

CS4400 Section A - Summer 2019

GROUP 5

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Work on: Logical designs (mainly EER) and SQLs

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Work On: Gui & Backend Design (RESTful services)

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Work On: Logical designs (mainly IFD) and SQL statements

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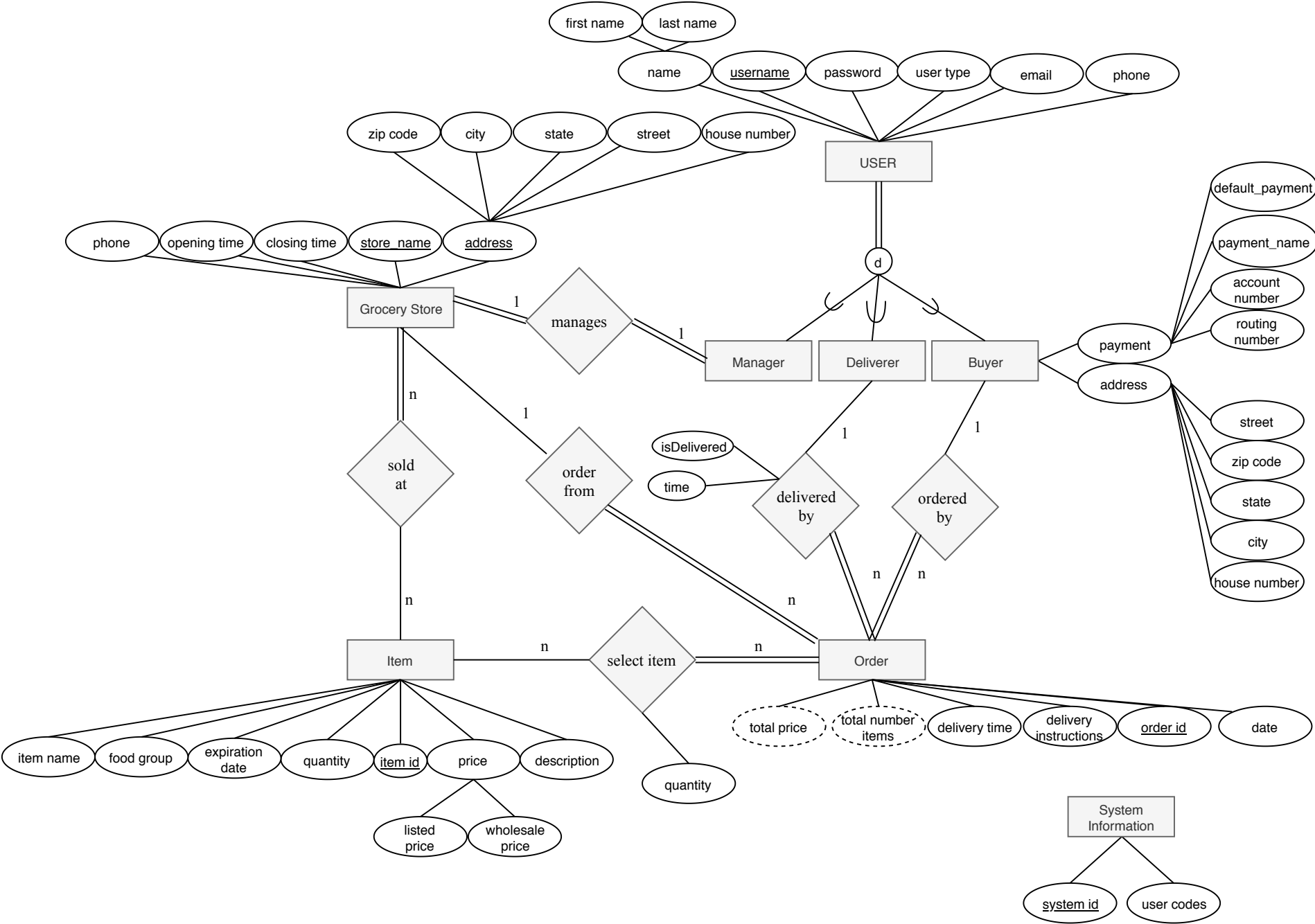
Username: kloscocco3

