

COURSE NAME / CODE			BTEC National Subsidiary / Diploma / Extended Diploma in IT
UNIT(s) No / Name			Unit 18 – Database Design
LEVEL	3	Assignment No & Title	Assignment 2 – Implementing and Checking it Works

LECTURER/ASSESSOR			
ISSUE DATE		01 st March 2017	DEADLINE DATE 24 th March 2017
SUBMISSION DATE			
RESUBMISSION AUTHORISATION BY LEAD INTERNAL VERIFIER*			AUTHORISATION DATE (BY IV)
RESUBMISSION DATE**			

*All resubmissions must be authorised by the **Lead Internal Verifier**. Only **one** resubmission is possible per assignment, providing:

- The learner has met the initial deadlines set in the assignment, or has met an agreed deadline extension
- The tutor considers that the learner will be able to provide improved evidence without further guidance
- Evidence submitted for assessment has been authenticated and accompanied by a signed and dated declaration of authenticity by the learner

Any resubmission evidence **must be submitted within 10 working days of receipt of assessment

Student declaration

I declare that this assignment is all my own work and the sources of information and material I have used (including the internet) have been fully identified and properly acknowledged as required.

STUDENT NAME	SIGNATURE

ASSESSMENT DETAILS & GRADING CRITERIA

(NB: Columns 1 & 2 of the table below will be completed once the assignment has been submitted) Please note that criteria & evidence should be aimed to give the learner the maximum grade available within their qualification (i.e. A, Pass, Distinction)

Learning Aims Covered									
L02	Be able to design, create and populate a relational database								
L03	Be able to test a relational database								
GRADING CRITERIA FOR TASK		EVIDENCE	EVIDENCE SEEN		Page No#	CRITERIA MET			
			Y	N		Y	I	N	IV
P3	Create and populate a database	Task 1; Screenshots							
P4	Create features in data entry forms to ensure validity and integrity of data	Task 2: Screenshots and report							
P5	Perform queries using multiple tables and multiple criteria	Task 3: Screenshots and reports							
P6	Include an advanced feature in a database design	Task 4: Normalization evidence							

P7	Test a relational database	Task 5. Report							
M2	Import data from an external source	Task 6: Screenshots of import steps							
M3	Export data to an external source	Task 7: Screenshots of export steps							
M4	Implement an automated function	Task 4: Screenshot/report							
D2	Evaluate a database against the specified user need	Task 1. Client evaluation form or questionnaire							

KEY: Y = Yes, I = Incomplete, N = No

BREAKDOWN OF HOW GRADES WILL BE AWARDED:

(NB: Please tick as appropriate)

TYPE OF QUALIFICATION	TICK	DESCRIPTION
BTECS / WORKSKILLS	√	Pass / Merit / Distinction / Fail
A LEVELS / A2		A-U

Internal Verification of Assignment Brief

IV Full Name		Signed		Date:	
LIV Full Name		Signed		Date:	

BTEC SAMPLE MATERIAL

LEARNER CONSENT DECLARATION

Centre No & Name	51330 – UTC Reading		
Subject & Level	BTEC National Subsidiary / Diploma / Extended Diploma in IT		3
Unit No & Title	Unit 18 – Database Design		
Learner No & Name			

I agree to the learner work identified above, after having been made anonymous, being used to support any of the following activities, which may involve the display of work online through the BTEC website or through publications:

- Professional Development and Training
- Centre Assessment Example Material
- Standardisation Support
- Publication Materials

Assessor Signature		
Name (block capitals please)	SANDRA JOSEPH	EMMANUEL OLADIPO
Job Title	Director of Vocational Learning	Lecturer
Date:		
Learner Signature		
Name (block capitals please)		
Parent/Guardian consent if under 16 years of age		
Date:		

Please ensure that this sheet is completed on submission of your assignment.

Please note that your assignment **MUST** have the following (unless otherwise stated):

1. Cover page
2. Table of Contents
3. Introduction
4. Conclusion
5. Bibliography & References

SCENARIO

The fast growing landscape gardening company called “Coastal Corners” which you previously designed an application for has checked your design and has given you a ‘go ahead’ to implement your design and test the custom business application. They have sent over some spreadsheets, logos, and PDF that they use now that you can use as a basis for the new system.

