the proposed solutions are technologically possible; estimates of the likely costs of development; any laws that will apply to the proposed solutions or their development; how each of the proposed solutions meets the identified needs of the client; the impact that each will have; the resources required for development of each solution; and likely timescales.

Pass	Merit	Distinction
P1: Describe the key stages in application development		
P2: Gather client requirements for an application solution	M2: Conduct a feasibility study of different solutions for the client requirements	

Evidence

Report or presentation – P1

This should be produced for the trainee application designers, describing the requirements analysis stage in application development for the model you have been given or chosen.

Requirements document – P2

Review the client brief and meet with the client to establish their requirements for the application development. You could use a form to capture the information you gather before putting it into the requirements document.

The requirements document must include:

- specific requirements;
- constraints;
- limitations on the solution or its development.

Feasibility study and proposed solutions – M2

Identify potential solutions and undertake a feasibility study based on the client requirements.

The feasibility study must include:

- technological requirements;
- economic or financial costs of development and potential benefits;
- legal issues;
- operational impact;
- scheduling and resources (e.g. time scale for development, resources needed for development).

Task 3: *Prepare and present designs*

(This task should take between 3 and 4.5 hours)

Learning Outcome 1 (part): ***Understand how applications are designed****,* is assessed in this task.

Learning Outcome 3: ***Be able to generate designs for application solutions****,* is assessed in this task.

Learning Outcome 4: ***Be able to present application solutions to meet client and user requirements****,* is assessed in this task.

Your task is to:

Describe the design stage of an application development for the application model you have been given or chosen.

Provide a series of annotated diagrams that illustrate and describe your proposed application design. These should include diagrams to show the scenarios in which the application will be used with functional requirements, process and data handling and user interface designs.

As an extension to the annotated diagrams you should justify your design choices, outlining the advantages and disadvantages of each.

Present your proposed design solution to the client. The presentation format must be 'fit for purpose' and you should have undertaken appropriate quality checks. It should be sufficiently detailed to enable the client to understand the key features of your proposed solution.

Following the meeting, discussion or communication with the client, you should identify clearly the adaptations that the client wanted and what was agreed, with clear statements of the refinements to the solution design and the possible implications. You should make changes to their designs following the client review and negotiations. The changes should be clearly documented.

Pass	Merit	Distinction
P1: Delopment escribe the key stages in application dev		
P3: Illustrate the requirements, functioning, and designs of an application solution, using diagrams		D1: Justify design choices identifying the advantages and disadvantages of each
P4: Present a proposed design solution to the identified client	M3: Negotiate adaptations with the identified client to refine the design solution	
Evidence		

Report or Presentation – P1

This should be produced for the trainee application designers, describing the design stage in application development for the model you have been given or chosen.

Annotated diagrams – P3

This must provide a series of annotated diagrams that describe the proposed application solution. These should include diagrams to show the scenarios in which the application will be used with functional requirements, process and data handling and user interface designs.

Extension to diagrams – D1

This should justify your design choices, outlining the advantages and disadvantages of each.

Presentation of proposed design – P4

You must present your proposed design solution to the client. The presentation format must be 'fit for purpose' and you should have undertaken appropriate quality checks. It should be sufficiently detailed to enable the client to understand the key features of your proposed solution.

Negotiation with client and adapted design solution – M3

You should provide evidence of your meeting, discussion, or communication with the client. You should identify clearly the adaptations that the client wanted and what was agreed. You should make changes to your design solution following the client review and negotiations. The changes should be clearly documented, considering any implications.

Task 4: *Create and test prototype*

(This task should take between 4 and 5.25 hours)

Learning Outcome 1 (part): ***Understand how applications are designed*,** is assessed in this task.

Learning Outcome 4: ***Be able to present application solutions to meet client and user requirements*,** is assessed in this task.

Your task is to:

Describe the implementation/coding and testing stages of an application development for the application development model you have been given or chosen.

You should create a prototype of the chosen design solution.

You should test your prototype before you gather client and/or user feedback. You must collect client and/or user feedback on the prototype and produce a summary of the outcomes from the feedback.

You should analyse the client and/or user feedback to identify any improvements that are required. You must implement improvements to the design based on your analysis of the feedback.

You should describe what happens next in the remaining stages of application development model you have been given or chosen. This could include the implementation of the full product, testing, deployment and maintenance.

Pass	Merit	Distinction
P1: Describe the key stages in application development		
P5: Create a prototype based on the design solution		
P6: Gather client and/or user feedback on the prototype		D2: Implement improvements based on the analysed client and/or user feedback

Evidence

Report or presentation – P1

This should be produced for the trainee application designers, and must describe the key activities of the implementation/coding and testing stages in application development for the application model you have been given or chosen.

Prototype – P5

Learners should create a prototype of the chosen design solution.

Feedback summary – P6

You should provide evidence of collecting feedback together with a summary of the outcomes from the feedback.

Feedback analysis including implementation of improvements – D2

You should analyse client and/or user feedback to identify any improvements required. They must provide evidence of implementing improvements to the design based on your analysis of user feedback.

Report or presentation – P1

This should be produced for the trainee application designers. You should finalise your descriptions of the stages of an application development model you have been given or chosen by describing what happens next in the process.

Evidence Checklist
OCR Level 3 Cambridge Technicals in IT
Unit 6: Application Design

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 key stages in application development (P1) e.g. A report or presentation outlining stages in application decelopment	
Gathered client requirements for an application solution (P2) e.g. A requirements document following discussion with the client	
Illustrated the requirements, functioning, and designs of an application solution, using diagrams (P3) e.g. Annotated diagrams	
Presented a proposed design solution to the identified client (P4) e.g. A presentation with detailed speaker notes that you present to the client	
Created a prototype based on the design solution (P5) e.g. A prototype	
Gathered client and/or user feedback on the prototype (P6) e.g. A feedback summary sheet to capture feedback	

For Merit have you:	Where can your tutor find the evidence? Give page no(s)/digital timings, etc.
Compared and contrasted different application development models (M1) e.g. A report or presentation comparing and contrasting different models	
Conducted a feasibility study of different solutions for the client requirements (M2) e.g. A feasibiltiy study	
Negotiated adaptations with the identified client to refine the design solution (M3) e.g. A recording of your meeting and summary of agreed adaptations to design solution	

For Distinction have you:	Where can your tutor find the evidence? Give page no(s)/digital timings, etc.
Justified design choices identifying the advantages and disadvantages of each (D1) e.g. Extended commentary to diagrams (P3) with supporting justification	
Implemented improvements based on the analysed client and/or user feedback (D2) e.g. Feedback analysis and implementation audit	

To find out more
ocr.org.uk/it
or call our Customer Contact Centre on **02476 851509**

Alternatively, you can email us on **vocational.qualifications@ocr.org.uk**