Milestone 3
Group 7

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A

Mission Statement

Our mission is to create a database for a small coffee shop, The Station. The business has recently gained traction after introducing a new brand of coffee from a new supplier, and are thinking of expanding to two additional locations. The operations and management of the business is currently being done with excel spreadsheets thereby requiring a lot of time and labor. Given the many moving parts of the business such as scheduling, keeping track of inventory and distribution of resources in their business, we will be creating a database that would consolidate all the aspects of the business. Our goal is to create an efficient centralized database to solve all the inefficiencies, increase revenue, while minimizing cost.

Milestone 3
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Summary of the Problem

For small businesses in a growing market, minimizing cost and maximizing resources is highly critical. From ensuring that the business remains competitive with limited resources to reinvest in the business, critical analysis and efficient systems that communicate and interact with each other becomes crucial.

Our Client owns and operates a small community shop in Beacon Hill called The Station. The owners of the business are exploring the option of expanding to additional locations. As it stands right now, they use Excel to keep track of their inventory as well as their scheduling. Fortunately, they use a third party vendor, Square to process credit and debit card payments from clients. As the business continues to grow, they are quickly realizing the growing need to keep track of the many moving parts of their business and how excel is proving to be not as efficient. They have also started sourcing a new brand of coffee from a different country which has gained some traction from their clients but they have not been able to track how much of their recent profits are attributed to the new brand of coffee.

Additionally, with any expansion, they need to monitor cost, asset/resource allocations, staffing, inventory, overhead cost at their different locations, Shipping and Delivery, and Payments etc . The new database system will add value to the business by mitigating and eliminating these issues thereby keeping business profitable. Once the database is

implemented, the management team would spend less time around the minute details of their business and focus more on the strategic aspects of their business.

Milestone 3
Group 7

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SQL Queries

1. This query returns the sum of the spending (2 decimal places) on all items. It allows the shop owner to check the operating expense for items.

SQL Query

```
SELECT ROUND(SUM(ItemPrice), 2) as 'total expense on items'

FROM mm_cpsc5910team07.Item;
```

Output

total expense on items
'11424.05'

2. This query returns the list of employee's first names and last names ranked by hourly wage.

SQL Query

```
select EmployeeFName, EmployeeLname,

rank () over (order by employeewage desc) wage

from mm_cpsc5910team07.Employee;
```

Milestone 3
Group 7

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Output

EmployeeFName	EmployeeLname	wage
'John'	'Brown'	'1'
'Omid'	'Kordestani'	'2'
'Bill'	'Gates'	'3'
'Tom'	'Gorman'	'4'
'Victoria'	'Chang'	'4'
'James'	'Franco'	'4'
'Salma'	'Arastu'	'4'
'Greg'	'Valentine'	'8'
'Alenxander'	'Wong'	'8'

3. This query will return the list of supplier name, supplier ID, and sum of store expenses on their items ordered by the amount of expense.

SQL Query

```
select s.suppliername, i.supplierid, round(sum(itemprice), 2)
```

Milestone 3
Group 7

Ki Min Lee
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```
from Item as i inner join Supplier as s

where s.supplierid= i.supplierid

group by supplierid

order by sum(itemprice) desc;
```

Output

suppliername	supplierid	round(sum(itemprice)
'OXO'	'1276'	'6294.99'
'Magister'	'8876'	'2790.99'
'Black & Decker'	'1123'	'1532.89'
'McDonald Paper'	'5534'	'225.00'
'coffeePM'	'6653'	'135.00'
'Wholesale'	'7071'	'118.48'
'Lucca'	'1875'	'83.52'
'Bearded Man'	'3034'	'74.98'
'ULINE'	'9123'	'70.58'
'Cecil Ware'	'9867'	'68.05'
'JES'	'3434'	'13.24'

Milestone 3
Group 7

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'Elektra'	'2456'	'10.88'
'85C Bakery'	'3337'	'5.45'

4. This query will join the Payment table and the payment type table thereby giving the customer the overview of the different kinds of payments they received.

SQL Query

```
select Payment.PaymentID, PaymentType.PaymentTypeDescription, Payment.PaymentAmount

FROM Payment INNER JOIN PaymentType

ON Payment.PaymentID =PaymentType.PaymentTypeID;
```

Output

# PaymentID	PaymentTypeDescription	PaymentAmount
5	Coupon	8.79
4	Credit Card	6.28
3	Debit Card	4.55

Milestone 3
Group 7

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Phuong Phang

2	Check	4.67

5. This query will return the sum of the payment amounts for cash payments only. This will be helpful in determining the amount of cash payments we received compared to other types of payments.

SQL Query

```
SELECT SUM(PaymentAmount)

