Reflecting Challenges:

1. Finding a best framework to build a robust Restaurant menu and POS system.Then figured out spring boot framework.
2. Maintaining the data was my other biggest challenge after analysis. I have decided to use postgres.
3. Connecting data to the application was a bit critical. I found maven plugins which do it automatically using spring boot.
4. Creating connection between data entities was my other biggest challenge. Then I found an online tool to create entity models for better understanding.
5. I found it very hard at the time of writing unit tests like creating mock data and how to write test cases. Then i found mockito and junit .

Patterns :

1. Repository pattern
    - It is one of the most popular patterns to create an enterprise level application. It restricts us to work directly with the data in the application and creates new layers for database operations, business logic, and the application's UI.
    - It is used between database layer and api layer.
2. Singleton pattern
    - It is a design pattern that restricts the instantiation of a class to one object. Let's see various design options for implementing such a class. If you have a good handle on static class variables and access modifiers this should not be a difficult task.
    - It represents database tables in our case.
3. Prototype pattern
    - It is a creational design pattern in software development. It is used when the type of objects to create is determined by a prototypical instance, which is cloned to produce new objects.
    - It is a controller that we use out of api's.
4. Factory Method pattern
    - It is a creational pattern that uses factory methods to deal with the problem of creating objects without having to specify the exact class of the object that will be created.
    - It creates the records based on the api calls.
5. Proxy pattern
    - It is a software design pattern. A proxy, in its most general form, is a class functioning as an interface to something else.
    - For creating repository patterns this helped.

Prerequisites to run application:

- ➢ Java development package
- ➢ Postgres DB
- ➢ Maven

Steps to run application :

1. Please make sure that JAVA_HOME and MAVEN_HOME path are set in environment variables as follows:
   JAVA_HOME: C:\Program Files\Java\jdk1.8.0_181 (Path till JDK folder only not bin folder) MAVEN_HOME: C:\Users\Amit Joshi\Downloads\apache-maven-3.6.0
2. Add both paths in environment variable 'Path' as follows: %MAVEN_HOME%\bin %JAVA_HOME%\bin
3. Open your project using IDE (in my case I am using intelliJIDEA)
4. Click on Run button and copy the command executed in console window.
5. Open cmd and traverse to the root folder of your maven project.
6. Paste and execute the copied command and your project will run successfully.

Developed:

CRUD for billing,order,menu,user modules.

Pending :

Need to develop front end for user interaction,Make the system more robust.