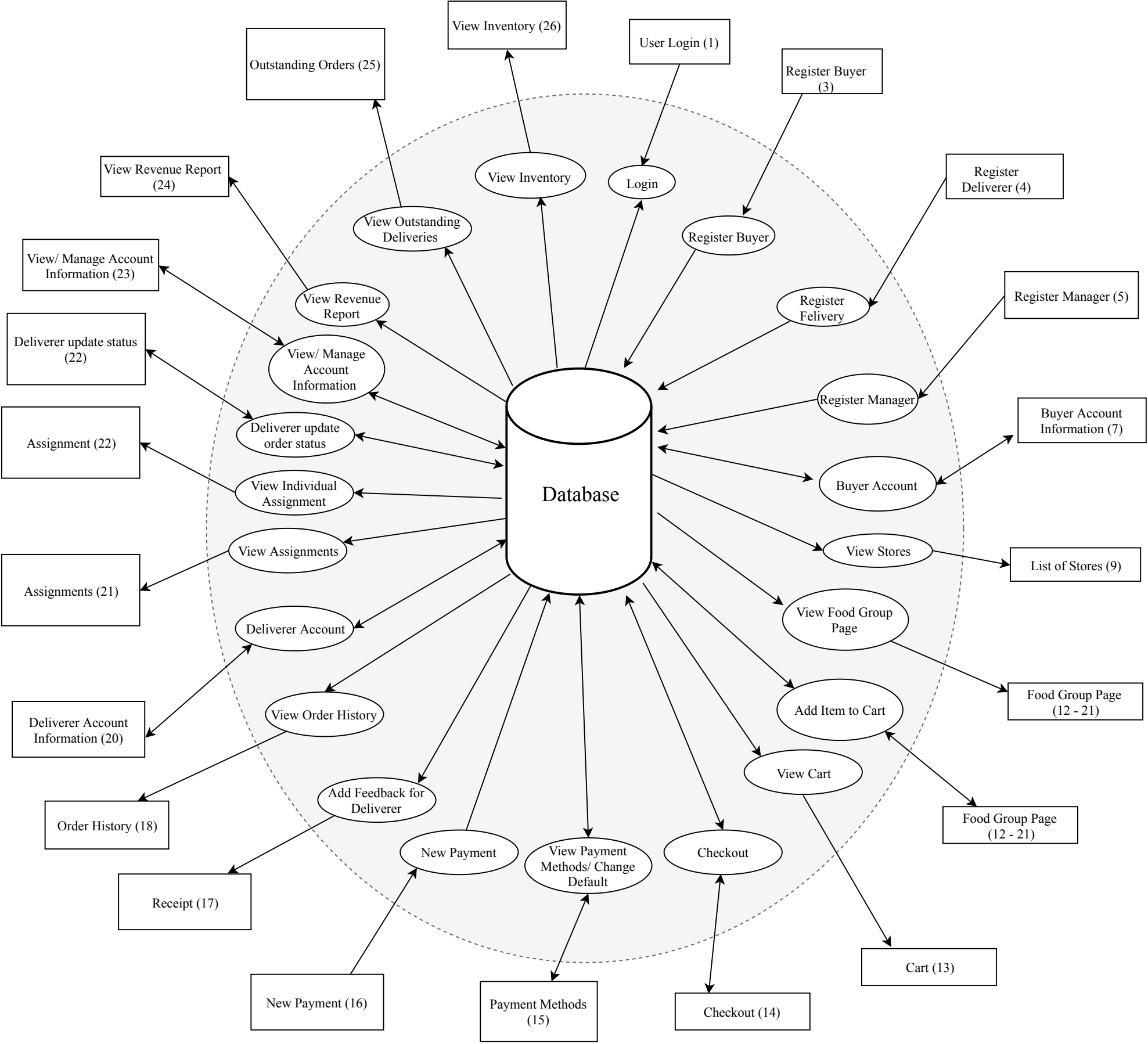
Name: Autumn Caraway

