

Assessment 1

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ASSESSMENT 1

Introduction to Web and Database Concepts
(ACCA4023)

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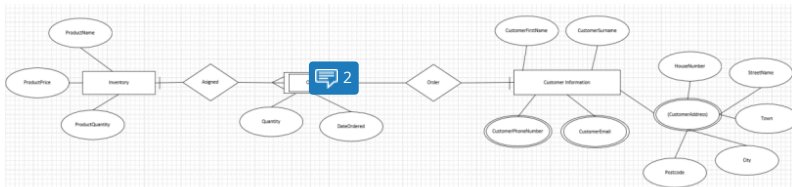
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1. Introduction

The scenario that the author was given was they needed to create a database for a small company called CraftGem to boost their productivity. They need a database that can manage their stock, customers and orders. The database also needs to be able to create reports and queries for making decisions. The database should be easy to navigate with the use of forms, this will allow for adding new records easily, deleting or editing old ones. [1, p. 2]

2. Entity Relationship Diagram



The entities Inventory and Customer Information each have a one-to-many relationship with the weak entity Orders.

3. Database

3.1. Creating the Entities

3.1.1. The Customer Information Entity

Customer Information		
Field Name	Data Type	
CustomerID	AutoNumber	The unique identity for the customer
CustomerFirstName	Short Text	The customers first name
CustomerSurname	Short Text	The customers surname
CustomerPhoneNumber	Short Text	The customers phone number
CustomerEmail	Short Text	The customers Email
HouseNumber	Number	The customers house number that live in
StreetName	Short Text	The customers street they live on
Town	Short Text	The customers town they live in
City	Short Text	The customers city they live in
Postcode	Short Text	The customers Postcode

The CustomerID is the primary key for the Customer Information entity.

3.1.2. The Inventory Entity

Inventory		
Field Name	Data Type	
ProductID	AutoNumber	The unique identity for the product
ProductName	Short Text	The product name
ProductPrice	Currency	The product price
ProductQuantity	Number	How many of that product they have in stock

The ProductID is the primary key for the Inventory entity.

3.1.3. The Orders Entity

Field Name	Data Type	
CustomerID	Number	The foreign key that refers to the customer entity
ProductID	Number	the foreign key that refers to the inventory entity
Quantity	Number	How many of the product the customer wants
DateOrdered	Date/Time	The date the customer placed the order
DateExpected	Date/Time	The expected date of delivery
DateDelivered	Date/Time	The date of delivery

The CustomerID and ProductID are both foreign keys for the Orders entity.

3.2. Adding Records to the Entities

3.2.1. The Customer Records

CustomerID	CustomerFirst Name	CustomerSurname	CustomerPhone Number	CustomerEmail	HouseNumber	StreetName	Town	City	Postcode
1	Adrian	Jones	01234-567890	adrianjones@outlo		3 Mabel Road	Cardiff	Swansea	SA1 1YF
2	Jane	Smith	02345-678901	janesmith@gmail.c		21 Jones Street	Kidwelly	Swansea	SA17 7QH
3	Jon	James	03456-789012	jonjames@email.a		1 Saint Peter Street	Gowerston	Swansea	SA3 5HF
4	Norman	Roll	04567-890123	normanroll@email		35 Pont Street	Swansea	Swansea	SA1 5HC
5	Peter	Smith	05678-901234	petersmith@gmail		21 Jones Street	Kidwelly	Swansea	SA17 7QH

3.2.2. The Product Records

ProductID	ProductName	ProductPrice	ProductQuantity
1	Earrings	£20.00	16
2	Necklaces	£35.00	12
3	Rings	£30.00	26
4	Bracelets	£25.00	6

3.2.3. The Order Records

CustomerID	ProductID	Quantity	DateOrdered	DateExpected	DateDelivered
1	4	2	16/10/2024	23/10/2024	23/10/2024
2	2	1	02/11/2024	09/11/2024	
3	3	2	01/11/2024	08/11/2024	
4	2	1	28/10/2024	04/11/2024	
5	1	1	25/10/2024	01/11/2024	

4. Forms

The main menu for the database forms.





4.1. The Customer Forms

The main customer form to edit or delete customer information.

