http://classwork.engr.oregonstate.edu:53795/

Project Title: Bit and Barrel Winery Database Management System

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Group: 40

Executive Summary:

Step 2

- Users wanted a clearer understanding of the project scope, including specific metrics like customer estimates, producer data, and financial information. These details were added to the project overview to enhance clarity.
- There were challenges with accurately representing M:N relationships between Orders and Bottles. This was resolved by implementing an intersection table (BottleOrders) to ensure proper relationship mapping.

Step 3

- Feedback from users suggested aligning schema attributes more closely with the database outline. The inconsistencies were identified and verified and the schema was updated to match the outline.
- The table BottleOrders was added to the DDL, populated with example data, and included in the project documentation.

Step 4

- Navigation challenges in the UI prompted the addition of dropdown menus for regions in the Producers table, improving data selection and filtering.
- Identified syntax inconsistencies in database queries. The DDL and DML files were updated to correct errors and improve usability.
- Adjustments were made, such as allowing nullable customer entries in Orders, to provide more flexibility.

Step 5

- Fixed discrepancies in Producers and Bottles schema relationships. Updates were made to implement non-nullable relationships and align with project requirements.

Updated Outline

- **Customers:** Tracks and stores details of customers that place orders.
  - customer_id: int, auto increment, unique, not NULL, PK
  - phone_num: varchar(10), not NULL
  - email: varchar(75)
  - name: varchar(75), not NULL
  - visit_frequency_monthly: int

    <u>Relationship</u>: Customers has a 1:M relationship with Orders and is used through customer_id as the FK in Orders.

- **Orders:** Tracks and stores details of orders placed by customers.
  - order_id: int, auto increment, unique, not NULL, PK
  - customer_id: int, not NULL, FK
  - bottle_id: int, not NULL, FK
  - order_total: decimal(7,2)

    <u>Relationships</u>: Orders has a 1:M relationship with Customers and a M:N relationship with Bottles.

- **Bottles:** Tracks and stores the details of each bottle of wine sold.
  - bottle_id: int, auto increment, not NULL, PK
  - bottle_name: varchar(50), not NULL
  - type: varchar(40), not NULL
  - volume: int, not NULL
  - production_yr: int, not NULL
  - alc_percent: decimal(4,2), not NULL
  - price: decimal(7,2), not NULL
  - producer_id: int, not NULL, FK