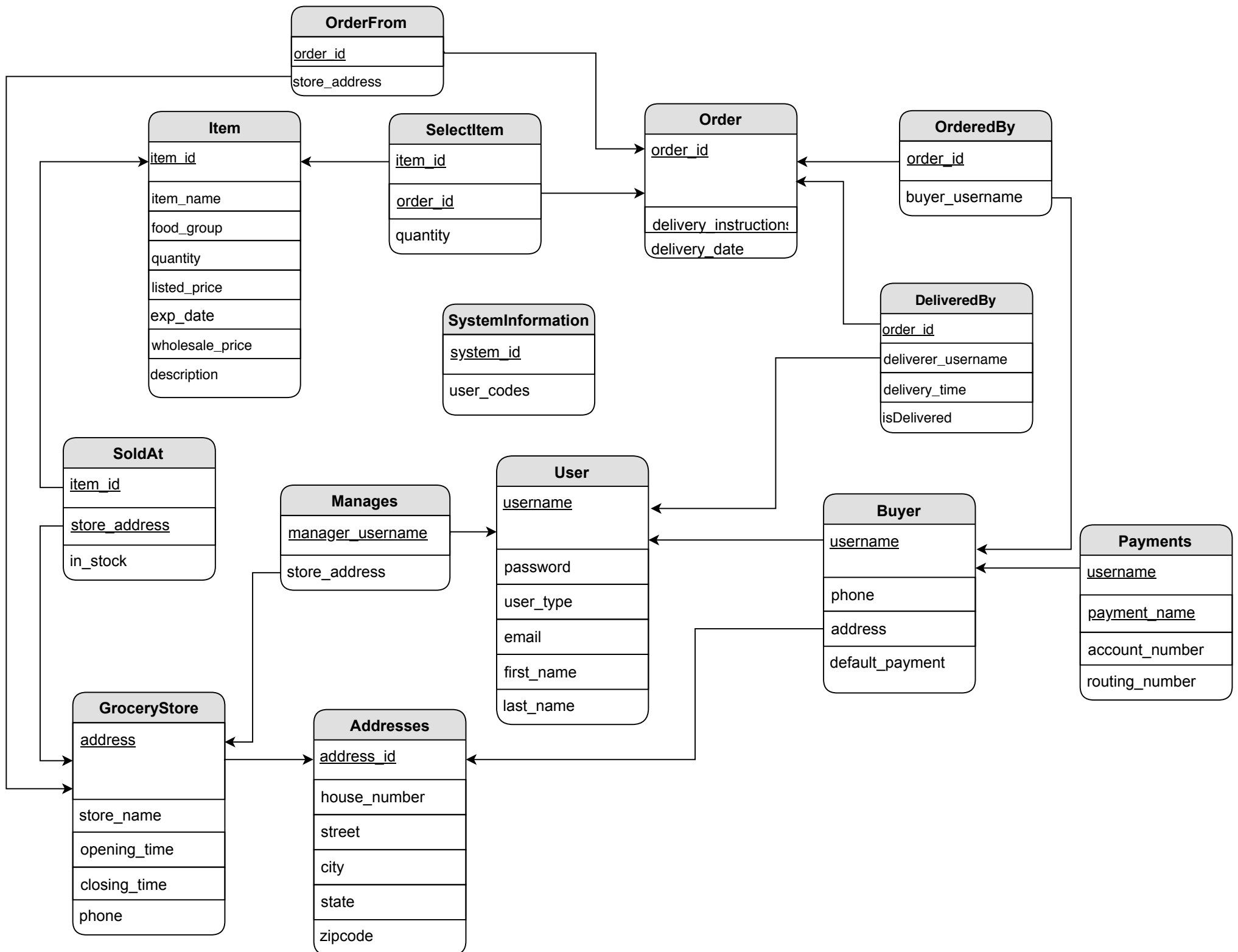
Work On: Mostly GUI and UI Details, and some Backend