	CustomerID	CustomerFirstName	CustomerSurname	CustomerPhoneNumber	CustomerEmail	HouseNumber	StreetName
Delete Record	1	Adrian	Jones	01234-567890	adrianjones@outlook.com	3	Matel Road
Delete Record	2	Jane	Smith	02345-678901	janesmith@gmail.com	21	Jones Street
Delete Record	3	Jon	James	03456-789012	jonjames@email.ac.uk	1	Saint Peter t
Delete Record	4	Norman	Roll	04567-890123	normanroll@email.ac.uk	35	Pont Street
Delete Record	5	Peter	Smith	05678-901234	peterasmith@gmail.com	21	Jones Street

To add a new customer record.

CustomerID	1
CustomerFirstName	Adrian
CustomerSurname	Jones
CustomerPhoneNumber	01234-567890
CustomerEmail	adrianjones@outlook.com
HouseNumber	3
StreetName	Matel Road
Town	Cardiff
City	Swansea
Postcode	SA31 5YF
Add Record Close Form	

4.2. The Inventory Forms

The main inventory form to edit or delete products. This form tells the user if the product stock is less than 8, meaning there is limited stock, or the product is out of stock.

The screenshot shows the 'Inventory' application window. It has a title bar with 'Main_Menu' and 'Inventory_AllForm'. The window title is 'Inventory'. There are two buttons: 'Add new Record' and 'Main Menu'. Below the buttons is a table with columns: ProductID, ProductName, ProductPrice, and ProductQuantity. The table contains four rows of data. Each row has a 'Delete Record' button to its left. To the right of the table, there is a 'Stock' status indicator for each row.

ProductID	ProductName	ProductPrice	ProductQuantity	Stock
1	Earrings	£20.00	16	Available
2	Necklaces	£35.00	8	Available
3	Rings	£30.00	0	Out of Stock
4	Bracelets	£25.00		Limited Stock

To add a new product record.

The screenshot shows the 'Inventory' application window with the 'Add Record' form open. The form has a title bar with 'Main_Menu', 'Inventory_AllForm', and 'Inventory_Form'. The window title is 'Inventory'. The form contains four input fields: ProductID (with a '(New)' placeholder), ProductName, ProductPrice (with '£0.00' placeholder), and ProductQuantity (with '0' placeholder). Below the input fields are two buttons: 'Add Record' and 'Close Form'.

4.3. The Order Forms

The main order form to edit or delete orders. This form tells the user how many days the delivery wait is. Also, it shows how long until the expected date for delivery unless the current date is greater than the expected date. The form also shows if the delivery is overdue and how many days it is overdue.

Orders						
CustomerID	ProductID	Quantity	DateOrdered	DateExpected	DateDelivered	
Delete Record	5	1	25/10/2024	01/11/2024	01/11/2024	
Delivery Wait		7	Days until Expected Delivery:	0	Days over due on Delivery:	0
Delete Record	4	2	28/10/2024	04/11/2024		
Delivery Wait		7	Days until Expected Delivery:	0	Days over due on Delivery:	2
Delete Record	2	2	24/10/2024	29/10/2024		
Delivery Wait		5	Days until Expected Delivery:	0	Days over due on Delivery:	8
Delete Record	3	3	01/11/2024	08/11/2024		
Delivery Wait		7	Days until Expected Delivery:	2	Days over due on Delivery:	0
Delete Record	1	4	16/10/2024	23/10/2024	23/10/2024	
Delivery Wait		7	Days until Expected Delivery:	0	Days over due on Delivery:	0

To add a new order record, enter new information into the empty record.

Delete Record			0			
Delivery Wait			Days until Expected Delivery:		Days over due on Delivery:	0

5. Reports

5.1. The Reports

Report on each customer's order dates.

Orders Report						
CustomerID	DateOrdered	DateExpected	DateDelivered	Days until Expected Delivery	Days overdue on Delivery	
1	23/10/2024	30/10/2024	30/10/2024	0		0
2	01/10/2024	08/10/2024	09/10/2024	0		0
	24/10/2024	29/10/2024		0		8
3	17/10/2024	24/10/2024	24/10/2024	0		0
	06/11/2024	13/11/2024		7		0
4	28/10/2024	04/11/2024		0		2
5	25/10/2024	01/11/2024	01/11/2024	0		0

Report on which customer is buying which product.

