

Theta Mart Delivery Portfolio

Project URL: <http://flip1.engr.oregonstate.edu:57206/#>

Group 8

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Executive Summary

Based on feedback and updates needed, we made various changes to our website and database to satisfy the course's project guidelines. For instance, when we were designing our database, we made changes to satisfy the project's guidelines by updating our overview to illustrate the relationship between different entities and adding an optional relationship where a Driver is optional for Orders to satisfy the NULLable relationship requirement. We also made our naming system consistent between all entities and adjusted data type attributes, like the size for City of Customers or Description of Products, to ensure they would contain our expected values.

As we finished designing our database, we worked on our front-end website, including implementing CRUD functionality and improving its interface to streamline the user's experience with our website. For example, we added search fields to most entities and made sure dropdowns were being used any time a CRUD operation needed a FK as input. We added placeholder text, alerts, and tooltips to increase UI usability, and we spaced out links at the top of each webpage for readability. We adjusted our CASCADE operations, such as using On Delete Set Null for Orders instead of ON DELETE CASCADE when a Driver is deleted to facilitate proper relationships between Orders and Drivers and removed ON DELETE CASCADE for various entities to allow deletion for all entities when appropriate. We made update forms auto-populate the selected row's data when a primary key was selected in the update form's dropdown field. We made forms side-by-side instead of underneath each other by using a flexbox to improve readability. We also implemented a dropdown for availability for Drivers, and added the ID associated to the name of a Customer, Product or Driver when selecting the respective name from a dropdown in a create or update form. We also implemented data validation for negative numbers and NULL values to ensure data integrity and implemented a reload database function to allow the refreshing of our database's data.

Overview

Theta Mart allows customers to create an order on our website to have products delivered to them by one of our drivers from our store in Las Vegas within a 20-mile radius. The Theta Mart database records each order and tracks the order's status from when the order's placed up to delivery. Theta Mart takes 3,000 orders per year and has 5 drivers currently active. Customers can place Orders for Products that will be delivered by Drivers and tracked with OrderStatuses.