You have been asked to create the following main functions:-

Coastal Designs Workflow required features

HQ Adding Job

Customers ring up HQ and ask for gardening work

Sales rep will enter the customer if they are already not in the system

Add a new job with job details

Assign a gardener to job

Date and time.

Invoice Customer with pdf and email

Allow gardener (remote worker) access to the job information

Take a signature from customer at the end of job

Take photo evidence of job completed

Reporting on customers and jobs

Nice to have features

Tablet / Phone and Desktop access

Sales rep wants to find out their best customer in term of value

Gardener on the job with iPad

Gardener needs to know where to go using map and address

Also need to phone customer using FaceTime or just the number

Gardner needs to take photo evidence of job done

Gardner needs to take customer signature as evidence of job done

Owners Web View

Owner want to find out the “health of the business in a web dashboard with charts

Total sales this month

Top 5 customers

The company would like the user to have the following inputs available to them as a minimum:-

Customer No

Customer

Manager

Email

Office

Phone

Address

City
State
Zip
Salesperson
Contract Type
Hourly Rate
Contracted Work

Work Order No
Team Leader
Date
Work Description
Hours
Paid

Alternatively, you can implement a suitable database based on your previous design to incorporate essential features detailed in the design documentation for assignment 1

TASK 1 Evidence you must produce for this task.

Implement a database

You can use either FileMaker / Access / SQL Server or any suitable database software with a GUI frontend. On implementing your design, you are asked to provide the following evidence:-

To achieve the criteria you must show that you are able to:	Unit	Criterion Reference
Create at least 3 tables that match the data dictionary (with Witness Statement) Existence of all the required relationships with referential integrity applied (can be achieved through annotated screen shots) Tables populated with data. At least 10 rows of data to demonstrate correct operation of database.	18	P3
Successfully importing the data from the customer or any spreadsheet text file into a table in your database (Witness Statement to show that this has happened)	18	M2

TASK 2 Evidence you must produce for this task.

User-oriented database

Assessed by witness statement; forms will be required to permit end users to interact with the database. The following forms will be required:

To achieve the criteria you must show that you are able to:	Unit	Criterion Reference
<p>An auto-loading form showing the options available that displays when the database is loaded. This should include at least:</p> <ul style="list-style-type: none"> • A title • Buttons <ul style="list-style-type: none"> ○ Gardner access to add/edit/view works orders ○ Password protected Coastal Designs user access to add/edit a work order ○ Password protected Designs user access to view reports ○ Password protected Designs user access to print orders/bills etc • Exit the database <p>A data entry/edit form for a job. This should include at least:</p> <ul style="list-style-type: none"> • A search facility • A drop down for entering the sandwich type • Validation on a date field to prevent incorrect dates • An input mask to capitalize the initial letter of proper names • A clear indication of the required fields and error checking to make sure they are completed 	18	P4

TASK 3 Evidence you must produce for this task.

Querying the database

Assessed by witness statement; you will need to write queries, which allow the printing of reports on today's orders, statistical data and unresolved or historical complaints:

To achieve the criteria you must show that you are able to:	Unit	Criterion Reference
<ul style="list-style-type: none"> • Owner want to find out the "health of the business in a web dashboard with charts • Query / Report of Total sales this month • Query / Report of Top 5 customers • Query / Report of customer per Sales Rep 	18	P5
<p>Export the data about users with outstanding bills to a word processor and generate (using mail merge) a mass mailing reminder letter (criteria M3) OR Export the data by creating an email, to message users as a record of their order</p>	18	M3

TASK 4 Evidence you must produce for this task.