FROM Payment FULL JOIN PaymentType

WHERE PaymentTypeDescription = 'Cash';
```

Output

SUM(PaymentAmount)
74.80

Milestone 3
Group 7

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6. This query will return the average payment amount for all check payments . This will be helpful in determining what average payments they receive among all the checks.

SQL Query

```
SELECT AVG(PaymentAmount)

FROM Payment FULL JOIN PaymentType

WHERE PaymentTypeDescription = 'Check';


SELECT SUM(AdvertisementAmount)

FROM Advertisement;
```

Output

AVG(PaymentAmount)
3.740000

7.This query will return the sum amount of total payment paid for advertisement. This would be helpful in understanding the cost incurred in advertising the business. A particularly helpful query for cost management.

SQL Query

```
SELECT SUM(AdvertisementAmount)

FROM Advertisement;
```

Milestone 3
Group 7

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Output

SUM(AdvertisementAmount)
'10640'

8. Display information of customers (Last Name, ID, Phone Number, Email Address) whose Payment Amount is higher than the average payment amount from the beginning of this year 2020. This will help us to sort out the potential customers and promote the new products as well as new advertisements to via their phones and emails.

SQL Query

```
SELECT      c.CustomerID, c.CustomerLName, c.CustomerEmailAddress,
        c.CustomerPhoneNumber , o.OrderID, p.PaymentAmount
FROM        Customer c, mm_cpsc5910team07.Order o, Payment p
WHERE       c.CustomerID = o.CustomerID
AND         p.PaymentID = o.PaymentID
            AND         p.PaymentAmount > (SELECT AVG(PaymentAmount) FROM
            Payment)
AND         o.OrderDate >= '2020/01/01'
```

Output

CustomerID	CustomerLName	CustomerEmailAddress	CustomerPhoneNumber	OrderID	PaymentAmount

Milestone 3
Group 7

Ki Min Lee
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47965	Mallabar	bmallabar2@unc.edu	(383) 9924509	828285	4.15
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42835	Patullo	rpatullo4@g.co	(635) 8361606	148043	4.15
48016	Cartan	scartan6@tripod.com	(547) 2421544	454776	4.15
48016	Cartan	scartan6@tripod.com	(547) 2421544	454776	4.15
85869	Ohm	gohm8@t-online.de	(944) 3001893	363173	4.15
85869	Ohm	gohm8@t-online.de	(944) 3001893	363173	4.15
69554	Croxton	ecroxton9@linkedin.com	(825) 1828102	570145	3.75
69554	Croxton	ecroxton9@linkedin.com	(825) 1828102	570145	3.75

9. Display the MenuID, Menu Description and Order Date of the drink named "Caffe Latte" to check how favorite of this product.

SQL Query

```
SELECT      o.MenuID, m.MenuDescription, o.OrderDate

FROM        mm_cpsc5910team07.Order o , Menu m
```

Milestone 3
Group 7

Ki Min Lee
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```
WHERE       m.MenuID = o.MenuID

AND         m.MenuDescription = "Caffe Latte"
```

Output

MenuID	MenuDescription	OrderDate
CS1	Caffe Latte	2/9/20
CS1	Caffe Latte	2/9/20
CS1	Caffe Latte	8/6/19
CS1	Caffe Latte	2/8/20
CS1	Caffe Latte	12/24/19
CS1	Caffe Latte	2/8/20

10. Display Menu ID, Menu Description of the drink or pastries that were sold within the transaction is greater than 1. This will tell us which products are popular in the coffee shop.

SQL Query

Milestone 3
Group 7

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```
SELECT      o.MenuID, m.MenuDescription
FROM        mm_cpsc5910team07.Order o , Menu m
WHERE       m.MenuID = o.MenuID
GROUP BY MenuID
HAVING COUNT(*) > 1
```

Output

MenuID	MenuDescription
CS1	Caffe Latte
CS11	Chocolate Croissant
CS16	Bacon & Gouda Breakfast Sandwich

11. Display the Menu ID, Menu Description, and Order Date of the orders were sold within one week after the coffee shop released the newest Advertisement on 02/07/202. This will help us analyze how effective the advertisement is.

SQL Query

```
SELECT      o.MenuID, m.MenuDescription, o.OrderDate, a.AdvertisementDate
FROM        mm_cpsc5910team07.Order o , Menu m, Advertisement a
WHERE       m.MenuID = o.MenuID
```

Milestone 3
Group 7

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```
AND         o.OrderDate between '2020/02/07' and '2020/02/14'

AND         a.AdvertisementDate = '2020/02/07'
```

Output

MenuID	MenuDescription	OrderDate	AdvertisementDate
CS1	Caffe Latte	2/9/20	2/7/20
CS1	Caffe Latte	2/9/20	2/7/20
CS9	Iced Caramel Macchiato	2/8/20	2/7/20
CS1	Caffe Latte	2/8/20	2/7/20
CS7	Vanilla Bean Crème Frappuccino	2/8/20	2/7/20
CS10	Ham & Cheese Savory Foldover	2/8/20	2/7/20
CS16	Bacon & Gouda Breakfast Sandwich	2/8/20	2/7/20

