Stock is the life of any restaurant. The availability and quality of a stock item can mean the difference between making a customer and not. And making a customer and not is the difference between a Restaurant being successful and not. Small businesses face the same sorts of problems as large businesses but aren’t always equipped with the same tools and manpower of those large businesses. One of these small businesses, Moraine Fish and Chicken is run by a man named Farid, better known as Fred. The purpose of my database has to do with Stock Items at Moraine Fish and Chicken, with Freds help, and as I used to manage his restaurant, personal experience.

Inventory tracking systems are ubiquitous and easy to use. The hardest thing about them is entering data every day. There are other things about stocks that can use for tracking and to get a good grasp on what exactly needs tracking I asked Fred what processes he goes through on a weekly or daily basis that have to do with Stock Items. We came up with four candidates for tracking. These are competing stock, substitute items, prices and stock troubles.

First competing stock. Just as restaurants compete for our business, suppliers compete for the business of restaurants. These suppliers may have the same or similar enough types of items to each other. For example, chicken wings, Moraine Fish and Chickens best seller. Item quality matters: how large wings are, how many feathers they have, how well they cook, general customer reviews. The price matters but also whether the supplier offers a discount, if they deliver and how much stock must be ordered to qualify for delivery. How many other items are received from the supplier and how often orders must be made to remain in good standing.

Next there are “substitute items”, a term that I use to represent stock items that can serve as a stand in for more regular ones. An item can be replaced for a few reasons, stock troubles, issues with a supplier or delayed shipments, suppliers switching items, trying out new items, low quality of recent stock, changing prices.

Stock troubles were an issue before Covid, but it is a good example of how disruptions in supply chains can affect these types of businesses. Menu items should be consistent, and many customers might visit a restaurant just for a single item. Supply chain disruptions exhibit the need to track where and when stock items are available, and for how long they might be unavailable.

Price has been a through-line in all the previous processes, but it deserves its own section. Obviously, profit is dependent on prices. The major issue that a restaurant faces is that the price at which a supplier might offer a stock item can change regularly and sometimes quite drastically, usually upward but not always. The prices that a restaurant puts on its menu are much “stickier” however, to use an economic term. Even small changes in price can add up quickly to thousands of dollars and knowing the cost of an item and its possible substitute item is important.

Now that the concrete processes are documented they can be turned into the entities (tables) that will hold data for the Stock database. The main and most important entity is the Item entity. Useful attributes of an item for tracking are the name of the item, the supplier of the item, an item description, its brand, the supplier SKU, whether the item is perishable, how many days it takes to expire, how many days go by before reordering, the current stock quantity, if the item is available and the items substitute item if it has one. The substitute item is especially interesting as any substitute item will have its own

As mentioned, every item is offered by a supplier and to keep our database in third normal form it will get its own table. And a supplier entity also has many fields, supplier name, address, phone number, email address, rep information, general notes and whether the account with said supplier is active.

Next is the cost entity, and this one is straightforward. Cost is the most important attribute, but also other currency fields that pertain to an item, delivery fee and discount amount. Since costs change there is also an important date attribute. Likewise, a sales entity has a sale amount and date, and its purpose is to measure the total amount of cash that an item is sold for in an entire day.

The last two entities are rating and customer. The customer entity has a name and email and phone number. There isn’t much of a need for more information as the customer entity mainly serves the review entity.

These entities will become tables in the database, a table is a set of attributes that holds data. But before that they need to be connected. Relational databases connect entities so that meaningful information can be extracted. Below is an Entity relationship diagram, it shows the entities that have been laid out as well as how they relate to each other. Tables are not only connected by lines but specifically by attributes that make them up. Next to each attribute is a type. Most of them are self explanatory but a Boolean can simply be true or false. A diagram of a computer

Description automatically generated

The database can now be created. A database is a collection of these entities and provides ways to enter and retrieve data as well as perform useful and interesting calculations to create new information. The database technology that