

# Drone Grocery Delivery

CS 4400: Introduction to Database systems

Spring 2021: Semester Project

## Project Purpose

In this project you will analyze, specify, design, implement, document, and demonstrate an online system. You are required to use the classical methodology for relational database development. The system will be implemented using a relational DBMS that supports standard SQL queries. You will use your localhost MySQL Server (Version 5.1 or above) to implement your database and the application. You also cannot use any other software like Access or SQLite. Ask the professors or TAs if you have questions.

## Project Phases

*Inputs (we give you)*

<ul style="list-style-type: none"><li>• Text and UI description</li></ul>	<ul style="list-style-type: none"><li>• Advanced ERD</li><li>• Raw initial data</li></ul>	<ul style="list-style-type: none"><li>• Database schema</li><li>• Initialized database</li><li>• Procedure shell</li></ul>	
<b>Phase I</b>	<b>Phase II</b>	<b>Phase III</b>	<b>Phase IV</b>
<ul style="list-style-type: none"><li>• Entity Relationship Diagram</li><li>• Logical constraints</li></ul>	<ul style="list-style-type: none"><li>• Relational schema</li><li>• Database schema</li><li>• Initialized database</li></ul>	<ul style="list-style-type: none"><li>• Implemented procedures</li></ul>	<ul style="list-style-type: none"><li>• Fully functional application</li></ul>

*Outputs (you turn in)*

## Directions for Phase II

In Phase II, your tasks are to:

- Translate the given ERD for our Drone Grocery Delivery System into a **relational schema diagram**
- Translate the relational schema diagram written in (a) into **create table statements**
- Insert** the provided initial data into your database constructed by (b)

### Relational Schema [55%]

Convert the Enhanced Entity-Relationship Diagram (EERD) that we've provided into a set of relational schema. Identify primary and foreign keys, and show referential integrity using either (1) arrows or (2) the text-based foreign key notation introduced in class and the conversion slides.

**\*\*\* DO NOT USE YOUR EERD FROM PHASE I.** We require you to use the **provided** EERD for this assignment, where the focus is on making sure that you understand and can apply the conversation process correctly. This will also give us time to evaluate the EERD that your team has submitted for Phase I.

### Create Table Statements [30%]

Provide the MySQL CREATE TABLE statements, including domain constraints, integrity constraints, primary keys and uniqueness constraints, and foreign key constraints. You do not need to specify ON UPDATE and ON DELETE clauses and can leave them to their default behaviors. You should submit the **original MySQL statements (that you hand-type), NOT the SQL dump** (20% deduction).

### Insert Statements [15%]

You should insert all information from the provided initial data file into the tables you constructed in the previous section. You will turn in the insert statements that accomplish this.

**\*\*\*** The data is not provided in a way that can be directly inserted into the database constructed in (a) (ex: illegal datatypes). You will have to manipulate the data to get it in a format that is useable.

The initial data spreadsheet has been provided in the in the Canvas Assignment.

### Submission Checklist

Each team needs **one of its members** to upload the deliverables to Canvas. The other team members should log in and check to ensure that all files have been uploaded correctly. Please include your team numbers in the file names.

Your submission should include the following, compiled into **2 documents (do not zip)**:

