**The Fellowship of the Elden Ring**

Gianna Galard - Business expert
Alleny Rosario - Requirement Interviewer
Jason Chan, Daniel Targonski - Facilitator or Project manager

**Lab 4**

**4/5/2022**

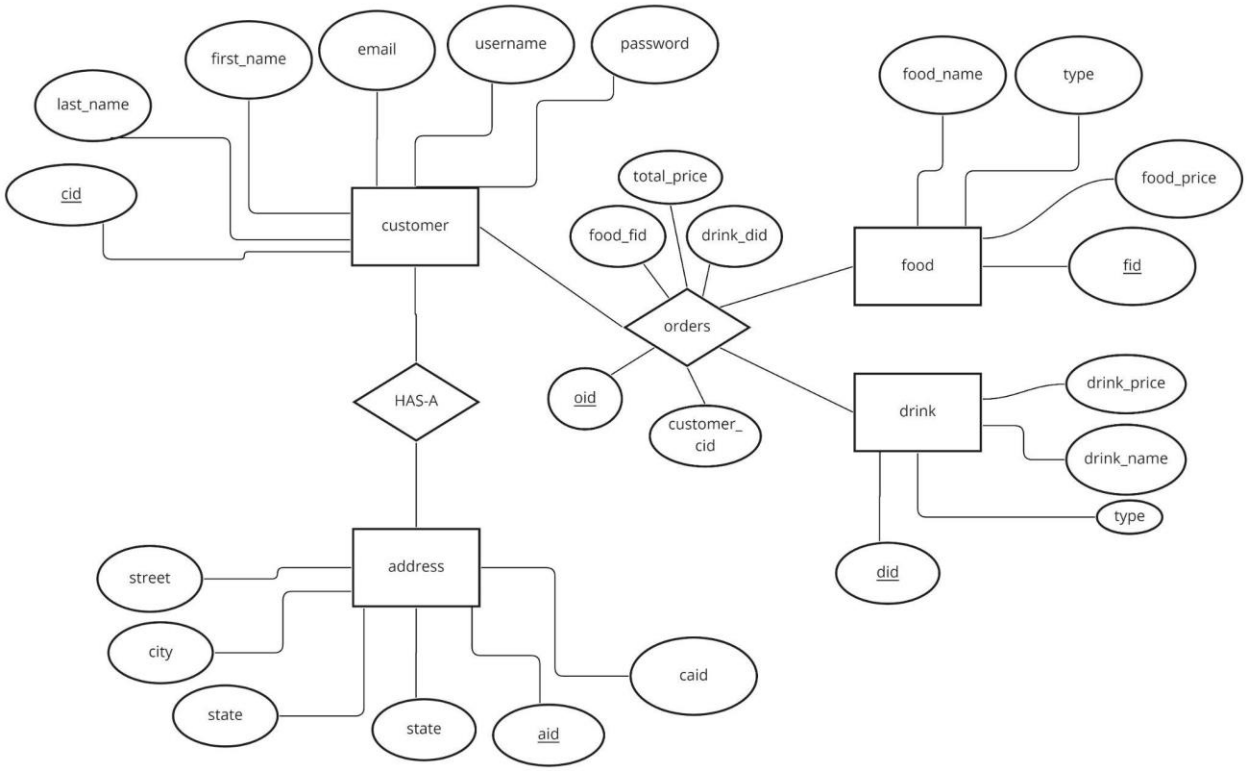
## Project Summary

We made a database that we might implement in our midterm project for a future phase. The database is for a restaurant app. It has five relations that are *customer, address, order, food,* and *drink.* The *customer* relation has a relationship "has-a" with *address*. This is in case we need to deliver food to the person if we implement online ordering. *Customer* has a "orders" relationship with *food* and *drink*. The *food* relation has a "type" attribute so that we can identify if it is an appetizer, entree, or dessert. Similarly, the *drink* relation has a "type" attribute so that it can we can identify if the drink is alcoholic, a juice, soda, etc… The order relation is an in-between point between the customer, food, and drink relations. Therefore the order has its own ID as well as containing the items ordered from the food and drink tables and the "cid" of the customer who is making the order.