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1  |-- Create the database
2  CREATE DATABASE Grocery;
3
4  -- Create 8 tables of entities and their composite attributes.
5
6  -- Table for both buyer address and store address
7  CREATE TABLE Grocery.Addresses(
8      address_id INT NOT NULL,
9      state VARCHAR(50) NOT NULL,
10     city VARCHAR(50) NOT NULL,
11     street VARCHAR(255) NOT NULL,
12     house_number VARCHAR(50) NOT NULL,
13     zipcode VARCHAR(5) NOT NULL CHECK(length(Zipcode)=5),
14     PRIMARY KEY(address_id)
15 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
16
17 -- Create entity USER; Deliverer and Manager will not have separate tables
18 CREATE TABLE Grocery.USER(
19     username VARCHAR(50) NOT NULL,
20     first_name VARCHAR(50) NOT NULL,
21     last_name VARCHAR(50) NOT NULL,
22     password VARCHAR(50) NOT NULL,
23     email VARCHAR(50) NOT NULL CHECK(REGEXP_LIKE(email, '^[a-zA-Z0-9]@[a-zA-Z0-9]\\.[a-zA-Z0-9]'=1),
24     user_type ENUM('Buyer', 'Deliverer', 'Manager') NOT NULL,
25     PRIMARY KEY(username)
26 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
27
28 -- Create Table Buyer, it's a subclass of USER
29 CREATE TABLE Grocery.Buyer(
30     username VARCHAR(50) NOT NULL,
31     phone VARCHAR(10) NOT NULL CHECK(length(phone)=10) ,
32     address INT,
33     default_payment VARCHAR(50) NOT NULL,
34     PRIMARY KEY(username),
35     UNIQUE(address),
36     CONSTRAINT FK_Username FOREIGN KEY(username)
37         REFERENCES USER(username) ON DELETE CASCADE
38         ON UPDATE CASCADE,
39     CONSTRAINT FK_BuyerAddress FOREIGN KEY(address)
40         REFERENCES Addresses(address_id) ON DELETE SET NULL
41         ON UPDATE CASCADE
42 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
43
44 -- Create CARD of Buyer, it's a composite attribute of Buyer
45 CREATE TABLE Grocery.Payment (
46     payment_name VARCHAR(50) NOT NULL,
47     account_number VARCHAR(50) NOT NULL,
48     routing_number VARCHAR(50) NOT NULL,
49     username VARCHAR(50) NOT NULL,
50     PRIMARY KEY (username, payment_name),
51     CONSTRAINT FK_User FOREIGN KEY(username)
52         REFERENCES Buyer(username)
53         ON DELETE CASCADE
54         ON UPDATE CASCADE
55 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
56
57 -- Create System info
58 CREATE TABLE Grocery.SystemInformation(
59     system_id INT NOT NULL,
60     user_codes VARCHAR(50) NOT NULL,
61     PRIMARY KEY(system_id)
62 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
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66
67 -- Create entity Store
68 CREATE TABLE Grocery.GroceryStore(
69     address INT NOT NULL,
70     store_name VARCHAR(50) NOT NULL,
71     opening_time TIME NOT NULL,
72     closing_time TIME NOT NULL,
73     phone VARCHAR(10) NOT NULL CHECK(length(phone) = 10),
74     PRIMARY KEY (address),
75     CONSTRAINT FK_StoreAddress FOREIGN KEY(address)
76         REFERENCES Addresses(address_id) ON DELETE CASCADE
77         ON UPDATE CASCADE
78 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
79
80 -- Create entity Item
81 CREATE TABLE Grocery.Item(
82     item_id VARCHAR(50) NOT NULL,
83     item_name VARCHAR(50) NOT NULL,
84     quantity INT NOT NULL,
85     food_group VARCHAR(50) NOT NULL,
86     descriptions VARCHAR(255) NOT NULL,
87     exp_ate DATE NOT NULL,
88     listed_price FLOAT NOT NULL,
89     wholesale_price FLOAT NOT NULL,
90     PRIMARY KEY(item_id)
91 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
92
93 -- Create entity ORDER
94 CREATE TABLE Grocery.Order(
95     order_id VARCHAR(50) NOT NULL,
96     delivery_date DATE NOT NULL,
97     delivery_instructions VARCHAR(255),
98     PRIMARY KEY (order_id)
99 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
