

OCR Set Assignment

Cambridge National Certificate in Information Technologies

Learner Assessment Material

OCR Level 1 / 2 Cambridge National Certificate in Information Technologies

Assessment Unit R013: Developing technological solutions

FOR USE IN THE JUNE 2019 EXAMINATION SERIES ONLY

Centres **must not** change any aspect of this assignment.

INSTRUCTIONS TO TEACHERS

- Teachers should read the teacher guidance document before delivering this set assignment
- Please refer to the specification for specific requirements when delivering this set assignment
- This work **must** be completed by 15 May 2019

The OCR administrative codes associated with this unit are:

- Unit entry code R013
- Certification code Certificate J808

The regulated qualification number associated with this unit is:

- 603/1311/0

Duration: Approximately 20 hours

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Candidate Instructions and Information

Candidates must be familiar with the following instructions and information before commencing the set assignment

| How do I complete the assignment? | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|-------------|---|---|-------------|---|---|----|--|-------------|--|--|-------------|--|--|-------------|--|--|--|-------|---|---|---|---|---|---|---|---|---|----|
| <ul style="list-style-type: none"> You should try to complete all of the assignment. The assignment says what you need to do for each task. There is a checklist for you to use at the end of this document. This will help you to track the evidence you need to produce. You must complete the assignment on your own. You are not allowed help from anyone else. If we think that you had extra help, your marks may be changed or reduced to zero. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| How is the assignment marked? | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> Your teacher will mark your work after you hand it in. They cannot mark it in stages for you. Your teacher will use the mark scheme that we give them to give you marks. You can ask to see the mark scheme – and you can have the mark scheme explained to you. The mark scheme has three bands. Your teacher decides which mark band your work meets, and then gives you a mark from that mark band. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th colspan="3">Mark Band 1</th> <th colspan="3">Mark Band 2</th> <th colspan="4">Mark Band 3</th> </tr> </thead> <tbody> <tr> <th>Marks</th> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> </tr> </tbody> </table> | | | | | | | | | | | | Mark Band 1 | | | Mark Band 2 | | | Mark Band 3 | | | | Marks | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | Mark Band 1 | | | Mark Band 2 | | | Mark Band 3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Marks | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> Your teacher will then add up the marks and give you a total. Your final grade for the assignment depends on your final total mark. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| What help can my teacher give to me? | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Your teacher can:</p> <ul style="list-style-type: none"> ✓ Read the assignment to you ✓ Help you understand what you need to do <ul style="list-style-type: none"> ◦ e.g explain the difference between Explain and Evaluate ✓ Give you some general help if you get stuck ✓ Explain the mark scheme ✓ Give general advice and guidance ✓ Remind you about what you have been taught ✓ Remind you of the content expected. | | | | | | <p>Your teacher can not:</p> <ul style="list-style-type: none"> ✗ Tell you what to do ✗ Tell you how to do it ✗ Help you to solve a problem ✗ Give you templates or solutions ✗ Say how to improve your work ✗ Mark your work in sections and give feedback. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| What if I get stuck? | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> You can ask the teacher to explain the task again. Move on to another part of the assignment. Come back again later to have another go. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

What is plagiarism and referencing?

- Plagiarism is where you use someone else's work or ideas, but do not say you have done so.
- Plagiarism is very serious.
- If you plagiarise, you may be given 0 marks for this unit, or fail the whole qualification.
- You **must** always say when you use someone else's work or ideas – this is called referencing.
- Examples of when you may need to reference are:
 - Using ideas from a book
 - Using some research from the internet
 - Copying something someone says – like a quote.
- When you hand in your work, you will be asked to sign a form.
- This form says that all the work you have done is your own, and that you have referenced all the resources you have used.
- You can learn how to reference using our [skills guide on referencing](#).

Using online resources/the internet

You should:

- ✓ Search for techniques not solutions
- ✓ Reference any websites/sources you use
- ✓ Develop these ideas into your own words
- ✓ Show that you have created new ideas.

You must not:

- ✗ Simply copy and paste ideas
- ✗ Discuss live tasks online in chat rooms etc.
- ✗ Post your work to any online channels
- ✗ Use the internet to work outside of lessons.

Can I work in a group?

- No, all the work you produce **must** be done on your own.

How should I present and save my work?

- You will use many different software packages in your work.
- Your work will be sent to the exam board electronically.
- The Candidate Assignment Checklist shows you examples of the file types you can use.
- You should choose suitable programs that allow you to meet the marking criteria.
- Use file names which make your evidence easy to find.
- As you develop your solution, use "Save As" to create a new file
 - e.g. MySpreadsheet_v1 & MySpreadsheet_v2.