    <u>Relationship</u>: Bottles has a M:N relationship with Orders and is used as a FK in Orders through bottle_id. Bottles also has a 1:M relationship with Producers.
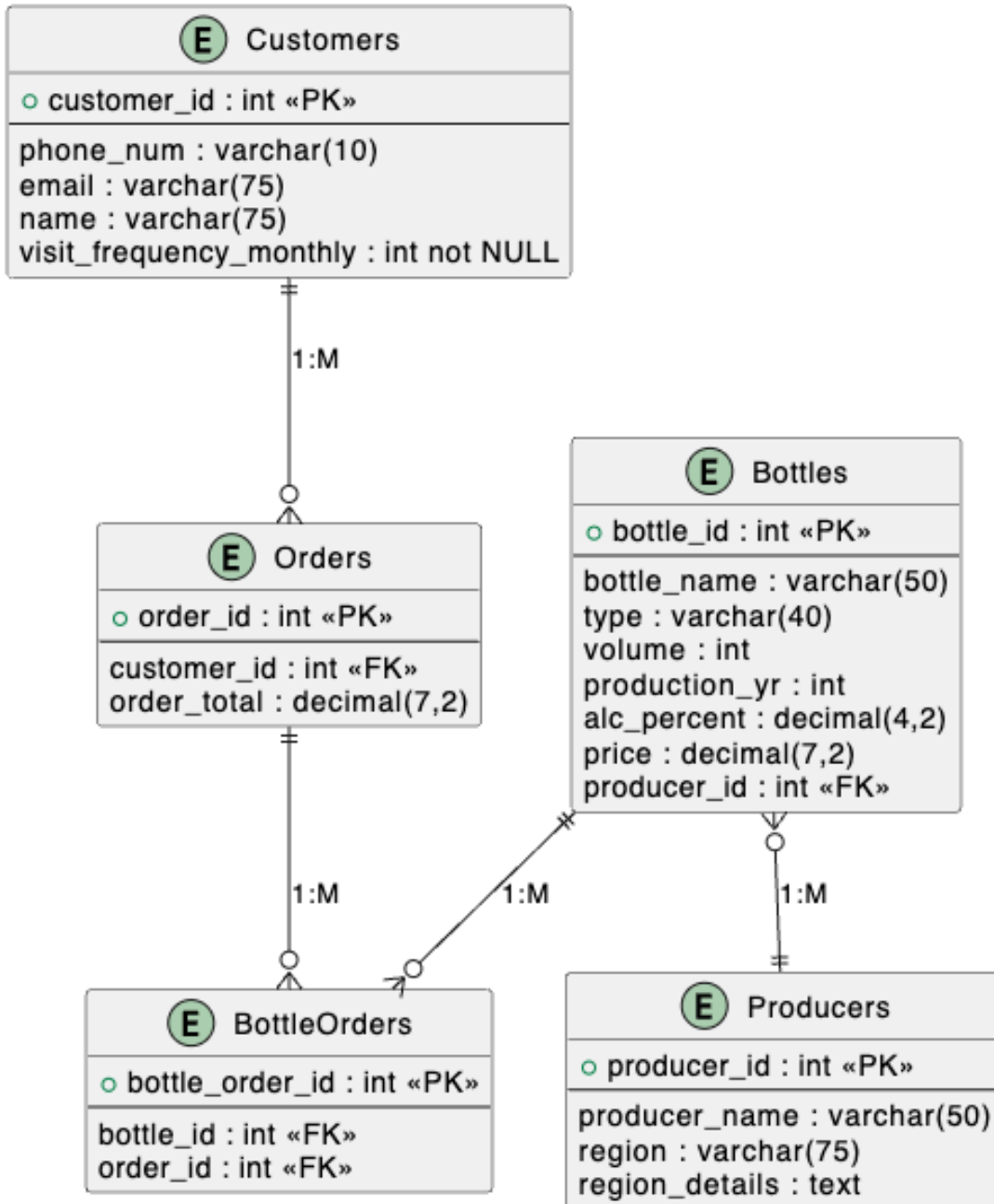
- **BottleOrders:** Tracks the different bottles attached to specific orders.
    - bottle_orderID: int, auto increment, not NULL, PK
    - order_id: int, not NULL, FK
    - bottle_id: int, NULL, FK
    - order_qty: int

