

Amina Meah database assignment

by Amina Meah

Submission date: 25-Apr-2023 02:14PM (UTC+0100)

Submission ID: 203365877

File name: 45150_Amina_Meah_Amina_Meah_database_assignment_486136_611343390.docx (9.58M)

Word count: 1231

Character count: 5883



AMINA MEAH DATABASE ANALYSIS AND DESIGN ASSIGNMENT



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[COMPANY NAME] [Company address]

Introduction

Northern Lights is a successful event organizing company based in Swansea that specializes in arranging conferences, workshops, seminars, music festivals, and concerts for more than 10 people. Recently, they have expanded their business and opened branches in Neath and Carmarthen, each managed by a branch manager who oversees a team of staff responsible for various tasks such as setting up audio-visual equipment, selling tickets, and maintaining the event's cleanliness. The company's primary clients are companies and associations that provide event topics, and once the requirements are agreed, the branch manager delegates the tasks to the relevant department heads. Northern Lights also has multiple suppliers to order resources required for events and daily operations. To improve their administrative process, the company plans to switch to a computerized system with a database management system to ensure successful event execution. Furthermore, they intend to establish an online presence to increase their customer base and record customer details, including requested events, to maintain an accurate accounting record. The company also aims to automate customer invoices to keep track of event-generated income and calculate quarterly and yearly profits.

My initial finding from reading my assignment brief is that there are 2 users that might access this database management system. One user is the staff of the business and the other is the customers of the business. I have identified 4 different departments for each branch, these departments are Event planning, Finance, Maintenance and ticket sales.

The tables are designed in such a way that they will link together in a relational database environment. Each table has a primary key and foreign keys that link them to other tables. The relationships between the tables are established by the foreign keys, which represent a link to a primary key in another table.

The table design meets the rules of third normal form (3NF). This means that each table is designed to eliminate duplicate data and to store data in the most efficient way possible. The tables are designed in such a way that each field contains only one piece of information.

ERD diagram

Department has **many to one** relationship to branch

Branch_Manager has **one to one** relationship to branch

Branch has **one to many** relationship to staff

Branch has **one to many** relationship with event

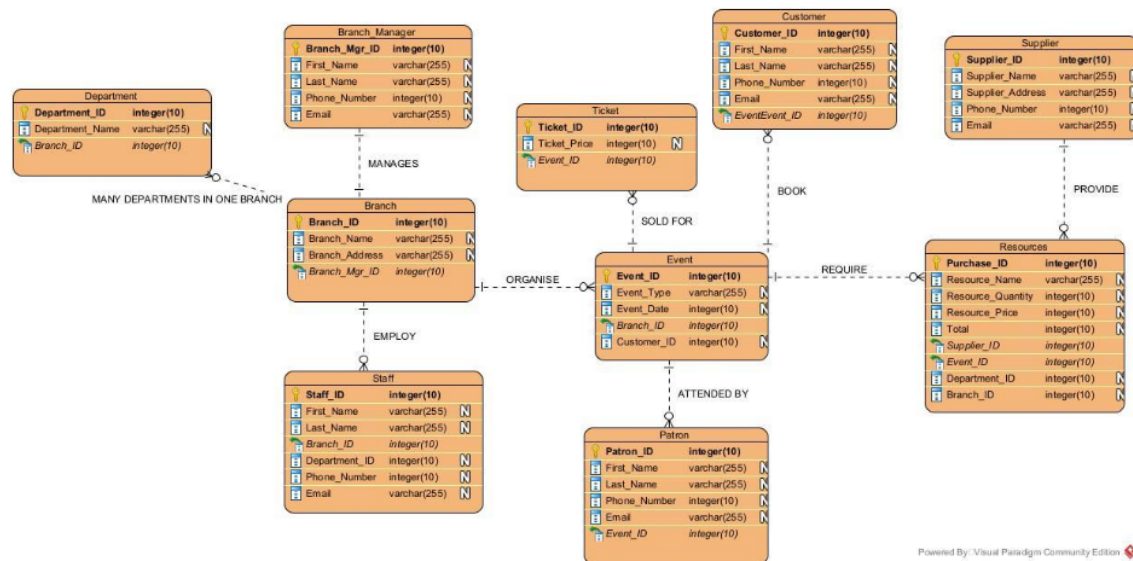
Ticket has **many to one** relationship to event

Event has **one to many** relationship with patron

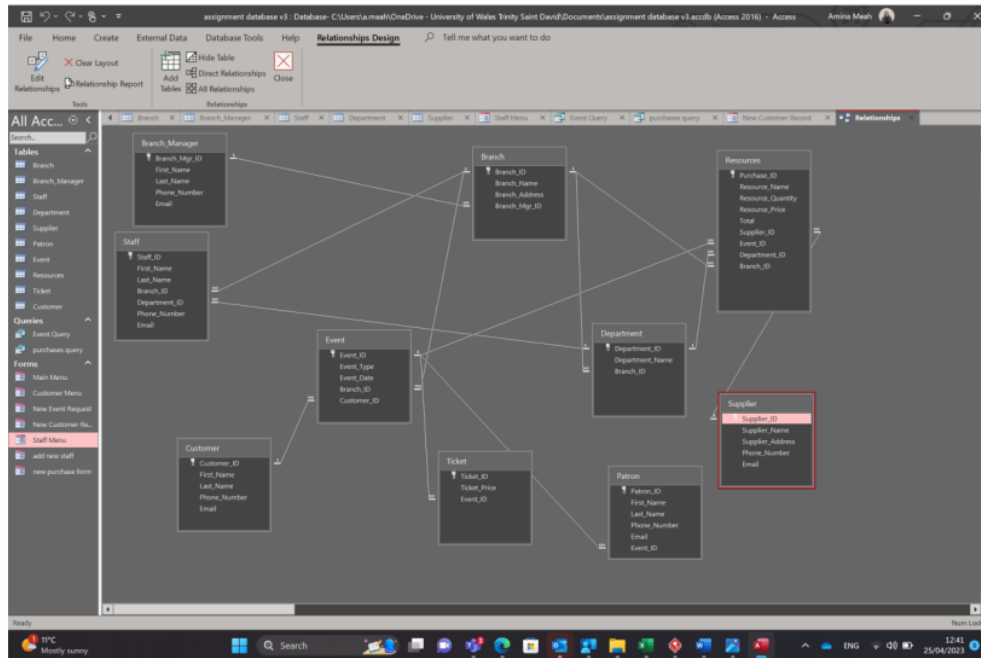
Customer has **many to one** relationship with event

Event has **many to one** relationship to resources

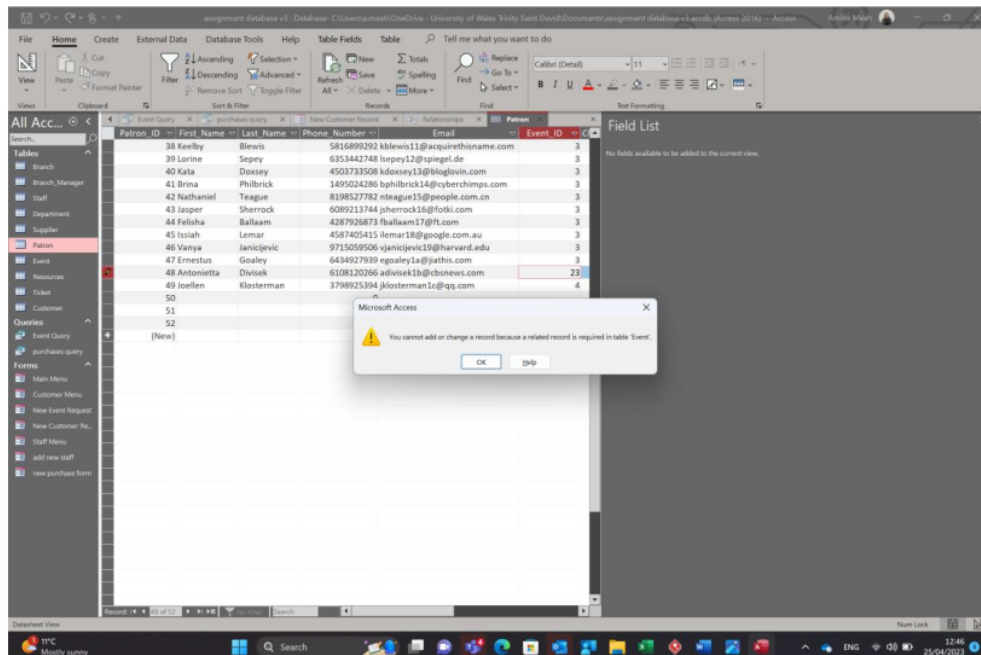
Supplier has **one to many** relationship to resources