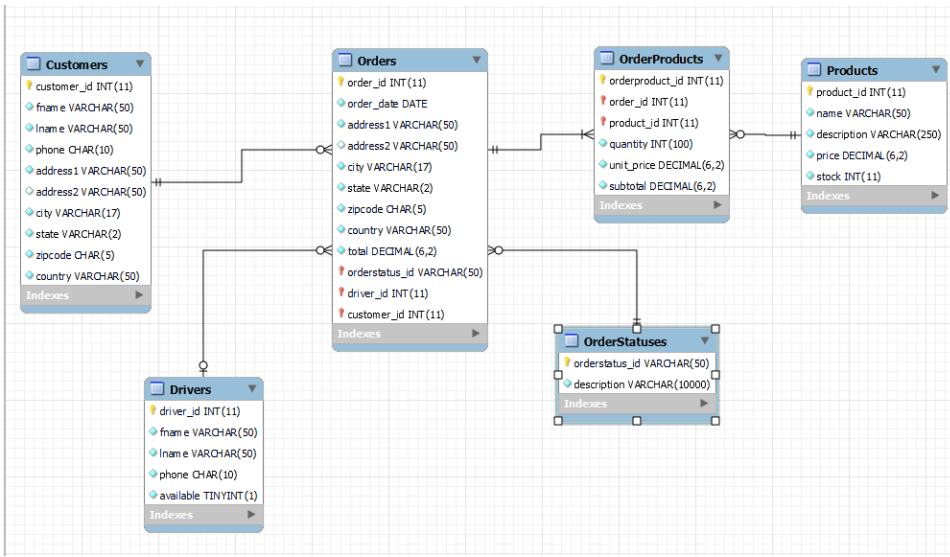
Database Outline

- **Customers:** Records the information of customers we provide delivery services for.
 - customer_id: int, auto_increment, unique, not NULL, PK
 - fname: varchar(50), not NULL
 - lname: varchar(50), not NULL
 - phone: char(10), not NULL
 - address1: varchar(50), not NULL
 - address2: varchar(50) // for apartment or unit numbers
 - city: varchar (17), not NULL
 - state: varchar(2), not NULL
 - zipcode: char(5), not NULL
 - country: varchar(50) not NULL
 - Relationship: 1:M with Orders and Orders has a FK of customer_id from Customers. Each customer may have 0, 1, or many orders.
- **Drivers:** Employees who can deliver orders to customers.
 - driver_id: int, auto_increment, unique, not NULL, PK
 - fname: varchar(50), not NULL
 - lname: varchar(50), not NULL
 - phone: char(10), not NULL

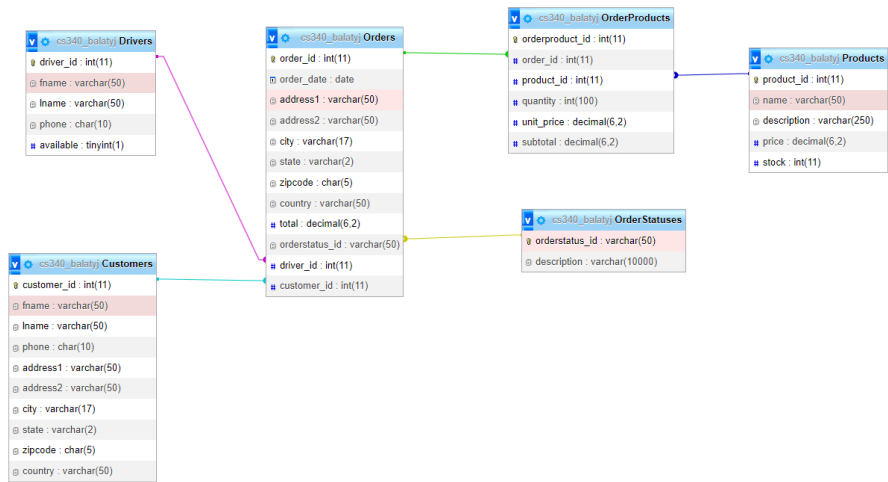
- available: bool, not NULL, default value 0 // 1 means available, 0 means not available.
 - Relationship: 1:M with Orders. Each Driver can be associated with 0, 1, or many Orders.
- **Products:** Contains all the details of each product Theta Mart provides.
 - product_id: int, auto_increment, unique, not NULL, PK
 - name: varchar(50), not NULL
 - description: varchar(250) // describes the product to the customer.
 - price: decimal(6,2), not NULL
 - stock: int, not NULL, default value 0 // 0 is out of stock
 - Relationship: M:N with Orders. Each Product may have 0, 1, or many Orders associated.
- **OrderStatuses:** Different types of status the order can be in.
 - orderstatus_id: varchar(50), unique, not NULL, PK
 - description: varchar(10000), not NULL
 - Relationship: 1:M with Orders. Each OrderStatus can be associated with 0, 1, or many Orders.
- **Orders:** Records Theta Mart orders for customers, including the delivery address for the order.
 - order_id: int, auto_increment, unique, not NULL, PK
 - order_date: date, not NULL
 - address1: varchar(50), not NULL
 - address2: varchar(50) // for apartment or unit numbers
 - city: varchar (17), not NULL
 - state: varchar(2), not NULL
 - zipcode: char(5), not NULL