100
101 -- Now create 6 tables of 6 relations between entities
102 -- CREATE relation between manager and store
103 CREATE TABLE Grocery.manages(
104     manager_username VARCHAR(50) NOT NULL,
105     store_address INT NOT NULL,
106     UNIQUE(store_address),
107     PRIMARY KEY (manager_username),
108     CONSTRAINT FK_Manager FOREIGN KEY(manager_username)
109         REFERENCES USER(username)
110         ON DELETE CASCADE
111         ON UPDATE CASCADE,
112     CONSTRAINT FK_Store FOREIGN KEY(store_address)
113         REFERENCES GroceryStore(address)
114         ON DELETE CASCADE
115         ON UPDATE CASCADE
116 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
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132 -- Create relation between GroceryStore and Item
133 CREATE TABLE Grocery.sold_at(
134     store_address INT NOT NULL,
135     item_id VARCHAR(50) NOT NULL,
136     in_stock BOOLEAN NOT NULL,
137     PRIMARY KEY(store_address,item_id),
138     CONSTRAINT FK_Item FOREIGN KEY(item_id)
139         REFERENCES Item(item_id)
140         ON DELETE CASCADE
141         ON UPDATE CASCADE,
142     CONSTRAINT FK_Store2 FOREIGN KEY(store_address)
143         REFERENCES GroceryStore(address)
144         ON DELETE CASCADE
145         ON UPDATE CASCADE
146 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
147
148 -- Create relation between ORDER and Item
149 CREATE TABLE Grocery.select_item(
150     order_id VARCHAR(50) NOT NULL,
151     item_id VARCHAR(50) NOT NULL,
152     quantity INT CHECK (quantity >= 0),
153     PRIMARY KEY (order_id,item_id),
154     CONSTRAINT FK_Item2 FOREIGN KEY(item_id)
155         REFERENCES Item(item_id)
156         ON DELETE CASCADE
157         ON UPDATE CASCADE,
158     CONSTRAINT FK_Store4 FOREIGN KEY(order_id)
159         REFERENCES `Order`(order_id)
160         ON DELETE CASCADE
161         ON UPDATE CASCADE
162 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
163
164 -- Create relation between ORDER and GroceryStore
165 CREATE TABLE Grocery.order_from(
166     order_id VARCHAR(50) NOT NULL,
167     store_address INT NOT NULL,
168     PRIMARY KEY (order_id),
169     CONSTRAINT FK_Order FOREIGN KEY(order_id)
170         REFERENCES `Order`(order_id)
171         ON DELETE CASCADE
172         ON UPDATE CASCADE,
173     CONSTRAINT FK_Store3 FOREIGN KEY(store_address)
174         REFERENCES GroceryStore(address)
175         ON DELETE CASCADE
176         ON UPDATE CASCADE
177 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
178
179 -- CREATE relation between ORDER and Buyer
180 CREATE TABLE Grocery.orderedby(
181     buyer_username VARCHAR(50) NOT NULL,
182     order_id VARCHAR(50) NOT NULL,
183     PRIMARY KEY (order_id),
184     CONSTRAINT FK_Order2 FOREIGN KEY(order_id)
185         REFERENCES `Order`(order_id)
186         ON DELETE CASCADE
187         ON UPDATE CASCADE,
188     CONSTRAINT FK_Buyer FOREIGN KEY(buyer_username)
189         REFERENCES Buyer(username)
190         ON DELETE CASCADE
191         ON UPDATE CASCADE
192 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
193
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197 -- Create relation between DELIVERY and ORDER
198 CREATE TABLE Grocery.delivered_by(
199 deliverer_username VARCHAR(50) NOT NULL,
200 order_id VARCHAR(50) NOT NULL,
201 isDelivered BOOLEAN NOT NULL,
202 deliverytime TIME NOT NULL,
203 PRIMARY KEY(order_id),
204 CONSTRAINT FK_Order3 FOREIGN KEY(order_id)
205     REFERENCES `Order`(order_id)
206     ON DELETE CASCADE
207     ON UPDATE CASCADE,
208 CONSTRAINT FK_User2 FOREIGN KEY(deliverer_username)
209     REFERENCES USER(username)
210     ON DELETE CASCADE
211     ON UPDATE CASCADE
212 ) ENGINE=INNODB DEFAULT CHARSET=UTF8;
213
```