Relationship Design



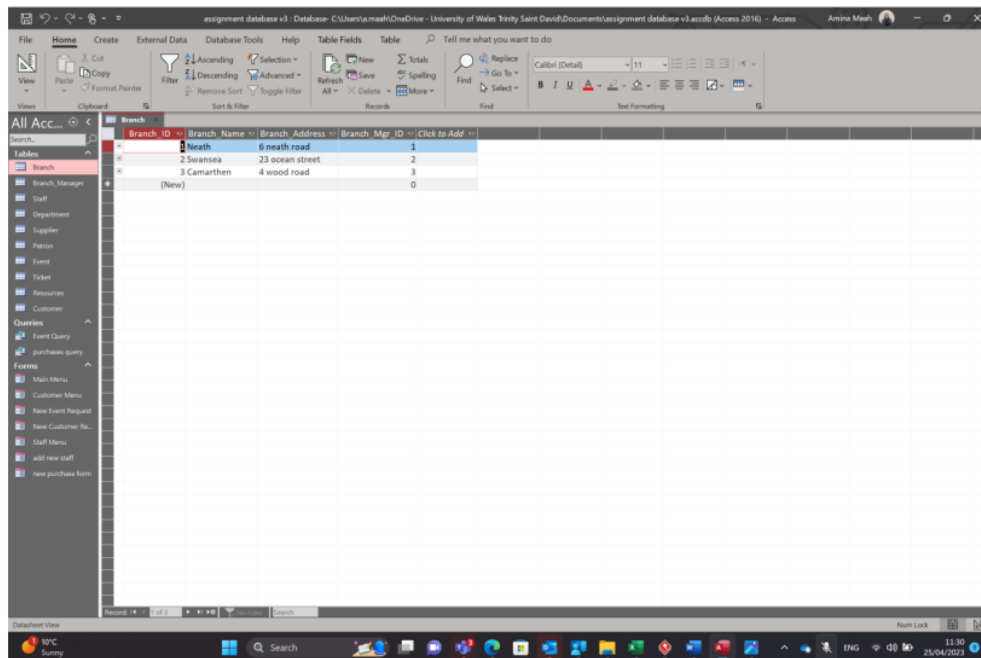
This is my relationship design on access. I have linked all the table suitably. An example of this is the patron table it includes the foreign key Event_ID. If a user of the database was to put an invalid Event_ID in the patron table it would give you a warning message.



Foreign keys

- Branch Manager ID in Branch table refers to Branch Manager ID in Branch Manager table.
- Branch ID in Staff table refers to Branch ID in Branch table.
- Department ID in Staff table refers to Department ID in Department table.
- Branch ID in Department table refers to Branch ID in Branch table.
- Branch ID in Resource table refers to Branch ID in Branch table.
- Event ID in Ticket table refers to Event ID in Event table.
- Event ID in Resource table refers to Event ID in Event table.
- Event ID In Patron table refers to Event ID in Event table.
- Branch ID in Event table refers to Branch ID in Branch table.
- Customer ID in Event table refers to Customer ID in Customer table.
- Supplier ID in Resources table refers to Supplier ID in Supplier table.
- Department ID in Resources table refers to Department ID in Department table.

Tables



assignment database v3 - Database: C:\Users\ameah\OneDrive - University of Wales Tynrh Saint David\Documents\assignment database v3.accdb (Access 2016) - Access

File Home Create External Data Database Tools Help Table Fields Table Tell me what you want to do

Views View Paste Copy Format Painter Clipboard Filter Sort & Filter Selection Advanced Refresh Save All Find Replace Go To Select Text Formatting

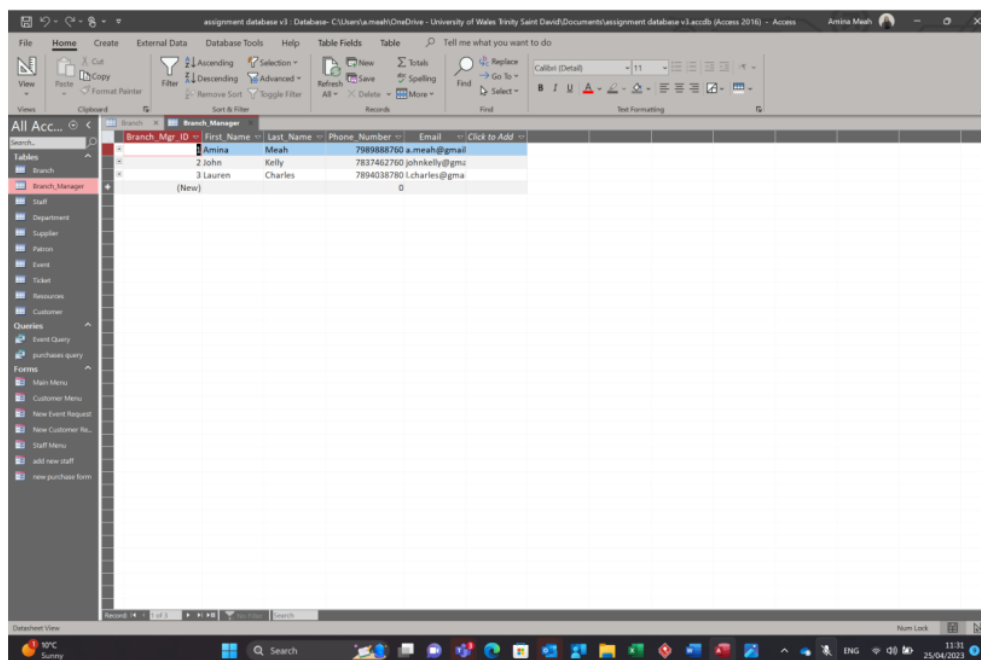
All Access Tables branch branch Manager Staff Department Supplier Patron Event Ticket Resources Customer Queries Event Query purchase query Forms Math Menu Customer Menu New Event Request New Customer Re... Staff Menu add new staff New purchase form

Branch ID	Branch Name	Branch Address	Branch Mgr ID	Click to Add
1	Neath	6 neath road	1	
2	Swansea	23 ocean street	2	
3	Camarthen	4 wood road	3	
(New)			0	

Datasheet View Record: 1 of 3

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This is the branch table. This table includes the Branch ID , Branch Name, Branch Address and the Branch Mgr ID.



assignment database v3 - Database: C:\Users\ameah\OneDrive - University of Wales Tynrh Saint David\Documents\assignment database v3.accdb (Access 2016) - Access

File Home Create External Data Database Tools Help Table Fields Table Tell me what you want to do

Views View Paste Copy Format Painter Clipboard Filter Sort & Filter Selection Advanced Refresh Save All Find Replace Go To Select Text Formatting

All Access Tables branch branch Manager Staff Department Supplier Patron Event Ticket Resources Customer Queries Event Query purchase query Forms Math Menu Customer Menu New Event Request New Customer Re... Staff Menu add new staff New purchase form

Branch Mgr ID	First Name	Last Name	Phone Number	Email	Click to Add
1	Amina	Meah	798988760	a.meah@gmail	
2	John	Kelly	7837462760	johnkelly@gmc	
3	Lauren	Charles	7894038780	Lcharles@gma	
(New)					

Datasheet View Record: 1 of 3

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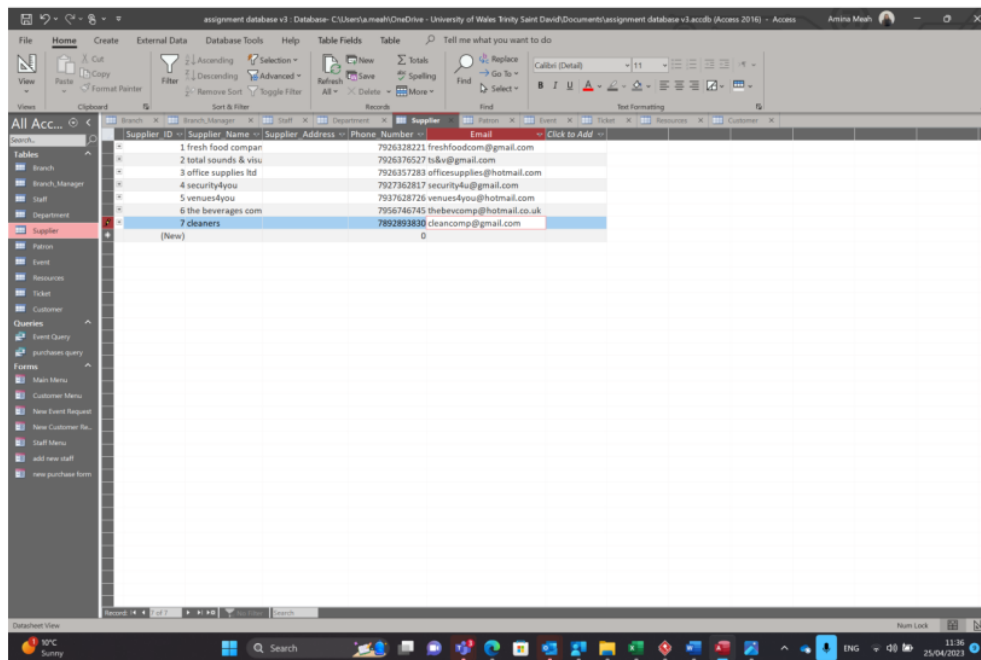
This is the Branch Mgr table this includes the fields such as Branch Mgr ID, First Name, Last Name, Phone Number and Email.