- country: varchar(50) not NULL
- total: decimal(6, 2), not NULL
- orderstatus_id: varchar(50), not NULL, FK
- driver_id: int, FK
- customer_id: int, not NULL, FK
- Relationship: M:M with Products. M:1 with Customers, OrderStatus and Drivers. Orders contain FKs driver_id from Drivers, orderstatus_id from OrderStatuses and customer_id from Customers. An order may have 0 or 1 drivers associated, and each Order must have an OrderStatus and Customer associated, and at least 1 or many Products associated. There's a ON DELETE SET NULL operation for Orders on Drivers. When a Driver is deleted, each Order that referenced that Driver would have their driver_id attribute updated to NULL.
- **OrderProducts:** Records an order line for a product associated with an order.
 - orderproduct_id: int, auto_increment, unique, not NULL, PK
 - order_id: int, not NULL, FK
 - product_id: int, not NULL, FK
 - quantity: int(100), not NULL
 - unit_price: decimal(6,2), not NULL
 - subtotal: decimal(6,2), not NULL
 - Relationship: M:1 with Orders, and M:1 with Products. Each OrderProduct row contains FKs order_id from Orders and product_id from Products. Each OrderProduct should have one Order and one Product associated. There's a ON DELETE CASCADE operation for OrderProducts when an Order is deleted.

Theta Mart Entity-Relationship Diagram



Schema



Example Data

Customers

customer_id	fname	lname	phone	address1	address2	city	state	zipcode	country
1	George	Burger	7257491236	123 Easy St	NULL	Las Vegas	NV	88901	US
2	Alice	Hill	7025673216	8793 Dirac Ln	Apt 12	Las Vegas	NV	88901	US
3	Fred	Flintstone	7759019123	2910 Singularity Dr	Unit 3	Las Vegas	NV	88901	US

Drivers

driver_id	fname	lname	phone	available
1	Amil	Forenso	7026789212	1
2	Ihsan	Akbar	7758301238	0
3	Abraham	Storm	7027381238	0
4	Leaf	Wizard	7257382712	1
5	King	Dede	7259209283	1

Products

product_id	name	description	price	stock
1	Transdimensional Window Cleaner	Removes stains and sends them into the void.	5.00	80
2	Pet Avocado	Avocado that purs and nuzzles like a cat.	10.00	120
3	Jelly Water Bottle	Jelly shaped like a water bottle.	80.00	30
4	Lemons with eyeballs	Lemons which stare at you.	15.00	48
5	Cereal Pillow	Pillow shaped like a cereal box.	40.00	5

OrderStatuses

orderstatus_id	description
Delivered	Driver has successfully delivered the order at the...
In Transit	Driver has obtained the order items and is on his ...
Pending	Order has been made, but no drivers are available....
Preparing Order	Order is being gathered by our employees. Once the...

Orders

order_id	order_date	address1	address2	city	state	zipcode	country	total	orderstatus_id	driver_id	customer_id
1	2022-10-16	123 Easy St	NULL	Las Vegas	NV	88901	US	80.00	Preparing Order	2	1
2	2022-10-16	8793 Dirac Ln	Apt 12	Las Vegas	NV	88901	US	120.00	In Transit	3	2
3	2022-10-12	4533 Hiney Road	NULL	Las Vegas	NV	88901	US	250.00	Delivered	2	2
4	2022-09-09	2910 Singularity Dr	Unit 3	Las Vegas	NV	88901	US	55.00	Delivered	4	3
5	2022-10-16	123 Easy St	NULL	Las Vegas	NV	88901	US	40.00	Pending	NULL	1

OrderProducts

orderproduct_id	order_id	product_id	quantity	unit_price	subtotal
1	1	1	2	40.00	80.00
2	1	3	1	80.00	80.00
3	2	4	4	10.00	40.00
4	3	4	5	5.00	25.00
5	4	2	1	15.00	15.00

Screen captures of the UI pages

DISPLAY HomePage

[THETA MART](#)[CUSTOMERS](#)[DRIVERS](#)[ORDERS](#)[ORDER PRODUCTS](#)[PRODUCTS](#)[ORDER STATUSES](#)[DATA RELOAD](#)

Welcome to Theta Mart!

Theta Mart allows Customers to place Orders to have Products delivered by one of our Drivers from our store in Las Vegas within a 20-mile radius. The Theta Mart database records each order and tracks the order's OrderStatus from when it's placed to delivery. Theta Mart takes 3,000 orders per year.

