

Edexcel GCE

Applied Information and Communication Technology Unit 7: Using Database Software

10–28 May 2010

Assessment Window: 3 weeks

Time: 10 hours

Paper Reference

6957/01

You must have:

Short treasury tag, Seats_exam.txt, Tickets_exam.txt,
Customers_exam.txt, Logo_exam.jpg, Cover sheet

Instructions

- Complete your candidate details on the cover sheet provided.
- All tasks must contain your name, candidate number, centre number and activity number.
- At the end of the examination:
 - All printouts should be placed in the correct order.
 - Use a treasury tag to attach your printouts (**as shown**) to Page 2 of the cover sheet.

Information

- The total mark for this paper is **90**. There are **six** activities in this examination totalling 88 marks. 2 further marks are allocated to Standard Ways of Working.
- The marks for **each** question are shown in brackets
 - use this as a guide as to how much time to spend on each question.
- Use relational database software to carry out the database activities in this examination.
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed
 - you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

Advice

- Read through the Scenario carefully.
- Work through the activities in order.
- Attempt **ALL** activities.
- Label your printouts clearly as instructed.
- Printing must be undertaken within the examination time.

Turn over ►

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Dolphin Theatre Booking System

The Dolphin Theatre is staging a one week production of 'An Inspector Calls'. There will be a series of matinee and evening performances to allow pupils to attend as part of their GCSE English course.

The theatre, which is quite small, has 120 seats.

There is a restricted view from eight of the seats because of inconveniently sited pillars. Tickets for these seats are sold at a lower price.

Seats are priced at £8 each for the Stalls, £12 each for the Front Stalls and £15 each for the Circle. The eight seats with a restricted view are priced at £5 each.

Some customers have 'Friend' status because they have invested in the theatre. They are entitled to a discount of 10% on any tickets they buy.

Enquiries and bookings can only be made by telephone. These are handled by the receptionist.

At present the theatre uses a flat-file database for the booking system. This is prone to errors such as double bookings.

The theatre director, Maggie Coyle, wants a new booking system that is:

- secure, requiring a username and password to access it
- robust
- intuitive and simple to use.

The new system must be able to:

- show easily which seats are available
- book a seat for a specified performance
- add a new customer
- note whether customers want their details passed to the marketing department or not
- apply the appropriate discount when a 'Friend' makes a booking
- print the booked tickets for each performance.

Your task is to create a database for the new booking system that will meet the requirements of the theatre director.

Instructions to Candidates

All word processed documents MUST have a header and a footer. The header must contain the activity number. The footer must contain your name, candidate number and centre number.

Minimum font size of 10 should be used throughout.

Screen prints should be large enough to be easily read.

All database reports must have the activity number, your name, candidate number and centre number in the page header.

Activity 1 – Understanding the situation (suggested time 1 hour)

Use word processing software to produce and complete a table that shows:

- (a) **four** processes the booking system needs to undertake (4)
- (b) the input(s) to each of the **four** processes (4)
- (c) the output(s) from each of the **four** processes (4)

An example of a suitable table is provided for you.

Process	Input(s)	Output(s)

Evidence to be submitted for (a), (b) and (c).

- One side of A4 containing the word processed table.

(Total for Activity 1 = 12 marks)

Activity 2 – Structure (suggested time 2 hours)

You will need to use the data files provided in your examination work area:

- Seats.txt
- Tickets.txt
- Customers.txt

Study the data files.

- (a) Create an efficient database structure that minimises data duplication (7)
- (b) Use correct data types and key fields (2)
- (c) Use a range of validation checks (4)
- (d) Import the data from the text files provided into your database (4)

Evidence to be submitted for (a), (b), (c) and (d)

- A screen print showing the relationships in your database
- A screen print showing each table in **DESIGN** view
- Evidence of any validation checks applied
- Screen prints of the tables after import, showing **the record count** and at least **five** records. (If the number of fields is too big to fit on one page, all the fields do not have to be displayed.)