Staff ID	First Name	Last Name	Branch ID	Department ID	Phone Number	Email
1	William	Penna	1	1	5784496168	rpennam@xrea.com
2	Rafi	Busch	1	2	9893078173	mbsuchn@wired.com
3	Marvin	McAdam	1	3	7809305785	mcamado@adobe.com
4	Rozanna	St. Paul	1	4	3768780373	stpaule@rediff.com
5	Carmelina	Lukes	2	1	1596461260	glukesq@wikispaces.com
6	Griz	Roan	2	2	8558278743	croanr@vk.com
7	Corinna	Glader	2	3	7804259036	gladers@mitbeian.gov.cn
8	Demeter	Glosin	2	4	7259404866	lglosint@themaforest.net
9	Baryram	Dobbyn	3	1	8956335608	pdobbyn@wordpress.com
10	Pierrette	Peter	3	2	4967553180	rpeter@tinypurl.com
11	Rogerio	Barkway	3	3	4568187973	rbarkway@sourceforge.net
12	Jackie	Padell	3	4	7584123966	epadellx@twitter.com
0			0	0	0	

This is the Staff table. This includes the Staff ID, First Name, Last Name, Branch ID, Department ID, Phone Number and Email.

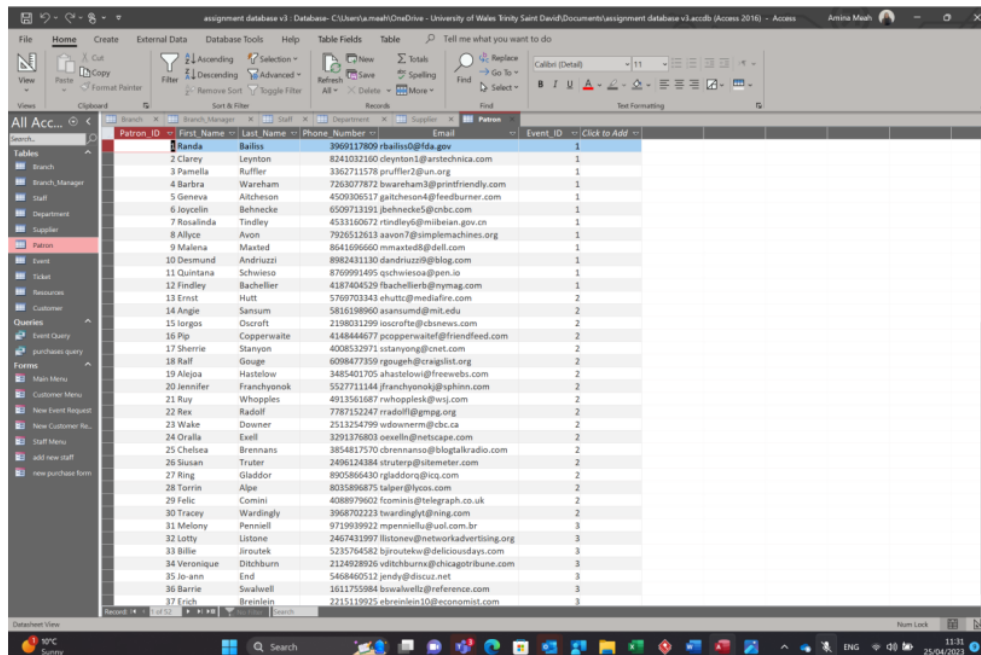
Department ID	Department Name	Branch ID	Click to Add
1	Event Planning	1	
2	Finance	1	
3	Maintenance	1	
4	Ticket Sales	1	
5	Event Planning	2	
6	Finance	2	
7	Maintenance	2	
8	Ticket Sales	2	
9	Event Planning	3	
10	Finance	3	
11	Maintenance	3	
12	Ticket Sales	3	
(New)		0	

This is the Department table. The field on this table include Department ID, Department Name and Branch ID.



Branch	Supplier ID	Supplier Name	Supplier Address	Phone Number	Email
1	fresh food compan	7926328221	freshfoodcom@gmail.com		
2	total sounds & visu	7926376527	ts&v@gmail.com		
3	office supplies ltd	7926357283	officesupplies@hotmail.com		
4	security4you	7927382817	security4u@gmail.com		
5	venues4you	7937628726	venues4you@hotmail.com		
6	the beverages.com	7956746745	thebevcomp@hotmail.co.uk		
7	cleaners	7892893830	cleancamp@gmail.com		
(New)					

This is the Supplier table. The fields included are Supplier ID, Supplier Name, Supplier Address, Phone Number and Email.



Branch	Event ID	Event Name	Event Phone	Event Email	Event ID
1	Brenda	Bellios	3969117809	rbellios@f4a.gov	1
2	Clarey	Leynton	8241032160	claynton1@arstechnica.com	1
3	Pamella	Ruffler	3362711578	pruffler2@un.org	1
4	Barbra	Wareham	7263077872	bwareham3@printfriendly.com	1
5	Geneva	Altherton	4509306517	galtherton4@feedburner.com	1
6	Joycelin	Behnecke	6509713191	jbehnecke5@cnbc.com	1
7	Rosalinda	Tindley	4533160672	rtindley6@mlbeian.gov.cn	1
8	Alyce	Avon	7926512613	avon7@simplemachines.org	1
9	Malena	Masted	8641696660	mmasted8@del.com	1
10	Dremond	Andriuzzi	8982431130	dandriuzzi9@blog.com	1
11	Quintana	Schwiesio	8769991495	qschwiesio@pen.io	1
12	Findley	Bachelier	4187404529	fbachelier@nymag.com	1
13	Ernst	Hutt	5769703343	ehutt@mediafire.com	2
14	Angie	Sansum	5816198960	asansumd@mit.edu	2
15	Iorgos	Osofro	2198031299	ioosofro@chewes.com	2
16	Pip	Copperwaite	4184446777	pcopperwaitef@friendfeed.com	2
17	Sherrie	Stanyon	4008532971	stanyon@cnct.com	2
18	Ralf	Gouge	6098477359	rgouge@craigslist.org	2
19	Akopia	Hastelow	3485401705	ahastelow@freewebs.com	2
20	Jennifer	Franchysnok	5527711144	jfranchysnok@uphies.com	2
21	Ruy	Whopples	4913561687	rwhopples@wvj.com	2
22	Rex	Radoff	7787152247	rradoff@gmpg.org	2
23	Wake	Downer	2513254799	wdownerm@cbc.ca	2
24	Oralla	Exell	3291376803	sexell@netnicap.com	2
25	Chelsea	Brennans	3654817570	cbrennanso@bbgtaikradio.com	2
26	Susan	Truter	2496124384	struter@ismeter.com	2
27	Ring	Gladdor	8905866430	rgladdorq@icq.com	2
28	Torrin	Alpe	8035896875	talper@lycos.com	2
29	Felix	Comins	4088979602	fcomins@telegraph.co.uk	2
30	Tracy	Wardingly	3968702223	twardinglyt@ning.com	2
31	Melony	Pennell	9719939922	mpennellu@uol.com.br	3
32	Lotty	Listone	2467431997	llistonev@networkadvertising.org	3
33	Billie	Jiroutek	5235764582	bjiroutekw@deliciousdays.com	3
34	Vernique	Dischburn	2124628826	vdishburnm@chicagotribune.com	3
35	Jo-ann	End	5468460512	jendy@discuz.net	3
36	Barrie	Swahwell	1611755984	bswahwellz@reference.com	3
37	Ench	Breinlein	2215119925	ebreinlein10@economist.com	3

This is the Patron table. This table includes fields such as Patron ID, First Name, Last Name, Phone number, Email and Event ID.