Site Functionality:

Customers: Our Customers who place orders. Can create, delete, search, and update existing customers. Customers who have existing orders cannot be deleted.

Drivers: Drivers deliver Orders to Customers. Drivers can be created, updated, displayed, searched, or deleted.

Orders: Orders placed by Customers. Allows an Order to be created, searched, displayed, updated, or deleted.

OrderProducts: The products purchased for each order, including the price sold and quantity of each item. OrderProducts can be dynamically searched, displayed, updated, created, or deleted.

Products: Products offered at our store. Can display our products, as well as search, update, create, and delete products. Products must not be associated with an order to be deleted.

OrderStatuses: Tracks the status of each Order. Allows retrieval, update, creation, and deletion of unique OrderStatuses. An OrderStatus can't be deleted if it's being used with an order.

SEARCH/CREATE/UPDATE/DELETE Customers Page

[THETA MART](#)[CUSTOMERS](#)[DRIVERS](#)[ORDERS](#)[ORDER PRODUCTS](#)[PRODUCTS](#)[ORDER STATUSES](#)[DATA RELOAD](#)

SEARCH CUSTOMER

Display Customers										
Customer ID	First Name	Last Name	Phone	Street	Unit	City	State	Zip Code	Country	Delete
1	George	Burger	725-749-1236	123 Easy St		Las Vegas	NV	88901	US	<input type="button" value="Delete"/>
2	Alice	Hill	702-567-3216	8793 Dirac Ln	Apt 12	Las Vegas	NV	88901	US	<input type="button" value="Delete"/>
3	Fred	Flintstone	775-901-9123	2910 Singularity Dr	Unit 3	Las Vegas	NV	88901	US	<input type="button" value="Delete"/>
4	Tom	Nicholson	578-232-8473	530 SW Coast Ave	530 SW Coast Ave	Depoe Bay	Or	97341	United States	<input type="button" value="Delete"/>

CREATE CUSTOMER

First Name:

Last Name:

Phone:

Street:

Unit:

City:

State:

Zip Code:

Country:

UPDATE CUSTOMER

Select a Customer:

First Name:

Last Name:

Phone:

Street:

Unit:

City:

State:

Zip Code:

Country:

SEARCH/CREATE/UPDATE/DELETE Drivers Page

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SEARCH DRIVER

Type Last Name:

Submit

Reset Search

Display Drivers

Driver ID	First Name	Last Name	Phone	Available	
1	Amil	Forenso	702-678-9212	Yes	Delete
2	Ihsan	Akbar	775-830-1238	No	Delete
3	Abraham	Storm	702-738-1238	No	Delete
4	Leaf	Wizard	725-738-2712	Yes	Delete
5	King	Dede	725-920-9283	Yes	Delete

CREATE DRIVER

First Name:

First Name

Last Name:

Last Name

Phone:

Enter with numbers only

Availability:

Select an Availability

SUBMIT

RESET

UPDATE DRIVER

Select a Driver:

Select a Driver

First Name:

First Name

Last Name:

Last Name

Phone:

Enter with numbers only

Availability:

Select an Availability

SUBMIT

RESET

SEARCH/CREATE/UPDATE/DELETE Orders Page

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SEARCH ORDERS

Search by Customer Name:

Submit

Reset Search

Browse Orders

Order ID	Customer	Order Date	Street	Unit	City	State	Zip Code	Country	Total	Order Status	Driver	Delete
1	George Burger	10-16-2022	123 Easy St		Las Vegas	NV	88901	US	\$160.00	Preparing Order	Ihsan Akbar	Delete
2	Alice Hill	10-16-2022	8793 Durac Ln	Apt 12	Las Vegas	NV	88901	US	\$400.00	In Transit	Abraham Storm	Delete
3	Alice Hill	10-12-2022	4533 Himey Road		Las Vegas	NV	88901	US	\$169.00	Delivered	Ihsan Akbar	Delete
4	Fred Flintstone	9-09-2022	2910 Singularity Dr	Unit 3	Las Vegas	NV	88901	US	\$55.00	Delivered	Leaf Wizard	Delete
5	George Burger	10-16-2022	123 Easy St		Las Vegas	NV	88901	US	\$40.00	Pending		Delete
6	George Burger	11-25-2022	530 SW Coast Ave	530 SW Coast Ave	Depoe Bay	Or	97341	United States	\$0.00	In Transit	Leaf Wizard	Delete
7	Fred Flintstone	11-16-2022	530 SW Coast Ave	530 SW Coast Ave	Depoe Bay	Or	97341	United States	\$0.00	Preparing Order	Leaf Wizard	Delete