What do I do when I have finished?

- Make sure that you have saved all your work.
- Your files should have sensible names.
- Make sure your work does not contain any personal information of real people (e.g. date of birth).
- Make sure that your name, candidate number, centre number and page numbers are on work.

Set Assignment Brief

The Scenario

Progress Cars is a new company which buys and sells second hand cars. It currently has a stock of 20 cars for sale but intends to increase this number over time.

Progress Cars has been using a paper-based system but knows that it is important that this is replaced by an integrated IT system as the company continues to expand.

Progress Cars customers will:

- part exchange their car for the car that they want to buy;
or
- sell their car and not buy another one;
or
- buy a car without part exchanging a car.

Read through the task carefully, so that you know what you will need to do to complete this assignment.

Important:

You will need to refer to the marking criteria grid. Your teacher can explain the marking criteria if you need further clarification.

Your Task

For the purposes of this set assignment all car registration plates are fictitious and must not be altered.

Task

You need to follow the project lifecycle to plan and develop a fully working integrated IT system for Progress Cars.

Your integrated IT system **must** include:

- 1 An **inventory** for the cars that Progress Cars has for sale. The following information is required:
 - make of car;
 - model of car;
 - year of registration;
 - vehicle registration number;
 - colour of car;
 - mileage;
 - date of MOT certificate;
 - purchase price (paid by Progress Cars) (£);
 - sale price (to the customer) (£).

Progress Cars has provided you with the information of the cars it currently has for sale in the following file: *Available_Cars.csv*

Progress Cars requires the system to enable end users to:

- navigate the system via a menu;
 - search for specific makes and models of cars;
 - search for cars within a price range;
 - add or amend records;
 - identify data entry errors;
 - automatically export details of a car sold to the relevant customer record;
 - automatically produce a weekly list of cars with MOT due;
 - create monthly reports of cars bought and sold during that period.
- 2 A **customer information interface** to include the following:
 - name of customer (first name and surname);
 - address (in the format of house number, street, town, post code);
 - telephone number;
 - email address.

There must be a separate section within each customer record to identify whether a car has been purchased from Progress Cars or sold to the company. Each section would include the following:

Purchase of car from Progress Cars:

- make of car;
- model of car;
- year of registration;
- vehicle registration number;
- colour of car;
- mileage;
- date of MOT certificate;
- sale price (to the customer) (£);
- method of payment (cash or card);
- card details i.e. type of card, card number and expiry date.

Sale of car to Progress Cars:

- make of car;
- model of car;
- year of registration;
- vehicle registration number;
- colour of car;
- mileage;
- date of MOT certificate;
- purchase price (paid by Progress Cars) (£).

Part exchange of car with Progress Cars:

- make of car;
- model of car;
- year of registration;
- vehicle registration number;
- colour of car;
- mileage;
- date of MOT certificate;
- part exchange price;
- method of payment (cash or card);
- card details i.e. type of card, card number and expiry date.

Progress Cars requires the system to enable end users to:

- navigate the system easily via a menu;
- identify data entry errors;
- automatically generate an invoice for cars sold to the customer. If the customer has part exchanged their car the invoice will also need to include:
 - details of the car used as part exchange and price agreed;
 - the balance of payment required between the price of the car sold to the customer and the price of the part exchanged vehicle.
- automatically generate a receipt for cars purchased from customers to include:
 - name and address of customer;
 - details of cars purchased or used as part exchange;
 - price agreed.
- automatically update the inventory by exporting details of cars purchased, sold or part exchanged with Progress Cars.

- 3 Progress Cars has provided you with the following test data for three customers to assist you in developing the integrated IT system.

The customer details are in the file *Customer_Details.csv*

Customer 1: Ashil Brockman

| | |
|--|------------|
| <i>Selling car to Progress Cars.</i> | |
| Make of Car | Skoda |
| Model of Car | Octavia |
| Year of Registration | 2014 |
| Colour of Car | Blue |
| Mileage | 34143 |
| Date of MOT Certificate | 31/02/2019 |
| Purchase Price paid by Progress Cars | £6000 |
| When the information is imported into the inventory, the Sales Manager will insert the sale price. | |

Customer 2: Cal Blakeston

| | |
|---|------------|
| <i>Purchasing car from Progress Cars.</i> | |
| Make of Car | BMW |
| Model of Car | 5 Series |
| Year of Registration | 2012 |
| Colour of Car | White |
| Mileage | 84762 |
| Date of MOT Certificate | 31/10/2019 |
| Price paid by Customer | £8500 |