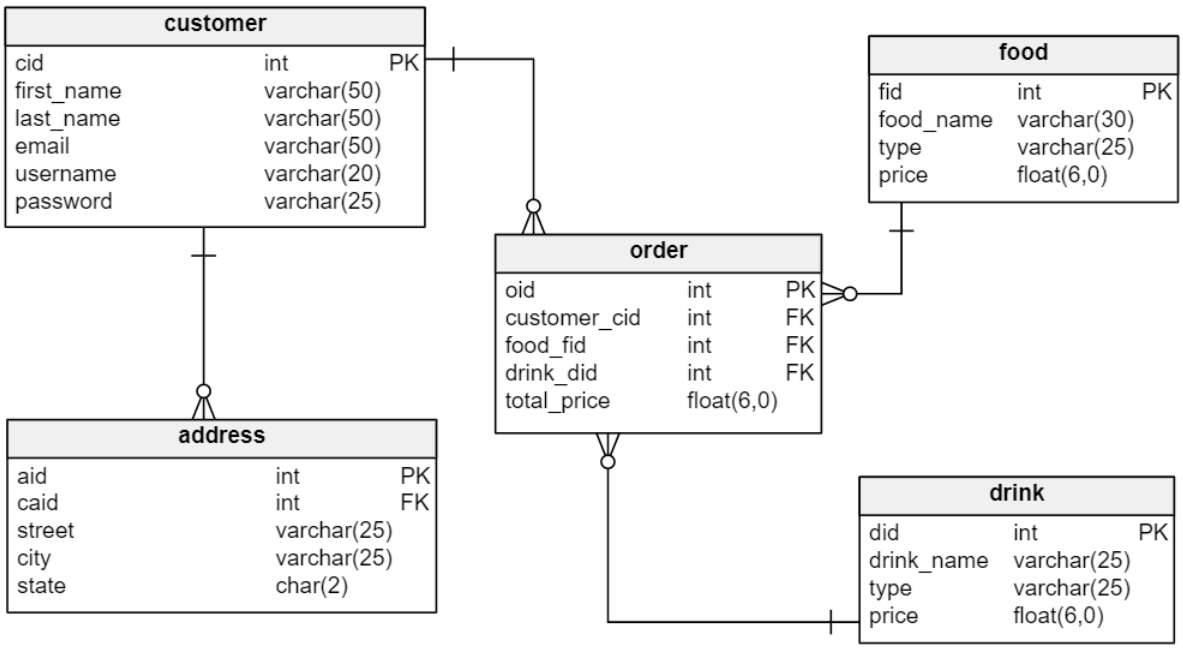
The teamwork went smoothly as well all helped each other with every aspect of the lab.

| Team member | Major contribution | Assistance to others |
|---|---|---|
| Gianna Galard | ER Diagram | Logical Data Model |
| Alleny Rosario | Logical Data Model | ER Diagram |
| Daniel Targonski | Physical Data Model | ER Diagram<br>Logical Data Model |
| Jason Chen | ER Diagram | Physical Data Model |

## Business Data Model (E-R Diagram)




## Logical Data Model

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## Physical Data Model

```
CREATE DATABASE elden;
USE elden;

-- tables
-- Table: address
CREATE TABLE address (
    aid int NOT NULL AUTO_INCREMENT,
    caid int NOT NULL,
    street varchar(25) NOT NULL,
    city varchar(25) NOT NULL,
    state char(2) NOT NULL,
    CONSTRAINT address_pk PRIMARY KEY (aid)
);

-- Table: customer
CREATE TABLE customer (
    cid int NOT NULL AUTO_INCREMENT,
    first_name varchar(50) NOT NULL,
    last_name varchar(50) NOT NULL,
    email varchar(50) NOT NULL,
    username varchar(20) NOT NULL,
    password varchar(25) NOT NULL,
    UNIQUE INDEX username (username),
    CONSTRAINT customer_pk PRIMARY KEY (cid)
);

-- Table: drink
CREATE TABLE drink (
    did int NOT NULL AUTO_INCREMENT,
    drink_name varchar(25) NOT NULL,
    type varchar(25) NOT NULL,
    price float NOT NULL,
    CONSTRAINT drink_pk PRIMARY KEY (did)
);

-- Table: food
CREATE TABLE food (
    fid int NOT NULL AUTO_INCREMENT,
    food_name varchar(30) NOT NULL,
    type varchar(25) NOT NULL,
    price float NOT NULL,
    CONSTRAINT food_pk PRIMARY KEY (fid)
);
```

```
-- Table: order
CREATE TABLE `order` (
    oid int NOT NULL AUTO_INCREMENT,
    customer_cid int NOT NULL,
    food_fid int NOT NULL,
    drink_did int NOT NULL,
    total_price float NOT NULL,
    CONSTRAINT order_pk PRIMARY KEY (oid)
);

-- foreign keys
-- Reference: address_customer (table: address)
ALTER TABLE address ADD CONSTRAINT address_customer FOREIGN KEY
address_customer (caid)
    REFERENCES customer (cid);

-- Reference: customer_order (table: order)
ALTER TABLE `order` ADD CONSTRAINT customer_order FOREIGN KEY customer_order
(customer_cid)
    REFERENCES customer (cid);

-- Reference: order_drink (table: order)
ALTER TABLE `order` ADD CONSTRAINT order_drink FOREIGN KEY order_drink (drink_did)
    REFERENCES drink (did);

-- Reference: order_food (table: order)
ALTER TABLE `order` ADD CONSTRAINT order_food FOREIGN KEY order_food (food_fid)
    REFERENCES food (fid);

-- End of file.

drop table address, `order`, customer, drink, food;

DROP database elden;
```