Making the database easy to use

Assessed by witness statement; improve the usability of your database by creating forms, which allow a user to easily generate an order. You will need to:

To achieve the criteria you must show that you are able to:	Unit	Criterion Reference
<p>Creation of forms with the following features:</p> <ul style="list-style-type: none"> • Using custom themes to provide a consistent look / feel • Use drop downs and date picker to easy data entry • Use of navigation objects that provide a sense of where the user is in the system, for example breadcrumbs 	18	P6
<p>Prepare a test plan and a testing table for each of the main functions of your database. Make sure there are at least 10 tests. It must include:</p> <ul style="list-style-type: none"> • A number for the test • The date the test was run • What the test is checking • The details of the test to be run • The expected outcome • Whether the test passed or not • The problem number for any problems that occurred <p>Any problems that you find must be recorded in a problem log. The log should record:</p> <ul style="list-style-type: none"> • The number of the problem • The number of the test where the problem was found • Details of the problem • Details of how the problem was fixed <p>After fixing a problem the test plan should be updated to show the test being re-run to validate the fix</p>	18	P7
<p>The database needs to include at least one advanced feature e.g. program code, integrating with web service, creating styles for fields, tables, forms, reports, customizing 6 menus/toolbars, such as:</p> <ul style="list-style-type: none"> • Print/email an order receipt using a single button or upon completion of an order • Show directions to the customer site from current location • Take photos on the iPad of a job completed • Web portal dash board for the use (web Direct - need server) • Customer electronic signature 	18	M4

<p>Design a questionnaire to evaluate the user response to your database. You should get feedback on the following:</p> <ul style="list-style-type: none"> • Appearance and legibility • Ease of finding the functions • Providing all the expected features • Whether the interface is intuitive • Overall satisfaction • Suggestions for improvement <p>Get the questionnaire completed by another student</p> <p>Analyse the results of the questionnaire and write an evaluation of how your database meets the needs of the users.</p> <p>Make sure you discuss the following:</p> <ul style="list-style-type: none"> • The features you have incorporated specifically to assist both user types • How they will complete tasks using the database • the strengths and weaknesses of your solutions • Any issues raised and what you would do about them • How you could have avoided these issues • How you could improve the database <p>You should aim to write 2 sides of A4</p>	18	D2
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Sources of information	<p>Textbooks</p> <ul style="list-style-type: none"> • Hernandez M – Database Design for Mere Mortals: A Hands-on Guide to Relational Database Design, 2nd Edition (Addison Wesley, 2003) ISBN 0201752840 • Kroenke D – Database Concepts, 2nd Edition (Prentice Hall, 2004) ISBN 0131451413 • Ponniah P – Database Design and Development: An Essential Guide for IT Professionals: Visible Analyst Set (John Wiley & Sons Inc, 2006) ISBN 0471760943 • Ritchie C – Relational Database Principles (Thomson Learning, 2002) ISBN 0826457134 <p>Website</p> <ul style="list-style-type: none"> • www.databasedev.co.uk <p>Source Code for Emailing</p> <ul style="list-style-type: none"> • http://www.access-programmers.co.uk/forums/showthread.php?t=234753 	
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M2

☐

☐ Import data from an external data source

M3

☐

☐ Data export

☐ witness statement

M4

☐

☐ Evidence of advanced feature(s)

P3

☐

☐ Create and populate a database

☐ Witness statement

P4

☐

☐ Create an auto-loading form / frontscreen to inc...

☐ title

☐ relevant buttons

☐ ability to exit dB

☐ Create a data entry / edit form, to inc...

☐ search facility

☐ drop-down for sandwich type

☐ date field validation

☐ input mask capitalisation

☐ clear indication of required fields and error checking

P5

☐

☐ Query to display orders for specific users

☐ Query itemising bill of outstanding orders

☐ Query listing user orders for set week

P6

☐

☐ Updated order form which...

☐ displays user list

☐ displays orders belonging to selected user

☐ displays and selects sandwich features for an order

☐ selects date and time for an order

☐ confirms order and updates dB

P7

☐

☐ Test plan

☐ 12 tests

☐ Problem log

☐ Paper trail of fixes, re-runs and validation

D2

☐

☐ Questionnaire

☐ Questionnaire completed by another student

☐ Evaluation of dB