(Total for Activity 2 = 17 marks)

Activity 3 – The booking system (suggested time 3 hours and 30 minutes)

Creating the interface

- (a) The new booking system must be able to add new customers and make bookings efficiently.
- (i) Produce a query to check if the person on the telephone is an existing customer.
Screenprint the query in **DESIGN** view. (1)
- (ii) Produce a query to generate a unique customer ID.
Screenprint the query in **DESIGN** view. (1)
- (b) The receptionist will need to be able to use the system to add new customers.
Create a form to enable the receptionist to add a new customer.
Screenprint the form in **FORM** view. (3)
- (c) The receptionist will need to be able to use the booking system to choose a specific performance and to search for seats that have not yet been booked.
- (i) Create a form to enable the receptionist to enter the date and time of the performance.
Screenprint the form in **DESIGN** view. (1)
- (ii) Create a query to search for seats that have not been booked.
Screenprint the query in **DESIGN** view. (2)
- (d) The receptionist will need to be able to use the booking system to book a seat and to display the cost of the ticket.
Create an interface that will allow a seat booking to be made and saved onto the booking system.
Screenprint the interface. (8)

(e) Security is an important part of the system you are developing.

Maggie Coyle has requested that you use the following username and password:

username: Japonica

password: ipod

Password letters should not be viewable as they are entered.

(i) Create a login screen for the receptionist to use.

Screenprint the form in **DESIGN** view.

(1)

(ii) Provide annotated screen prints to show how your database validates the username and password.

(5)

(Total for Activity 3 = 22 marks)

Activity 4 – Testing (suggested time 1 hour)

Testing your database

(a) Enter data using the forms you created in Activity 3 to test the booking system.

- (i) Use your booking system to find seats that have not been booked for the matinee performance on 08/06/2010.

Screenprint the results.

(2)

- (ii) Use your booking system to book a seat for Amy Fleming (CustomerID 1029), who is a 'Friend' of the theatre, for the matinee performance on 08/06/2010.

Provide a screen print of the booking form with the data entered.

(2)

- (iii) The data that you entered in (ii) should have automatically updated the booking system.

Provide screen prints in **DESIGN** view of the queries that enabled this to happen.

(2)

(b) Details of a new customer are:

Mr Angus Maughan

The Turrett

Lambton

Fenshire

LB1 3JO

Phone 04577731909

Friend No

Marketing No

- (i) Add this new customer to the booking system and screenprint the form with the details added.

(1)

- (ii) Provide a screen print of the updated table.

(2)

You now have to test your database for functionality.

Customers want to book seats.

Your database needs to show whether a booking has been successful or not.

(c) Produce screen prints showing the results of entering:

(i) an incorrect username (1)

(ii) an incorrect password (1)

(iii) a correct username and password. (1)

(d) Create your own test data and enter it into the booking system.

On one sheet of A4 produce screen prints showing:

(i) an example of a successful booking (1)

(ii) that the successful booking has been stored. (2)

(e) Create your own test data and enter it into the booking system.

On one sheet of A4 produce screen prints showing:

(i) an example of an unsuccessful attempt to book (1)

(ii) that the unsuccessful booking has not been stored. (2)

(Total for Activity 4 = 18 marks)

Activity 5 – Printing tickets (suggested time 1 hour 30 minutes)

Note: this activity requires you to produce a database report. The Activity number, your name, candidate number and centre number should be in the page header for the database report. (You need to modify your database report in DESIGN view to do this.)

Booked tickets need to be printed as a database report.

Print the tickets purchased **on** 14 April (**ONLY**).

Each ticket should show:

- the name of the production
- the date of the performance
- the word 'matinee' if it is for a matinee performance
- the seatID/number and seat type
- the ticketID/number
- the price paid.

The tickets should be printed **four** to a page of A4 (portrait).

Evidence to be submitted

- The printed database report and a screen print of the database report in **DESIGN** view.

(Total for Activity 5 = 10 marks)

***Activity 6 – Evaluation (suggested time 1 hour)**

You need to evaluate the booking system that you have produced.

In a word-processed report explain:

- whether the database is fit-for-purpose and the criteria you have used to reach this conclusion
- how the functionality and the HCI of your database might be improved.

Marks will be awarded for the Quality of your Written Communication (QWC).

(Total for Activity 6 = 9 marks)

Standard ways of working.

All printouts must contain the activity number, your name, candidate number, and centre number.

Pages must be securely fastened to the cover sheet and in the correct order.

A minimum font size of 10 should be used for all word processed documents.

Standard ways of working = 2 marks

TOTAL FOR PAPER = 90 MARKS

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