Customer 3: Sarah Ambridge

| | |
|--|------------|
| <i>Part exchanging car with Progress Cars.</i> | |
| Make of Car | Mazda |
| Model of Car | 5 |
| Year of Registration | 2006 |
| Colour of Car | Red |
| Mileage | 42459 |
| Date of MOT Certificate | 31/10/2019 |
| Part exchange price | £1500 |
| When the information is imported into the inventory, the Sales Manager will insert the sale price. | |
| <i>Purchasing car from Progress Cars.</i> | |
| Make of Car | Hyundai |
| Model of Car | ix35 |
| Year of Registration | 2015 |
| Colour of Car | Beige |
| Mileage | 35232 |
| Date of MOT Certificate | 15/12/2019 |

4 Progress Cars would like a **regular monthly newsletter** developed. The regular monthly newsletter will need to include:

- a simple logo for Progress Cars;
- images of the cars for sale (to be sourced by learner) and basic details of each car as listed within the current inventory for the month of the newsletter to include:
 - make and model of car;
 - year of registration;
 - sale price (£).
- contact details for Progress Cars to include:
 - telephone number: 02475739810;
 - email: ProgressCars@gmail.com;
 - address: Windy Wood Avenue, Coventry, CV4 8PC.

| Task | Evidence |
|-------------------------------------|---|
| 1 Database or spreadsheet | Completed database/spreadsheet to include: <ul style="list-style-type: none"> • switchboard to enable editing of records; • facilities for ad-hoc queries; • automatic exporting of sold car details to customer record; • automatic generation of list of cars due an MOT; • generation of weekly and monthly sale and purchase information. |
| 2 Database or spreadsheet | Completed database/spreadsheet to include: <ul style="list-style-type: none"> • switchboard to enable editing of records; • customer details and identification of whether buying or selling a car or part exchanging a car for a different one; • automatic generation of invoice for cars sold to reflect part-exchange information if required; • automatic generation of receipt for cars purchased; • automatic exporting of car information to inventory for cars taken in part exchange or purchased in full from the customer. |
| 3 Test data | Completed test data to include: <ul style="list-style-type: none"> • output from test for all three customers; • correction of any errors and rerunning of test. |
| 4 Word processed or DTP document | Document to include: <ul style="list-style-type: none"> • logo; • images and details of cars; • contact details. |

Candidate Assignment Check List

| | |
|-----------------|--|
| Candidate Name: | |
| Class: | |
| Assignment: | |

Initiation and Planning Phase

For this section you should create planning documentation. This should record the initialisation and planning phases.

Examples of evidence that you may create are:

Spreadsheets

Planning documents

Word processed documents

Desktop Publishing files

PDF documents

Written information

| Have I.... | Done? | Where is it saved? |
|--|-------|--------------------|
| Analysed the requirements of the brief? | | |
| Considered how to mitigate risks and issues during planning? | | |
| Decided on what documents I need to produce for initiation and planning? | | |
| Discussed how I will test my solution iteratively and how I will show this? | | |
| Discussed how I will carry out my final evaluation and record this? | | |
| Discussed the security, legal, moral and ethical issues which affect my project? | | |
| Discussed what things I will do to reduce or remove these issues? | | |

| Execute Phase | | |
|--|--------------------------|-------------------------------|
| <p>For this section you should build the solution you have planned. You will need to record the iterative testing you do – and show how this helps the development of your product. Your solution will need to manipulate data and communicate information in a suitable way.</p> <p>Examples of evidence that you may create are:</p> | | |
| Spreadsheets | Databases | Screenshots of testing |
| Iterative review evidence | Audio/Video files | Website/Social media |
| Have I.... | Done? | Where is it saved? |
| Used appropriate software to import and manipulate data for my solution? | | |
| Used appropriate software to export and present information in my solution? | | |
| Used a range of tools and techniques with the software I have selected? | | |
| Mitigated the security, legal, moral and ethical issues which affect my project? | | |
| Shown how I have tested my solution iteratively as I created it? | | |

| Evaluation Phase | | |
|--|---------------------------------|----------------------|
| <p>For this section you should review the solution you have created.</p> <p>You will need to evaluate at each section, and how this affected the next steps you took.</p> <p>You will need to create an evaluation of the whole project. This will show how you have met your success criteria.</p> <p>Examples of evidence that you may create are:</p> | | |
| Spreadsheets | Photos | Audio files |
| Video presentations | Word processed documents | Presentations |
| Have I.... | Done? | Where is it saved? |
| Carried out a review of my initiation stage? | | |
| Carried out a review of my planning and execution stage? | | |
| Used these reviews to show how they affected the next steps of my project? | | |
| Evaluated my final project for success or failure? | | |
| Linked this evidence to my testing? | | |
| Shown whether I have met each success criteria? | | |