Product Report		
ProductID	CustomerID	Quantity
1	3	1
	5	1
2	1	1
	4	1
3	2	3
	3	2
4	2	4

5.2. Justification

The author has chosen to create the reports above because they summarize the date of the entities and shows them in a user-friendly way. Reports can also be printed out easily [2]. The author chose to create the report on each customer's order dates because this will allow the user to see each of the customer's orders, see when each order is due and if any orders are overdue. The reason why the author created the report on which customer is buying which product is because it will allow the business to see which of their products are more popular and what product each customer likes.

6. Queries

6.1. The Queries

The orders that are due, ascending order with date expected.

CustomerID	ProductID	Quantity	DateOrders	DateExpect	DateDeliver
2	4	4	24/10/2024	29/10/2024	
4	2	1	28/10/2024	04/11/2024	
3	1	1	06/11/2024	13/11/2024	

The customers contact information, ascending order with customer's surname.

CustomerID	CustomerSurname	CustomerFirstName	CustomerPhoneNumber	CustomerEmail	Postcode
3	James	Jon	03456-789012	jonjames@email.ac	SA3 5HF
1	Jones	Adrian	01234-567890	adrianjones@outlook	SA31 5YF
4	Roll	Norman	04567-890123	normanroll@email.co	SA1 5HC
5	Smith	Peter	05678-901234	petersmith@gmail.co	SA17 7GH
2	Smith	Jane	02345-678901	janesmith@gmail.co	SA17 7GH

The products that need restocking.

ProductID	ProductName	ProductQuantity
3	Rings	0
4	Bracelets	7

Orders that are after the date of 01/11/2024.

CustomerID	ProductID	Quantity	DateOrdered	DateExpected	DateDelivered
3	1	1	06/11/2024	13/11/2024	

6.2. Justification

The author chose to create the queries above because it is an easy way to get, analyse and filter data to use for understanding the data [3]. The reason why the author created the query of orders due is because it shows the orders that need to be delivered first. The author created the query for the customer's contact information because it removes the less important information. The query for the products that need restocking was created so the business can easily know which need restocking. The reason that the author created the query for orders after the date 01/11/2024 is so that the user could change the date that they checked so they can know what orders are needed for different months or years.

References

- [1] UWTSO, "LEVEL 4 ASSESSMENT SPECIFICATION," 2024.
- [2] S. Dunlop. "Subject Guides: Essential Access: a Practical Guide: Forms and reports." <https://subjectguides.york.ac.uk/access/forms> (accessed Nov 6).
- [3] Indeed Editorial Team. "What is a database query? (Plus methods and types)." <https://uk.indeed.com/career-advice/career-development/what-is-database-query> (accessed Nov 6).

Assessment 1

GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

82/100

PAGE 1

PAGE 2



Comment 1

Good start with clear ToC

PAGE 3



Comment 2

The diagram does not explicitly show primary keys (e.g., ProductID, CustomerID, OrderID). These are critical for uniquely identifying records in each entity.



Comment 3

appropriate data types for all attributes highlighted

PAGE 4



Comment 4

screenshots to be clearly labelled and numbered



Comment 5

data validation is missing

PAGE 5

PAGE 6



Comment 6

conditional formatting well applied

PAGE 7

PAGE 8



Comment 7



Comment 8

well justified

PAGE 9

GRADING FORM: DC_IWD

DYLAN HOCKING

82

ENG. WITH LITERATURE SKILLS

Materials to support the development of the database system



Showcased some external research and practical experience through the explanation of functions and query implementation. There could be more focus on the principles of normalization and ERD design, with appropriate academic sources.

17

KNOWLEDGE&UNDERSTANDING SKILLS

ERD Description of tables with field names, datatypes, and constraints



The ERD could include more specific attributes for each entity, such as primary and foreign keys for better structure.

27

PRACTICAL APPLICATION SKILLS

populate database, Implementation with primary key, foreign key, Validation rules Forms Queries Reports



The navigation menu, along with queries, showcases good skills in organizing and managing database functionality.

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TRANSFERRABLE SKILLS

• *Readability of the report.* • *Written quality, including spelling and grammar and the use of appropriate formal language.* • *Structure and presentation including screenshots of the report.* • *Critical evaluation of the selected database methods, tools and techniques and their deployment.*



Key functionalities, such as the ability to query and generate reports, are well-communicated and logical.

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