Restaurant Supply Express! Drone Delivery

CS 4400: Introduction to Database Systems Course Project: Fall 2022 Semester

Version History

Version	Date	Notes
0	September 5, 2022	Initial Release

Main Use Case

The following is a text description of how the system (i.e., the database tables, foreign keys, and related structures) that you've developed will be used. This information will clarify how data flows through the system, and how the views and stored procedures will allow the system operators to observe and modify the state of the system (i.e., database), respectively.

Below is a detailed list of the steps for the main (e.g., "happy path") use case for the system along with the stored procedures, views and functions that are most relevant for that step:

[1] Delivery Services hire Employees to support their operations

```
• [2] add_employee() 
• [11] hire_employee()
```

[8] add_service()
• [12] fire_employee()

[2] Employees support operations as (Warehouse) Workers, Pilots and/or Managers

• [4] add_worker_role()

[3] Delivery Services purchase Drones to deliver Ingredients to Restaurants

```
• [5] add_ingredient() • [21] remove_ingredient()
```

• [6] add_drone() • [22] remove_drone()

• [7] add_restaurant()

[4] Workers repair, restock and refuel the Drones to be able to deliver Ingredients

```
• [17] load_drone() 
• [18] refuel_drone()
```

[5] Pilots fly Drones – as "singles" or as swarms with many drones – to different Locations

```
• [14] takeover_drone() 
• [19] fly_drone()
```

• [15] join_swarm()
• (function) fuel_required()

• [16] leave_swarm()

[6] Owners provide funds for one or more Restaurants

```
• [1] add_owner() 
• [10] start_funding()
```

[7] Managers direct Drones to Locations where Restaurants can purchase Ingredients

```
• [9] add_location() 
• [13] manage_service()
```

[8] Restaurants purchase Ingredients from Drones at their Location

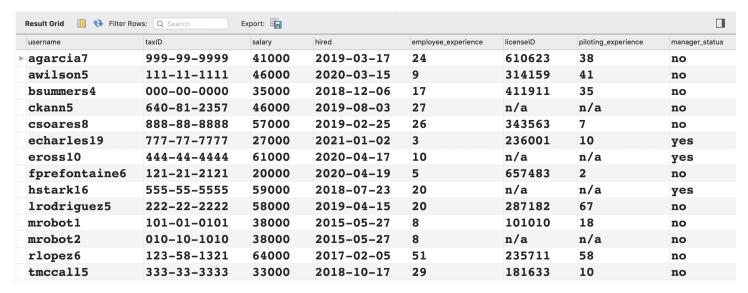
```
• [20] purchase_ingredient()
```

Expected Results for the "Global Views" based on the Initial Database State

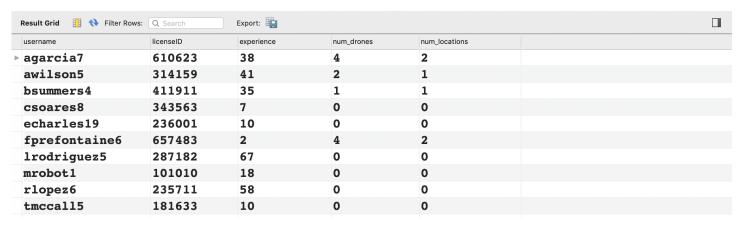
[24] display_owner_view()

Result Grid Filter Rows: Q Search Export:									
username	first_name	last_name	address	num_restaurants	num_places	highs	lows	debt	
⊳ cjordan5	Clark	Jordan	77 Infinite Stars Road	0	0	0	0	0	
jstone5	Jared	Stone	101 Five Finger Way	3	2	5	3	50	
sprince6	Sarah	Prince	22 Peachtree Street	1	1	4	4	10	

[25] display employee view()



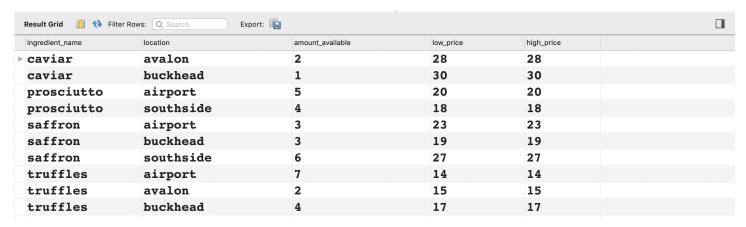
[26] display_pilot_view()



[27] display location view()

Result Grid						
label	x_coord	y_coord	num_restaurants	num_delivery_services	num_drones	
airport	-2	-9	0	0	2	
avalon	2	16	1	1	2	
buckhead	3	8	2	0	3	
highpoint	7	0	0	0	2	
mercedes	1	1	1	0	0	
midtown	1	4	2	0	0	
plaza	5	12	3	0	0	
southside	3	-6	1	2	2	

[28] display_ingredient_view()



[29] display service view()