        Relationship: BottleOrders is the intersection table between Bottles and Orders. It has its own primary key, bottle_orderID and uses order_id and bottle_id as its foreign keys.
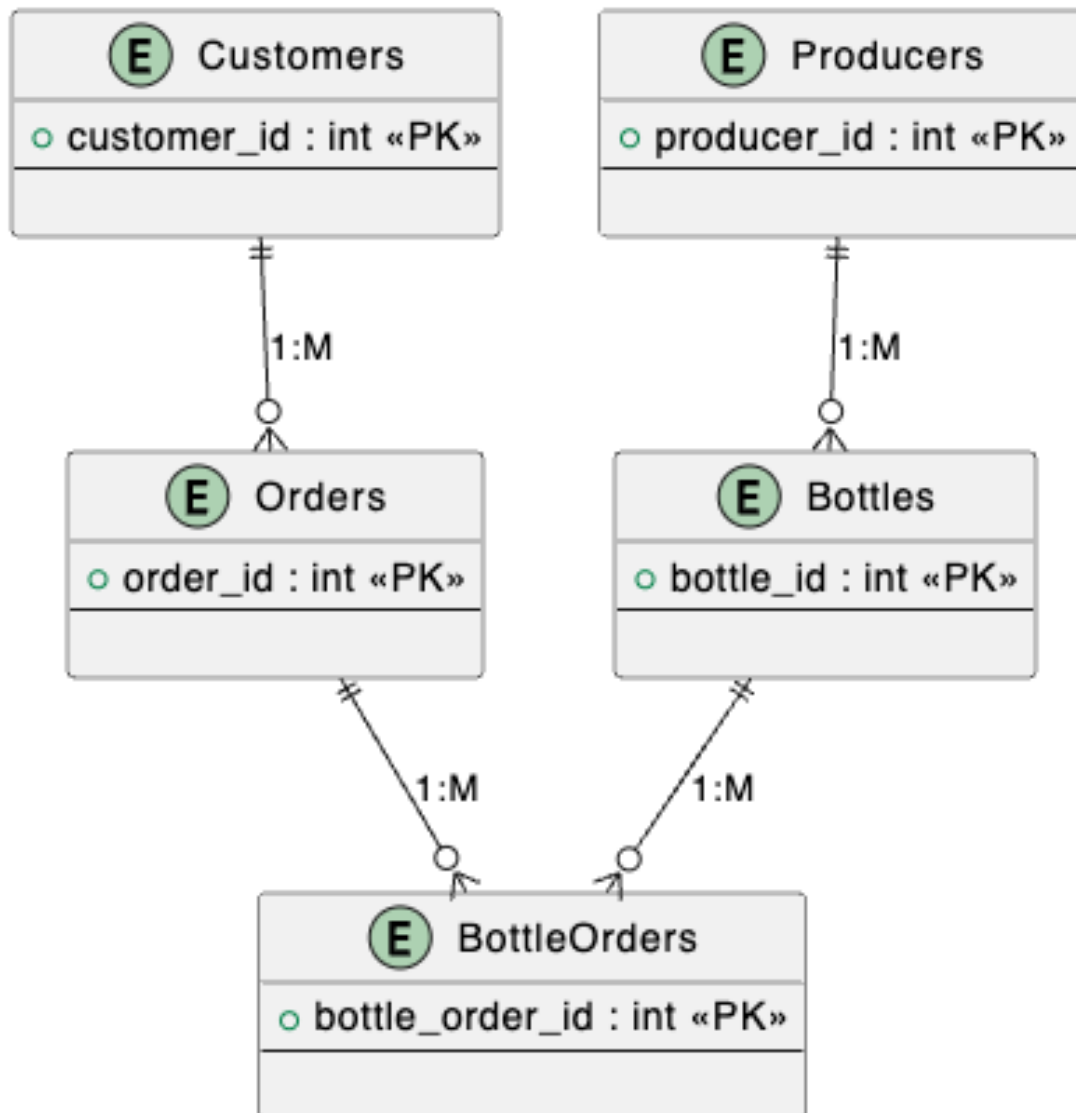

- **Producers:** Tracks and stores the details of the vineyards that produce the wines sold.
    - producer_id: int, auto increment, not NULL, PK
    - producer_name: varchar(50), not NULL
    - region: varchar(75), not NULL
    - region_details: text, not NULL

        Relationship: Producers has a 1:M relationship with Bottles and is used as a FK in Bottles through producer_id.

SCHEMA

E Customers

○ customer_id : int «PK»

phone_num : varchar(10)
email : varchar(75)
name : varchar(75)
visit_frequency_monthly : int not NULL

1:M

E Orders

○ order_id : int «PK»

customer_id : int «FK»
order_total : decimal(7,2)

1:M

E Bottles

○ bottle_id : int «PK»

bottle_name : varchar(50)
type : varchar(40)
volume : int
production_yr : int
alc_percent : decimal(4,2)
price : decimal(7,2)
producer_id : int «FK»

1:M

1:M

E BottleOrders

○ bottle_order_id : int «PK»

bottle_id : int «FK»
order_id : int «FK»

E Producers

○ producer_id : int «PK»

producer_name : varchar(50)
region : varchar(75)
region_details : text

ERD

SAMPLE DATA

Customers Table

customer_id	phone_num	email	name	visit_frequency_monthly
1	7561485213	gsmith@email.com	George Smith	2
2	5413247813	asmith@gmail.com	Adam Smith	1
3	4512369756	csmith@gmail.com	Charles Smith	3