Event ID	Event Type	Event Date	Branch ID	Customer ID	Patron ID
1	Conference	05/10/2022	1		
2	Workshop	17/11/2022	2	2	
3	Seminar	15/11/2022	3	3	
4	Concert	23/12/2022	1	4	
5	Festival	01/01/2023	2	5	
6	Workshop	08/02/2023	3	6	
7	Seminar	14/03/2023	1	7	
8	Workshop	13/04/2023	2	8	
9	Workshop	24/04/2023	3	9	
(New)			0	0	

This is the event table. It includes fields such as Event ID, Event Type, Event Date , Branch ID and Customer ID.

Ticket ID	Ticket Price	Event ID	Branch ID	Customer ID
1	£15.00	1		
2	£15.00	1		
3	£15.00	1		
4	£15.00	1		
5	£15.00	1		
6	£15.00	1		
7	£15.00	1		
8	£15.00	1		
9	£15.00	1		
10	£15.00	1		
11	£15.00	1		
12	£15.00	1		
13	£12.00	2		
14	£12.00	2		
15	£12.00	2		
16	£12.00	2		
17	£12.00	2		
18	£12.00	2		
19	£12.00	2		
20	£12.00	2		
21	£12.00	2		
22	£12.00	2		
23	£12.00	2		
24	£12.00	2		
25	£12.00	2		
26	£20.00	3		
27	£20.00	3		
28	£20.00	3		
29	£20.00	3		
30	£20.00	3		
31	£20.00	3		
32	£20.00	3		
33	£20.00	3		
34	£20.00	3		
35	£20.00	3		
36	£20.00	3		
37	£20.00	3		

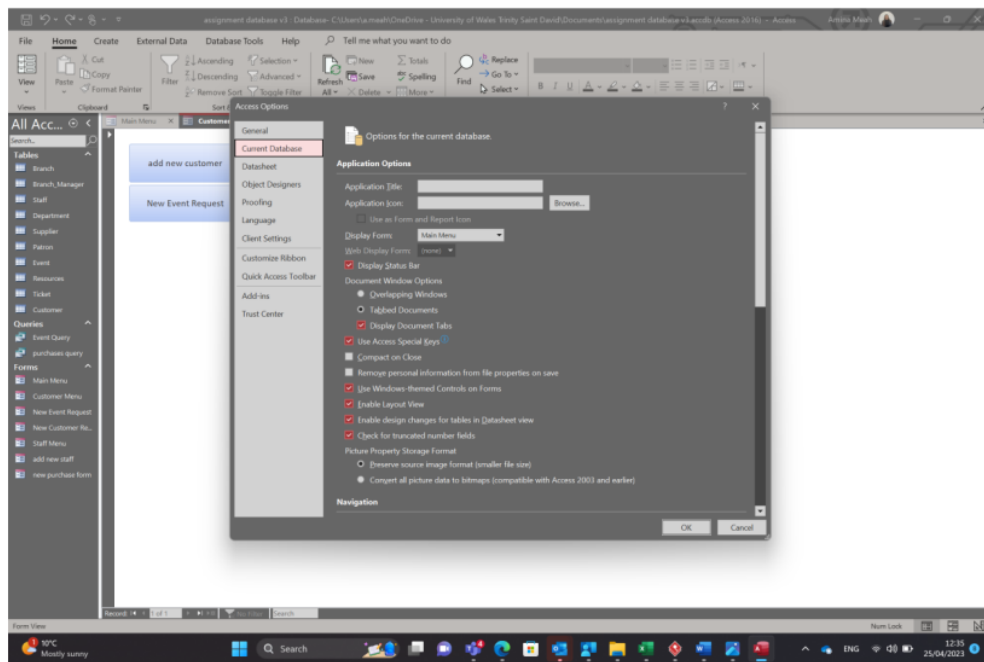
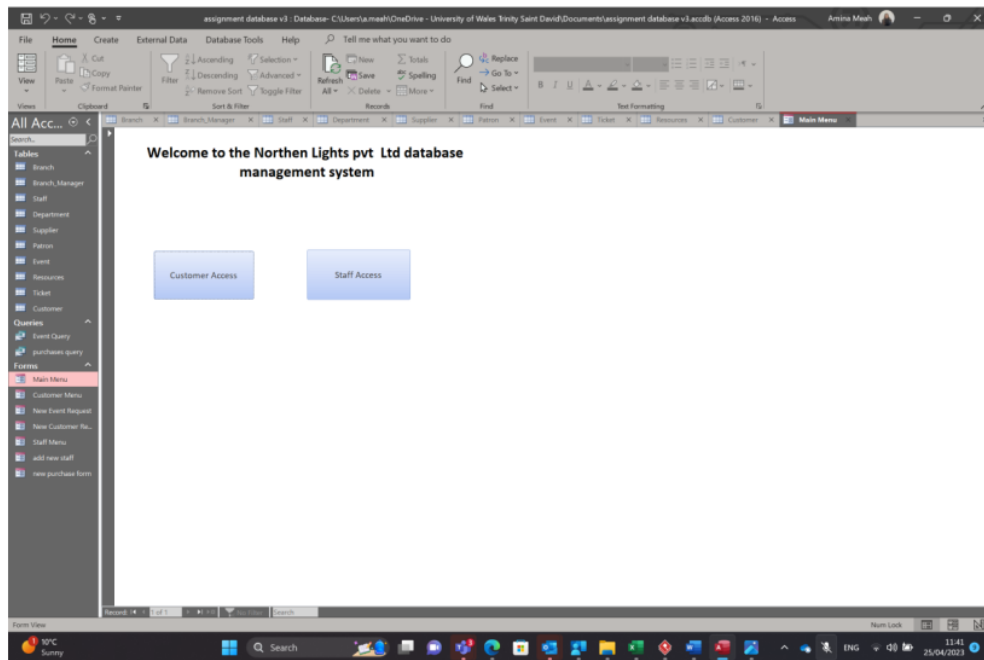
Purchase ID	Resource Name	Resource	Quantity	Resource Price	Total	Supplier ID	Event ID	Department ID	Branch ID
1	lunch		20	£5.00	£100.00	1	1	1	1
2	lunch		20	£5.00	£100.00	6	2	5	2
3	conference hall		1	£100.00	£100.00	5	1	1	1
4	workshop room		1	£100.00	£100.00	5	2	5	2
5	seminar hall hire		1	£100.00	£100.00	5	3	9	3
6	festival land hire		1	£150.00	£150.00	5	5	5	2
7	stadium hire		1	£200.00	£200.00	5	4	1	1
8	security guard hire		2	£50.00	£100.00	4	5	5	2
9	audio equipment hire		1	£100.00	£100.00	2	1	1	1
10	visual equipment hire		1	£100.00	£100.00	2	1	1	1
11	stationery		0	£10.00	£0.00	3		1	1
12	security guard hire		2	£50.00	£100.00	4	4	1	1
13	workshop room		1	£100.00	£100.00	5	6	9	3
14	workshop room		1	£100.00	£100.00	5	8	5	2
15	workshop room		1	£100.00	£100.00	5	9	9	3
16	seminar hall hire		1	£100.00	£100.00	5	7	1	1
17	audio equipment hire		1	£50.00	£50.00	2	2	5	2
18	audio equipment hire		1	£50.00	£50.00	2	3	9	3
19	audio equipment hire		1	£50.00	£50.00	2	4	1	1
20	audio equipment hire		1	£50.00	£50.00	2	5	5	2
21	audio equipment hire		1	£50.00	£50.00	2	6	9	3
22	audio equipment hire		1	£50.00	£50.00	2	7	1	1
23	audio equipment hire		1	£50.00	£50.00	2	8	5	2
24	audio equipment hire		1	£50.00	£50.00	2	9	9	3
25	visual equipment hire		1	£50.00	£50.00	2	5	5	2
26	visual equipment hire		1	£50.00	£50.00	2	3	9	3
27	visual equipment hire		1	£50.00	£50.00	2	4	1	1
28	visual equipment hire		1	£50.00	£50.00	2	5	5	2
29	visual equipment hire		1	£50.00	£50.00	2	6	9	3
30	visual equipment hire		1	£50.00	£50.00	2	7	1	1
31	visual equipment hire		1	£50.00	£50.00	2	8	5	2
32	visual equipment hire		1	£50.00	£50.00	2	9	9	3
33	cleaning team for after		1	£50.00	£50.00	7	1	3	1
(New)			0	£0.00		0	0	0	0

This is the resources table. This includes the fields such as Purchase ID, Resource Name, Resource quantity, Resource price, Total , Supplier ID, Event ID, Department ID and Branch ID.