CREATE ORDER

Customer Name:

Select a Customer

Order Date:

mm/dd/yyyy

Street:

Unit:

City:

State:

Zip Code:

Country:

Order Status:

Select an Order Status

Driver:

Select an Available Driver

SUBMIT

RESET

UPDATE ORDER

Order ID:

Select an Order

Order Status:

Select an Order Status

Driver:

Select an Available Driver

SUBMIT

RESET

SEARCH/CREATE/UPDATE/DELETE OrderProducts Page

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SEARCH ORDER PRODUCTS

Submit

Reset Search

Browse Order Products

OrderProduct ID	Order ID	Product	Quantity	Unit Price	Subtotal	Delete
1	1	Transdimensional Window Cleaner	2	\$40.00	\$80.00	Delete
2	1	Jelly Water Bottle	1	\$80.00	\$80.00	Delete
3	2	Lemons with eyeballs	4	\$100.00	\$400.00	Delete
4	3	Lemons with eyeballs	5	\$5.00	\$25.00	Delete
6	3	Lemons with eyeballs	12	\$12.00	\$144.00	Delete

CREATE ORDER PRODUCT

Order ID:

Select an Order

Product:

Select a Product

Quantity:

Unit Price:

SUBMIT

RESET

UPDATE ORDER PRODUCT

OrderProduct ID:

Select a Product Order

Product:

Select a Product

Quantity:

Unit Price:

SUBMIT

RESET

SEARCH/CREATE/UPDATE/DELETE Products Page

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SEARCH PRODUCTS

Type Product Name ...

Submit

Reset Search

Browse Products

Product ID	Name	Description	Price	Stock	Delete
1	Transdimensional Window Cleaner	Removes stains and sends them into the void.	\$5.00	80	Delete
2	Pet Avocado	Avocado that purrs and nuzzles like a cat.	\$10.00	120	Delete
3	Jelly Water Bottle	Jelly shaped like a water bottle.	\$80.00	30	Delete
4	Lemons with eyeballs	Lemons which stare at you.	\$15.00	48	Delete
5	Cereal Pillow	Pillow shaped like a cereal boxe.	\$40.00	5	Delete

CREATE PRODUCT

Product Name:

Description:

Price:

Stock:

SUBMIT

RESET

UPDATE PRODUCT

Product Name:

Select a Product

Description:

Price:

Stock:

SUBMIT

RESET

CREATE/UPDATE OrderStatuses Page

THETA MARTCUSTOMERSDRIVERSORDERSORDER PRODUCTSPRODUCTSORDER STATUSES

DATA RELOAD

Display Order Statuses

Order Status	Description	Delete
Delivered	Driver has successfully delivered the order at the customer's address.	Delete
In Transit	Driver has obtained the order items and is on his way to the customer's house for deliver.	Delete
Pending	Order has been made, but no drivers are available. Status will update when a driver is available to deliver the order.	Delete
Preparing Order	Order is being gathered by our employees. Once the order has been gathered, status will update.	Delete

CREATE ORDER STATUS

Order Status

Description

SUBMITRESET

UPDATE ORDER STATUS

Select a Order Status

Description

SUBMITRESET

Database Reload Page

THETA MARTCUSTOMERSDRIVERSORDERSORDER PRODUCTSPRODUCTSORDER STATUSES

DATA RELOAD

Database reloaded...