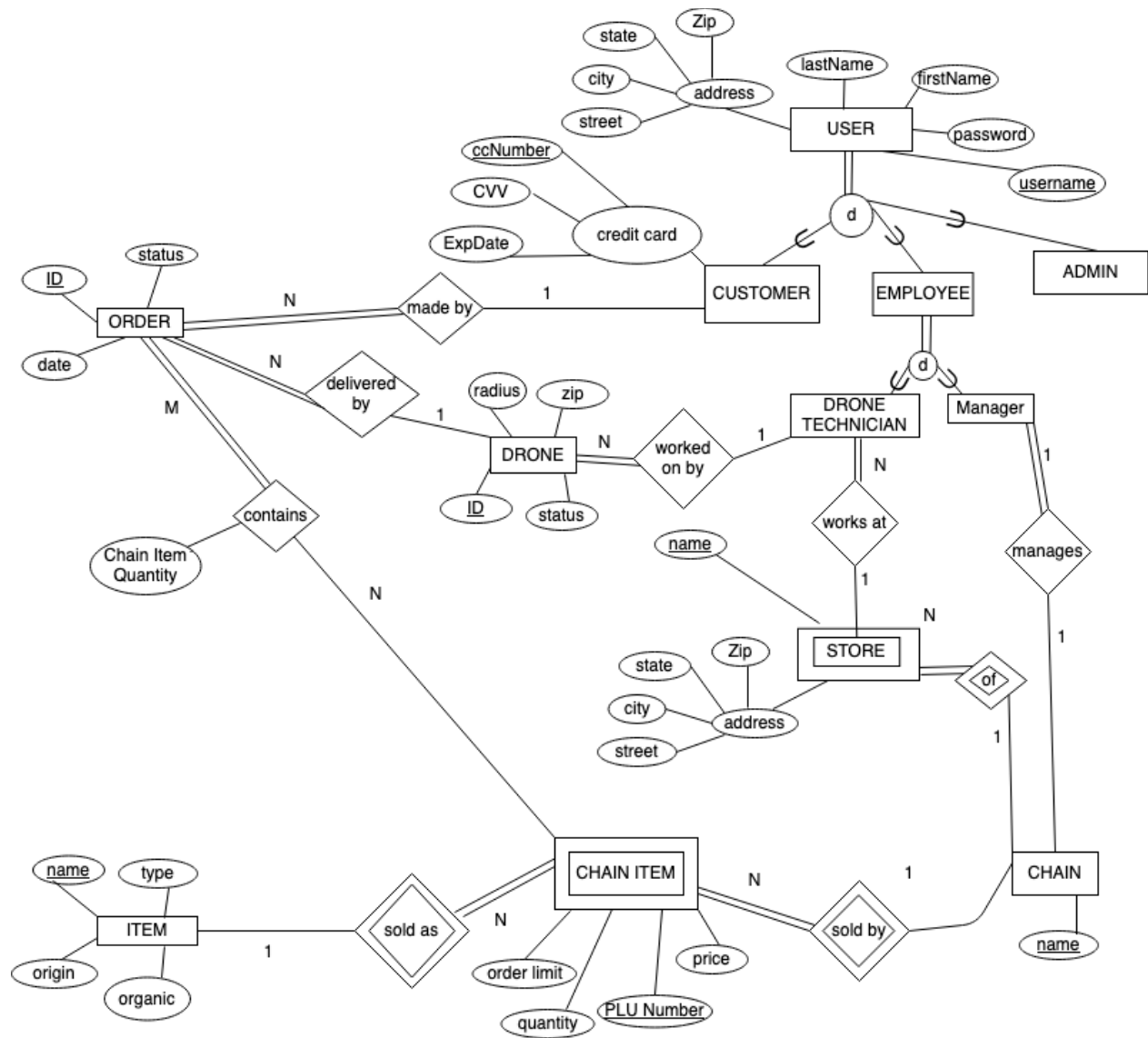
1. Relational schema (cs4400\_phase2\_schema\_team#.pdf)
2. Create table & insert statements (cs4400\_phase2\_team#.sql)
  - a. A template has been provided in the Canvas Assignment
  - b. The .sql file must run in MySQL Workbench without error for you to receive credit for these statements**

## Version History

Version	Date	Notes
0	03/02/2021	Initial Release

## Entity Relationship Diagram

You can find a PDF of the Diagram in the Canvas Assignment.



## Project Description

Please refer to the project description document **in the Phase II Assignment** for the most recent version. The version history tracks the most recent changes, and/or changes to the document from the initial release.