Producers Table

producer_id	producer_name	region	region_details
1	Bit Farms	Napa Valley	Producing wine since 1968
2	Byte Farms	Sonoma	Producing wine since 1985
3	Data Farms	Columbia Valley	Producing wine since 1928

Bottles Table

bottle_id	bottle_name	type	volume	production_yr	alc_percent	price	producer_id
1	Binary Blend	Merlot	750	2018	12.00	26.99	1
2	Bitwise Bordeaux	Bordeaux	750	2020	10.00	32.99	2
3	Compiler Cabernet	Cabernet	750	2015	8.00	45.99	3

Orders Table

order_id	customer_id	bottle_id	order_total
1	1	3	45.99
2	2	2	32.99
3	3	1	26.99

BottleOrders Table

bottle_orderID	order_id	bottle_id	order_qty
1	1	3	1
2	2	2	1
3	3	1	1

UI SCREENSHOTS

READ, ADD NEW, DELETE AND UPDATE BOTTLE ORDERS

Bit & Barrel Winery Database

Bottle Orders

bottle_orderID	order_id	bottle_id	order_qty	Actions
1	3	Compiler Cabernet	1	Edit Delete
2	2	Bitwise Bordeaux	1	Edit Delete
3	1	Binary Blend	1	Edit Delete

Add a New Bottle Order

Order ID: [Select Order ▾]

Bottle: [Select Bottle ▾]

Quantity: [   ]

[Add Bottle Order]

- Delete bottle order satisfies M:N requirement
- Edit bottle order satisfies M:N requirement
- bottle_id satisfies the nullable relationship requirement

READ, ADD NEW, DELETE AND UPDATE ORDERS

Bit & Barrel Winery Database

Orders Table

order_id	customer_id	bottle_id	order_total	name	bottle_name	Actions
1	1	3	45.99	George Smith	Compiler Cabernet	Delete Edit
2	2	2	32.99	Adam Smith	Bitwise Bordeaux	Delete Edit
3	3	1	26.99	Charles Smith	Binary Blend	Delete Edit

Add a new order:

Customer: [George Smith ▾]

Bottle: [Binary Blend ▾]

Order Total: [   ]

[Add Order]

READ, ADD NEW, AND UPDATE PRODUCERS

Bit & Barrel Winery Database

Producers Table

producer_id	producer_name	region	region_details	Actions	
1	Bit Farms	Napa Valley	Producing wine since 1968	Delete	Edit
2	Byte Farms	Sonoma	Producing wine since 1985	Delete	Edit
3	Data Farms	Columbia Valley	Producing wine since 1928	Delete	Edit

Add a new producer:

Producer Name:

Region:

Region Details:

Add Producer

READ, ADD NEW, DELETE AND UPDATE BOTTLES

Bit & Barrel Winery Database

Bottles Table

bottle_id	bottle_name	type	volume	production_yr	alc_percent	price	producer_id	producer_name	Producer Name	Actions	
1	Binary Blend	Merlot	750	2018	12.00	26.99	1	Bit Farms		Delete	Edit
2	Bitwise Bordeaux	Bordeaux	750	2020	10.00	32.99	2	Byte Farms		Delete	Edit
3	Compiler Cabernet	Cabernet	750	2015	8.00	45.99	3	Data Farms		Delete	Edit

Add a new bottle:

Bottle Name:

Wine Type:

Volume:

Year Produced:

% Alcohol:

Price:

Producer: Select Producer

Add Bottle

READ, ADD NEW, UPDATE AND DELETE CUSTOMERS

Bit & Barrel Winery Database

Customers Table

customer_id	phone_num	email	name	visit_frequency_monthly	Actions
1	7561485213	gsmith@email.com	George Smith	2	Delete Edit
2	5413247813	asmith@gmail.com	Adam Smith	1	Delete Edit
3	4512369756	csmith@gmail.com	Charles Smith	3	Delete Edit

Add a new customer:

Phone Number: [   ]

Email: [   ]

Name: [   ]

Visit Frequency (Monthly): [   ]

Add Customer