Customer ID	First Name	Last Name	Phone Number	Email
1	Treble	Snead	3996790551	tsnead@ycombinator.com
2	Albrecht	Rizzardi	3108130061	arizzardi1@diem.ne.jp
3	Kingston	Penn	1414263137	kpennd1@bm.com
4	Parnell	Gammack	6236591258	pgammack3@infoseek.co.jp
5	Tendrar	Stoddart	5506044768	stoddartd4@rediff.com
6	Chaucery	Kelsall	7069705059	ckelsall5@meetup.com
7	Sybilie	Lomson	2776077142	slomson6@aoda.org.au
8	Emmy	Douty	2759831361	edouty7@surveymonkey.com
9	Ralph	Placott	7867493623	rplacott8@archive.org
10	Anjanette	Ivashchenko	2654307091	ivashchenko9@a8.net
11	Wernher	Woolfendell	8361763592	wwoolfendell@newsvine.com
12	Lib	Littleover	7466879005	litttleoverb@bluehost.com
(New)			0	

This is my last table which is the Customer table. This includes fields such as Customer ID, First Name, Last Name, Phone Number and email.

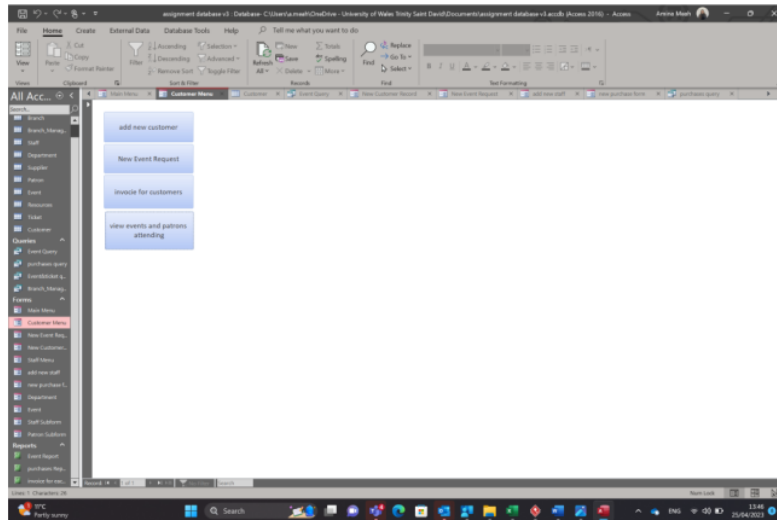
Main Menu



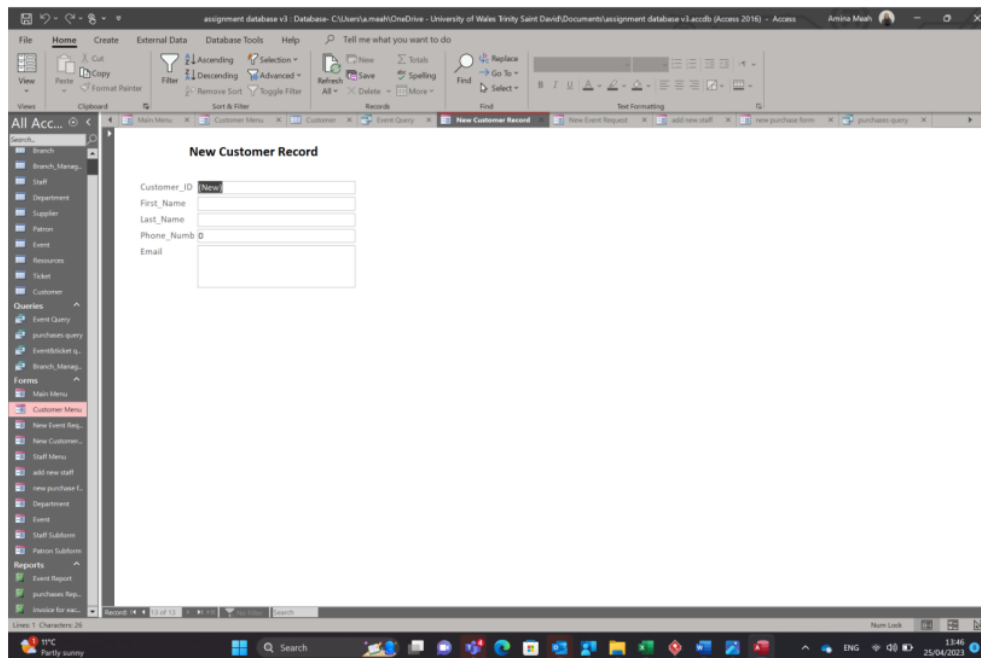
This is the Main menu for my table. I have chosen this as the first form to open when the database is opened. This means that both customers and staff will see this screen when they open the database.

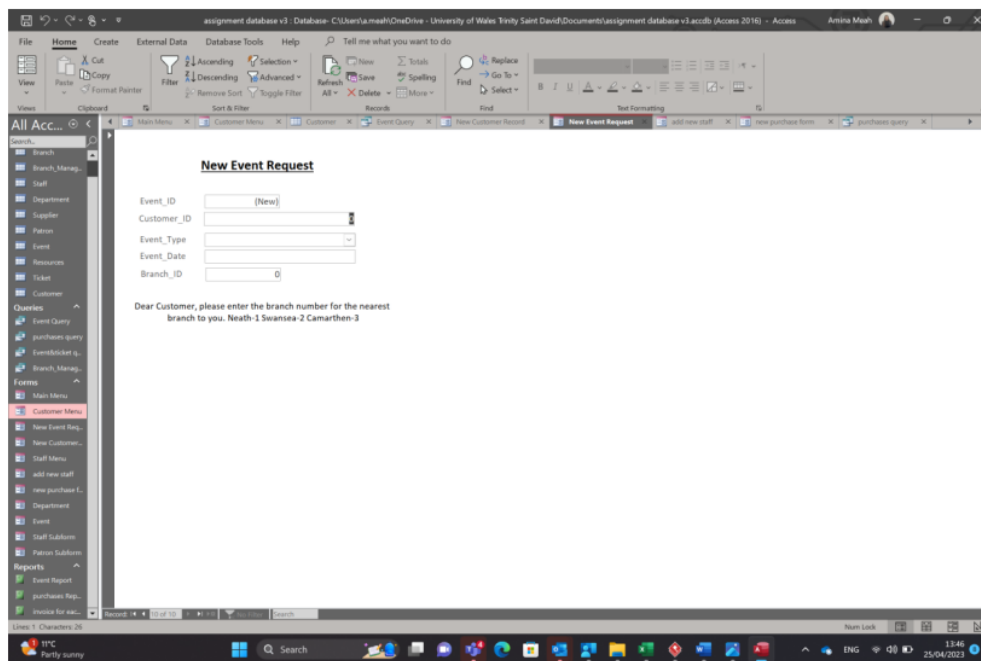
Customers will click the customer access button and staff will click the staff access button. This will then take them to a secondary menu labelled either staff menu or customer menu.

customer menu



This is the customer menu pictured above. There are 4 buttons the first button takes you to a form that allows you to add a new customer record. Which is pictured below.



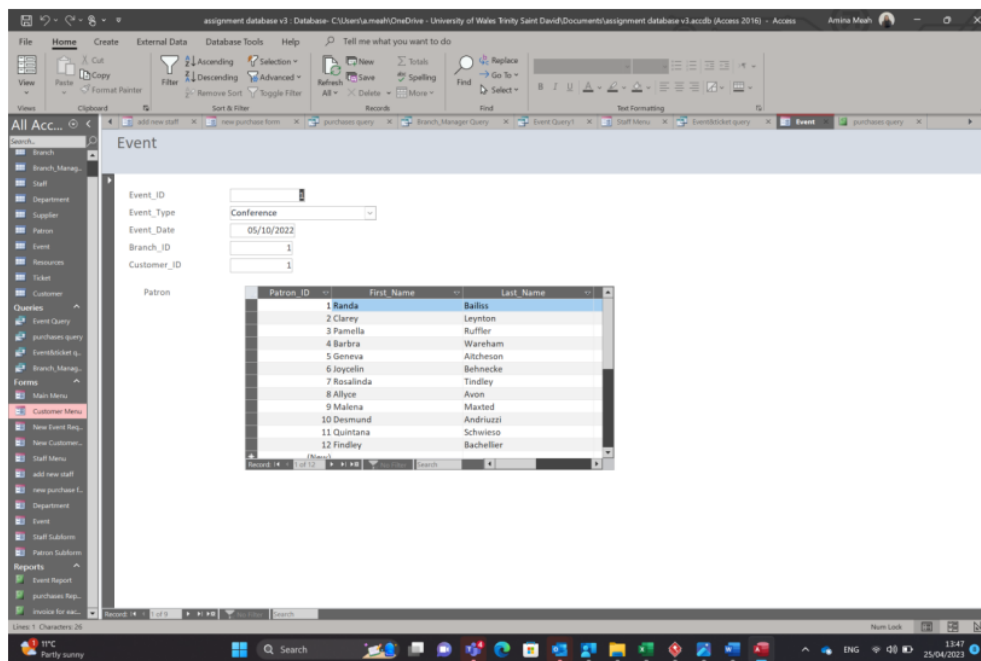


This is the second button which takes you to a event request form. The customer can use this form to add a new event request.