Milestone 3
Group 7

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CS1	Caffe Latte	2/8/20	2/7/20
CS3	White Chocolate Mocha	2/7/20	2/7/20

Milestone 3
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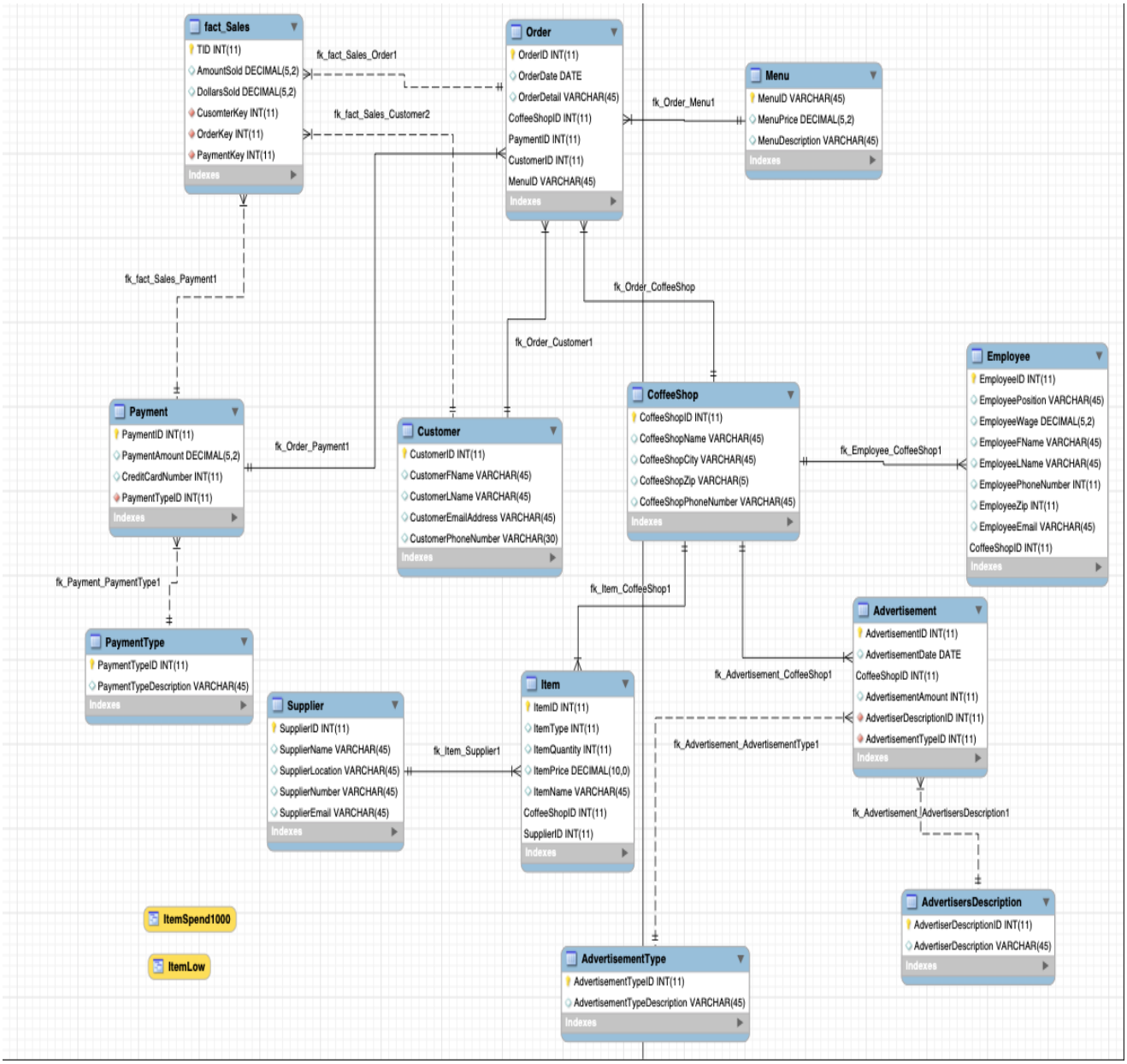
Physical Model Diagram



Milestone 3
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Accessing Database, Tableau, and GitHub

Server name and password for MYSQL database

SQL Database URL: paousmandb.cm5nvnysb5xs.us-east-1.rds.amazonaws.com
Username: admin
Password: adminadmin

server name and password for the tableau file(same as SQL dataabase)
server name: admin
password adminadmin

Link to GitHub Page:

Github link: https://github.com/kilee722/CoffeeShop_Management_Database_MYSQL