**Project Document for Restaurant Order Tracker**

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**App Name: Eggspresso**

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**Description of Eggspresso**

Eggspresso works with 2 types of users: the customer and staff members. From the customer’s perspective, once the app opens a login screen will pop up where they are prompted to either click the customer Button and then proceed to enter their login details for customer or staff, and once validated, they’ll be taken to the customer’s main screen where they will be able to view their order status (pending, ready or collected), what restaurant it’s from and be able to rate the service by clicking thumbs up or thumbs down. If the customer fails to log in an error message will pop up and ask them to try again and if the customer does not have an account, there is a link below login details called register account where they are taken to a screen where they can create an account. On that screen, the customer will be asked to fill in their details where their username must be unique to the database and if all inputs are accepted, they will be taken to the customer main screen. From the staff members’ perspective when they open the app, they will be greeted with the same login screen where they can choose between customer login or staff login. When the login details are entered successfully the staff will be taken to the main staff screen where they can select a customer and restaurant and enter the order as well as the order status. Once the staff member gets updated on the customer’s orders, they can update the order status so that the customer can also view it. When the order is completed and collected the staff member will be rated through thumbs up thumbs down system which will then be added to their total rating and give them an average rating. If the staff member doesn’t have an account they can also register to create an account where they will go through the same process as the customer account.

**Formation of Business Rules for Eggspresso**

1. Auto-Populating Fields in textview in the customer field

2. Rating a restaurant

3. Creating Dynamic Picklist Options

4. Requiring login details for both customer and staff

5. Showing customer or stuff login based on the button clicked.

6. Conditionally getting SQL queries from the database

7. Validating user login for the password, Username, etc.

**Initial ERD design**

Shape

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Assists

**Issues with initial ERD**

The first problem is that there is a M:N relationship between order and cust\_username which will create data redundancy as well as data insertion, deletion, and updating difficulties.

The other problem is that order is a multivalued attribute that also creates a M:N relationship.

**Solution to ERD issues**

The solution to both of these problems is to create a bridge entity called orders to stop the M:N relationship from the order and cust\_username and in the new table we derived the order attribute so that it isn’t multivalued anymore.

Text

Description automatically generated**Final ERD design**

View/

Rate

Add/

Edit

**Table implementation for Customer, Staff and Orders**

CREATE TABLE CUSTOMER(CustUsername VARCHAR(30) PRIMARY KEY, CustName VARCHAR(30), CustPassword VARCHAR(30));

A picture containing graphical user interface

Description automatically generated

CREATE TABLE STAFF(StaffUsername VARCHAR(30) PRIMARY KEY, StaffPassword VARCHAR(30), AvgRating TINYINT(1), Restaurant VARCHAR(30));

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CREATE TABLE ORDERS(OrderNo INT NOT NULL AUTO\_INCREMENT, CustUsername VARCHAR(30), StaffUsername VARCHAR(30), Status CHAR(1), OrderTime DATETIME, Restaurant VARCHAR(30), Rating TINYINT(1), PRIMARY KEY(OrderNo), FOREIGN KEY (CustUsername) REFERENCES CUSTOMER(CustUsername), FOREIGN KEY (StaffUsername) REFERENCES STAFF(StaffUsername));

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**Function and Triggers for Eggspresso**

This function is used to return the average rating for a specific staff member.

DELIMITER //

CREATE FUNCTION AVGRATING(SU VARCHAR(30))

RETURNS TINYINT

BEGIN

DECLARE GOOD INT DEFAULT 0;

DECLARE BAD INT DEFAULT 0;

DECLARE RESULT TINYINT DEFAULT 0;

SELECT COUNT(Rating) INTO GOOD FROM ORDERS WHERE StaffUsername = SU AND Rating="1";

SELECT COUNT(Rating) INTO BAD FROM ORDERS WHERE StaffUsername = SU AND Rating="0";

IF GOOD>=BAD THEN

SET RESULT=1;

END IF;

IF GOOD<BAD THEN

SET RESULT=0;

END IF;

RETURN RESULT;

END; //

DELIMITER ;

This trigger is used to call the function and update the average rating of the specific staff member

DELIMITER //

CREATE TRIGGER UPDATE\_RATING

AFTER UPDATE ON ORDERS

FOR EACH ROW

BEGIN

DECLARE X TINYINT;

SET X = AVGRATING(NEW.StaffUsername);

UPDATE STAFF SET AvgRating = X WHERE StaffUsername = NEW.StaffUsername;

END;//

DELIMITER ;