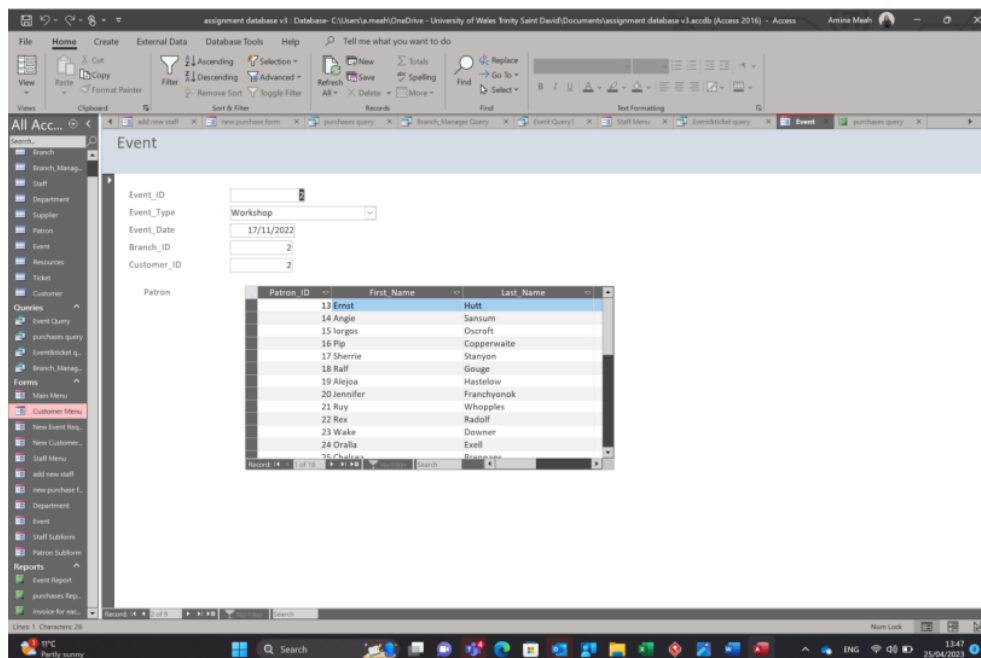
The screenshot shows the 'Event' report in Microsoft Access. The report displays a table with columns: Customer_ID, Purchase_ID, Resource_Name, Resource_Quantity, Resource_Price, and Total. The data is grouped by Customer_ID (1, 2, 3, 4, 5). The resources listed include cleaning team, conference hall, audio equipment, visual equipment, lunch, seminar hall, stadium, and festival land.

Customer_ID	Purchase_ID	Resource_Name	Resource_Quantity	Resource_Price	Total
1	33	cleaning team for after event	1	£50.00	£50.00
1	3	conference hall	1	£100.00	£100.00
1	9	audio equipment hire	1	£100.00	£100.00
1	10	visual equipment hire	1	£100.00	£100.00
1	1	lunch	20	£5.00	£100.00
2	17	audio equipment hire	1	£50.00	£50.00
2	2	lunch	20	£5.00	£100.00
2	4	workshop room	1	£100.00	£100.00
2	25	visual equipment hire	1	£50.00	£50.00
3	5	seminar hall hire	1	£100.00	£100.00
3	18	audio equipment hire	1	£50.00	£50.00
3	26	visual equipment hire	1	£50.00	£50.00
4	12	security guard hire	2	£50.00	£100.00
4	7	stadium hire	1	£200.00	£200.00
4	27	visual equipment hire	1	£50.00	£50.00
4	19	audio equipment hire	1	£50.00	£50.00
5	28	visual equipment hire	1	£50.00	£50.00
5	6	festival land hire	1	£150.00	£150.00
5	8	security guard hire	2	£50.00	£100.00
5	20	audio equipment hire	1	£50.00	£50.00

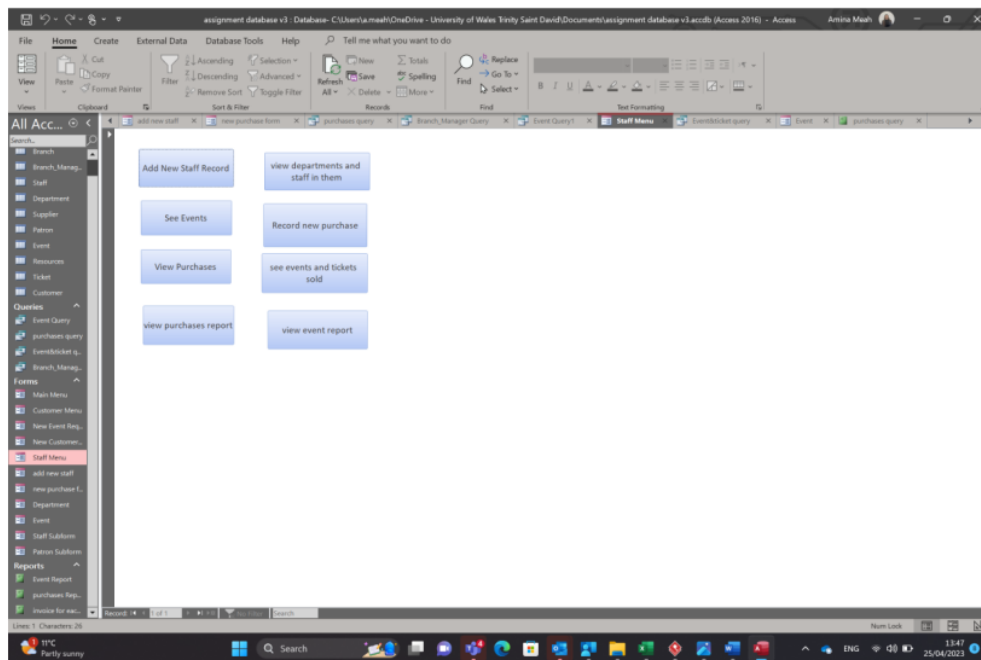
This is the third button. This takes you to a report with invoices for each event.



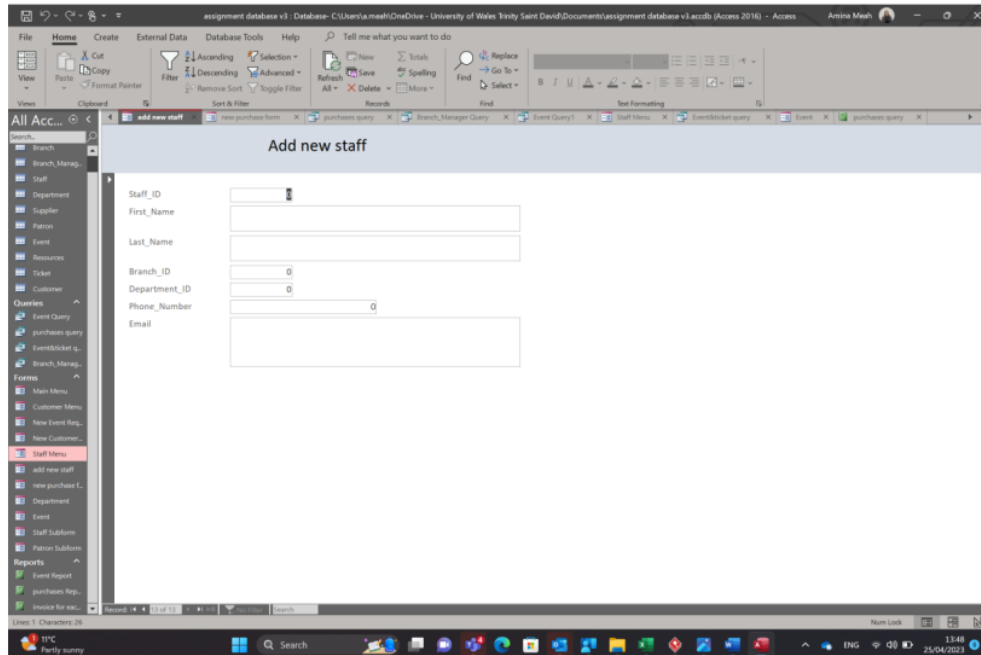
This is the forth button. This takes you to a embedded subform. This allows the user to view the event and what patrons are attending.



