



General Certificate of Secondary Education  
2020

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## Digital Technology

Controlled Assessment Tasks

Unit 3: Digital Authoring Practice

**[GDG31]**

**VALID FROM JUNE 2019**

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Research for all tasks can be completed under **limited** supervision.

All other elements of the tasks must be completed under **informal** supervision (medium level of control).

You have a total of **36 hours** to complete the tasks:

**18 hours** on Multimedia solution

**18 hours** on Database solution

The total mark for this Unit 3 Controlled Assessment Task is **60**.

**Candidates' work to be submitted May 2020**

Controlled Assessment Tasks must comply with the Regulations as detailed in the Subject Specification.

NB: Some Controlled Assessment Tasks instructions may constitute more than 1 page.

Please check you have all the information you need to complete the task if printing from a computer.

## Option A – Digital Authoring Practice:

### Scenario: Clarendon High School Ski Trip

Clarendon High School is planning a ski trip to Chamonix, France, next April. The trip is being organised by Mr Walsh. This is the first time the school has planned such a trip. The trip will be open to pupils, from Year 8 to 14 and is suitable for all levels of skiing ability (beginner, intermediate and advanced).

### Unit 3 Task

Clarendon High School requires the development of the following:

1. A **professional multimedia package** to provide information about the ski trip. It should be aimed at parents/guardians of those pupils who are going on the trip. The multimedia package should contain an original animation, video and logo designed for the trip. All media included should be appropriately optimised.

The package should be professional in appearance and have a consistent navigation structure. It should also have some content that is **accessible** to people who are visually impaired, and it should include **scripted** and **interactive elements**.

The school have asked that the package contains six pages and should contain ski trip information about the following:

- Destination
  - Itinerary
  - Accommodation
  - Ski equipment
  - Ski activities (e.g. ski lessons, snowboarding, high piste, freestyle ski, cross country ski)
  - Contact form.
2. Whilst on the ski trip, pupils will be given the opportunity to participate in additional activities. These activities must be booked and are not included in the price of the trip. A **database** will be used to record pupil details and the activities available. It will also include the teacher in charge of the activity and the bookings made for each activity.

Using the information set out in **skitrip.xlsx**, the school have asked that you design a database which will allow them to:

- a) Input pupil and activity data using forms and sub forms (professional in appearance);
- b) Store data in a way which reduces data duplication;
- c) Validate data using a variety of validation methods and controls;
- d) Run a series of simple and complex queries which will allow useful data to be extracted from the database on pupils, activities and fees payable;
- e) Produce a range of simple and complex reports (professional in appearance) detailing useful information to support teachers in the day-to-day organisation of the trip, including lists of activities, pupils involved in activities and activities which have been paid for;
- f) Easily navigate the application and carry out repetitive tasks, using macros;
- g) Prevent overbooking of each activity.

**All documentation should be saved as one PDF and a working solution submitted.**

## Task Guidance

### 1 Designing a solution using appropriate tools [13 marks]

#### (a) Multimedia solution

The design for the multimedia element of the solution should include:

- identification of the user requirements and target audience for the proposed solution;
- navigational structure diagrams;
- detailed storyboards for all elements of the solution (pages, video and animation). Storyboards should also include detail of any interactive and accessibility elements used throughout the package;
- detail of images (including image source) and sound files used within the package;
- description of any scripted elements used within the package;
- description of any accessibility elements used within the package; and
- evidence of prototyping to include A/B testing and the use of user feedback in refining the solution throughout the design process. [6]

#### (b) Database solution

The file required for this task can be downloaded from the CCEA website [www.rewardinglearning.org.uk/microsites/digital\\_technology/revised\\_gcse/](http://www.rewardinglearning.org.uk/microsites/digital_technology/revised_gcse/)  
The file is available in Excel format. Data should be imported as appropriate.

The design for the database element of the solution should include:

- identification of user requirements;
- details of all input, output and processing elements, including;
  - appropriate use of field lengths, validation, lookup lists and input masks;
  - front end user interface;
  - form design;
  - report design (incorporating grouping, sorting, calculations, headers and footers);
  - query design (simple and complex queries);
  - ERD; and
  - macro design. [7]

## 2 Building the solution [27 marks]

### (a) Multimedia solution

Use the following features of a multimedia authoring package to support the creation of an interactive solution from the design document. The solution should demonstrate an understanding of accessibility issues.

The multimedia solution should include the use of:

- templates (including a form);
- hypertext which supports internal and external navigational links;
- optimised media types, which should include:
  - an original video;
  - an original animation; and
  - appropriate sound;
- scripted elements which aid the interactivity of the solution; and
- accessibility elements.

[13]

### (b) Database solution

Use the following features of a database application to support the creation of an interactive solution which meets the user requirements identified in the design stage.

The database solution should include the use of:

- tables with appropriate length checks, validation, use of lookup lists and input masks;
- appropriate relationships between tables;
- forms for data input;
- a menu system for ease of navigation;
- complex and simple queries;
- reports incorporating the use of grouping, sorting, calculations and headers and footers where appropriate; and
- macros for process automation.

[14]

## 3 Testing the database solution [10 marks]

Create an effective test plan derived from database user requirements which:

- is presented in tabular format;
- tests all navigational elements, all interactive elements;
- utilises appropriate test data;
- shows expected output;
- identifies errors;
- reflects the general robustness of the system for use in evaluation; and
- measures the extent to which the user requirements have been met.

Test the solution using the test plan created and document the observed outcomes from each test.

#### **4 Evaluating the multimedia and database solution [10 marks]**

Evaluate the solution in terms of:

- user requirements;
- performance and robustness;
- refinements required; and
- improvements to the solution.

**All documentation should be saved as one PDF and a working solution submitted.**

**Total [60 marks]**