Staff menu



This is the staff menu. It has 8 buttons.



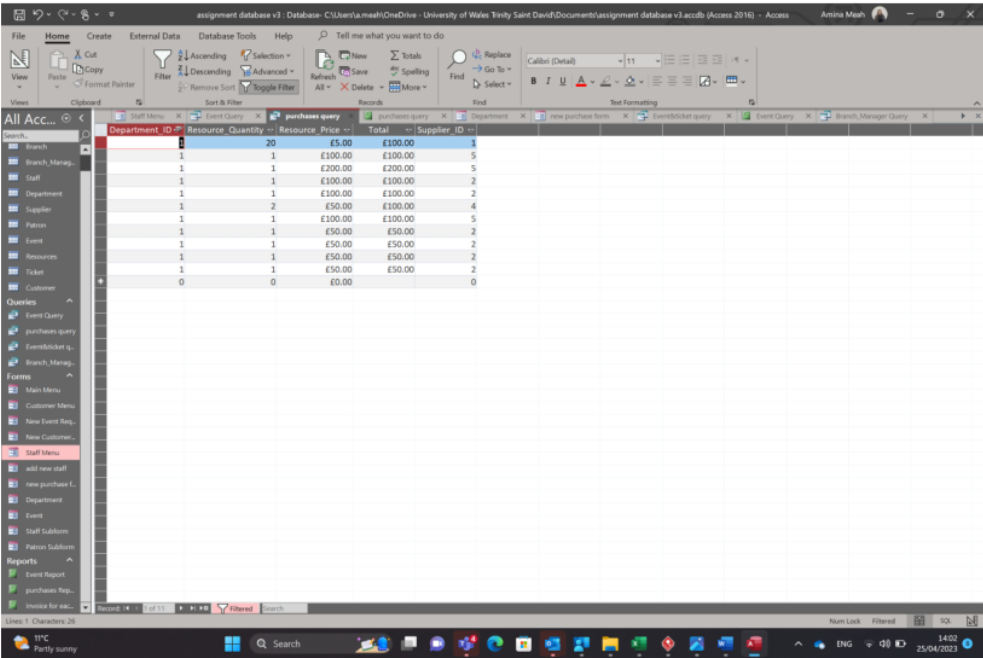
The first button takes you to a form which allows the user to add a new staff record. As seen above.

Event_ID	Event_Type	Event_Date	Branch_ID	Customer_ID
1	Conference	05/10/2022	1	1
2	Workshop	17/11/2022	2	2
3	Seminar	15/12/2022	3	3
4	Concert	23/12/2022	1	4
5	Festival	01/01/2023	2	5
6	Workshop	08/02/2023	3	6
7	Seminar	14/03/2023	1	7
8	Workshop	13/04/2023	2	8
9	Workshop	24/04/2023	3	9
(New)			0	0

The second button takes you to a query which allows the user to view the upcoming events. As seen above.

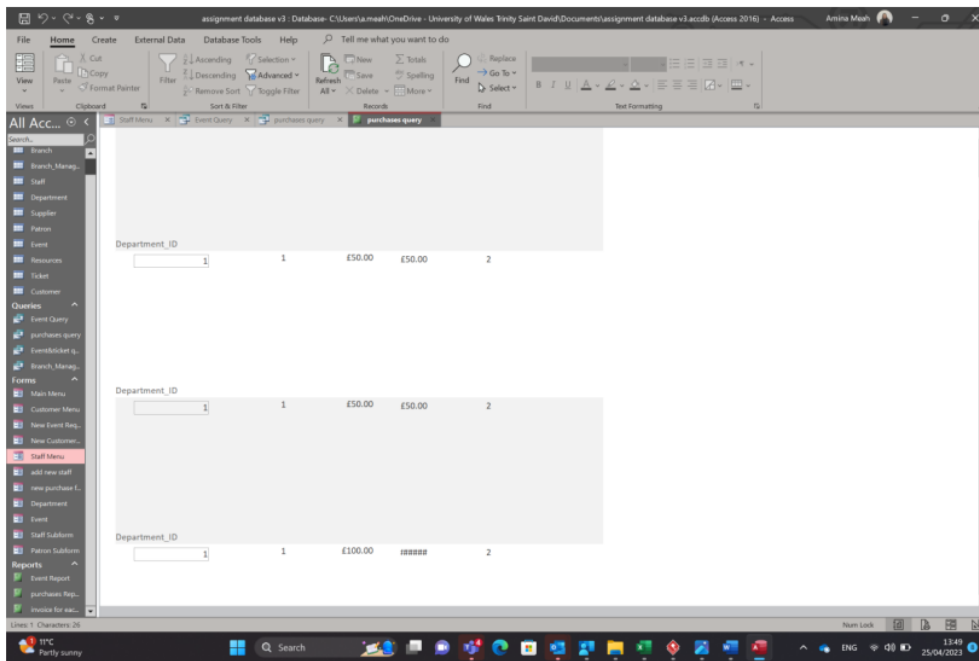
Department_ID	Resource	Quantity	Resource Price	Total Price
1	20	1	£5.00	£100.00
5	20	1	£5.00	£100.00
1	1	1	£100.00	£100.00
5	1	1	£100.00	£100.00
9	1	1	£100.00	£100.00
5	1	1	£150.00	£150.00
1	1	1	£200.00	£200.00
5	2	2	£50.00	£100.00
1	1	1	£100.00	£100.00
1	1	1	£100.00	£100.00
1	0	0	£10.00	£0.00
1	2	2	£50.00	£100.00
9	1	1	£100.00	£100.00
5	1	1	£100.00	£100.00
9	1	1	£100.00	£100.00
1	1	1	£100.00	£100.00
5	1	1	£50.00	£50.00
9	1	1	£50.00	£50.00
1	1	1	£50.00	£50.00
5	1	1	£50.00	£50.00
9	1	1	£50.00	£50.00
1	1	1	£50.00	£50.00
5	1	1	£50.00	£50.00
9	1	1	£50.00	£50.00
3	1	1	£50.00	£50.00
0	0	0	£0.00	£0.00

This third button takes you too a query that allows the user to view all purchases made. The user can filter the field to select which department they would like to see and what they would like to be displayed. This filter is shown below.

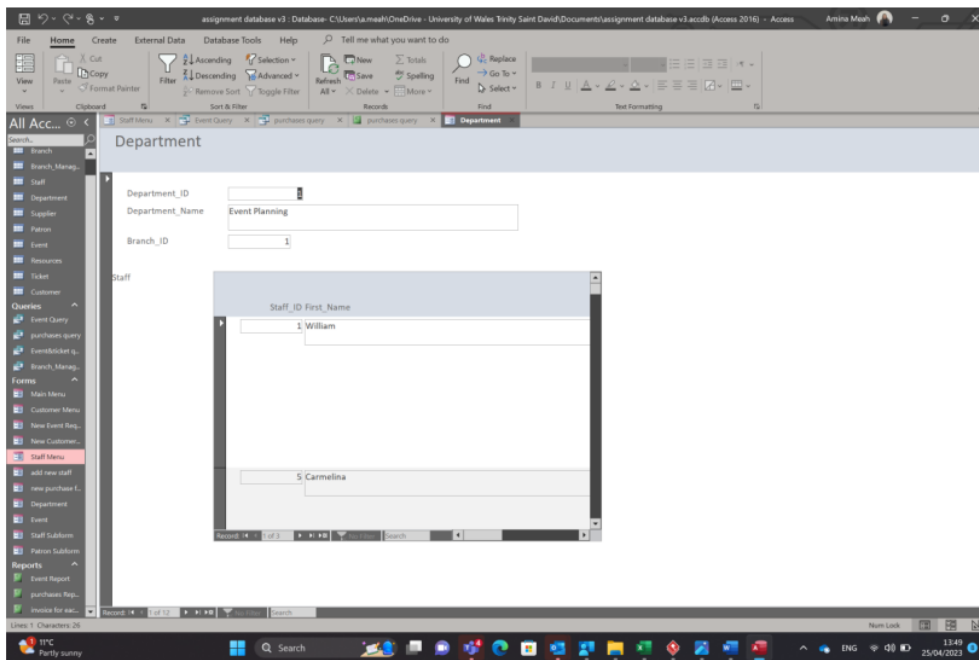


The screenshot shows the Microsoft Access interface with the 'purchase query' open. The 'Filter' tab is selected, and the filter criteria are set to 'Department ID = 1'. The query results are displayed in a table with the following columns: Department ID, Resource, Quantity, Resource Price, Total, and Supplier ID. The data is filtered to show only purchases from Department 1.

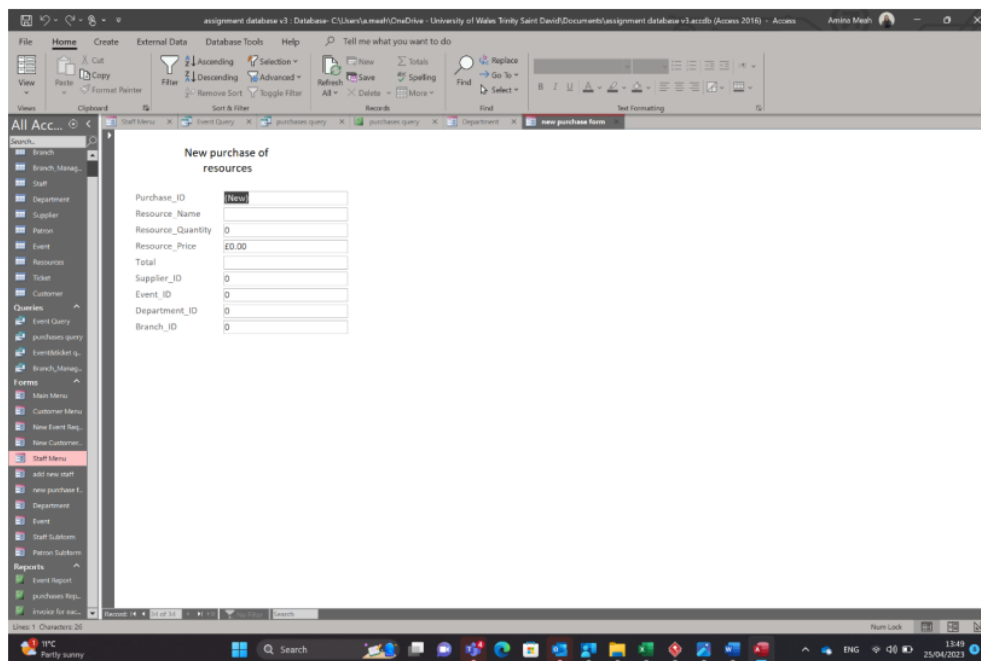
Department ID	Resource	Quantity	Resource Price	Total	Supplier ID
1	20	1	£5.00	£100.00	1
1	1	1	£100.00	£100.00	5
1	1	1	£200.00	£200.00	5
1	1	1	£100.00	£100.00	2
1	1	1	£100.00	£100.00	2
1	1	2	£50.00	£100.00	4
1	1	1	£100.00	£100.00	5
1	1	1	£50.00	£50.00	3
1	1	1	£50.00	£50.00	2
1	1	1	£50.00	£50.00	2
1	1	1	£50.00	£50.00	2
0	0	0	£0.00	£0.00	0



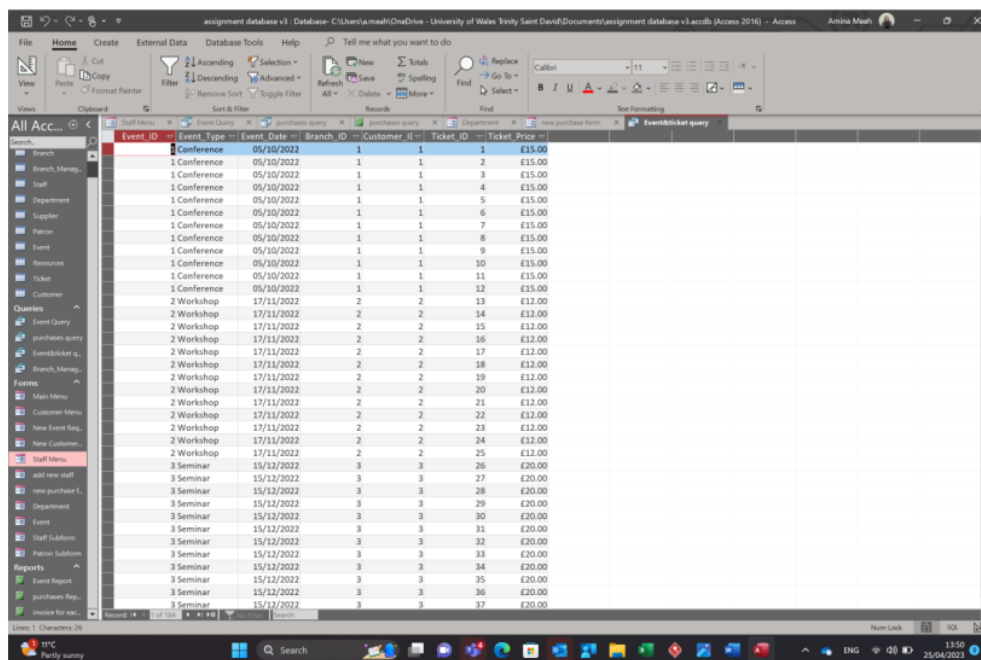
The forth button take you to a report that shows you what each department has purchased. As seen above



This fifth button takes you to another sub form which shows the user what staff work in which department. This is useful If you want to know what staff are in a certain department.



The sixth button takes you to a form which allows you to complete it in order to make a new purchase of resources.



The seventh button take you to a query which shows the events and what tickets have bee sold.

Event Query

Branch_ID	Event_ID	Event_Type	Event_Date	Customer_ID
1	7	Seminar	14/03/2023	7
	4	Concert	23/12/2022	4
	1	Conference	05/10/2022	1
2	8	Workshop	13/04/2023	8
	5	Festival	01/01/2023	5
	2	Workshop	17/11/2022	2
3	9	Workshop	24/04/2023	9
	6	Workshop	08/02/2023	6
	3	Seminar	15/12/2022	3

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The eight button takes you to a report that shows all events upcoming or past events. It shows them in branch order too.

Branch Manager Query

Branch_Mgr_ID	First_Name	Last_Name	Phone	Number	Email	Branch	Branch_Name
1	Amina	Mesh	789888760		a.meah@gmail.com		
2	John	Kelly	7837462760		johnkelly@gmsi Swansea		
3	Lauren	Charles	7894038780		lcharles@gma Camarthen		
(New)							

25/04/2023

This is just an additional query I made to view the branch name next to the branch manager info.

Amina Meah database assignment

GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

Instructor

82/100

Generic Assessment Criteria	82
1. Engagement with Literature Skills	
Not Applicable	
2. Knowledge and Understanding Skills	
It was a very good start with the description about the scenario. • design techniques to develop a solution for the scenario was well analysed. • Different type of users for accessing the database system is clearly identified. However their privileges in the system is not mentioned. • List of ongoing events and their relevant information are well specified. • Querying the system about all the event information	22

is clearly specified however querying about the staff details and branch information could have also been added.	
3. Cognitive and Intellectual Skills	
• Suitable data analysis and design techniques were applied to create a logical design however justification for some of the arguments are missing. • Verification of the design meets user requirements is not specified • Implementation of third normal form is missing. • screen shots showing the evidence of tables with the required fields is provided. • Relationship between tables along with description is clearly explained.	1 3
4. Practical Application Skills	
• Implementation of the software system is well demonstrated.	4 0

• A database which meets specifications of the Northern Lights Database system is developed using the class diagram. But ER diagram along with entities and different type of attributes is the requirement for the assignment. • Usage of additional MS Access functionality to perform calculations in a forms and generating corresponding report are missing. • Main Menu and also other menus to perform the database operations are clearly displayed.	
5. Transferable Skills for Life and Professional Practice	
• A clear front page with name and topic of the assignment is specified,however a conclusion is missing. • All the tasks are clearly presented and documented. • Screen shots along with the description for most of the tasks are been provided. • Use a professional tone: Your writing should reflect a professional tone. Avoid using slang or informal language that may come across as unprofessional.	7

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