INFINITYWORKS
ACADEMY

Mini Project

Overview

Your client has launched a pop-up café in a busy business district. They are offering home-made lunches and refreshments to the surrounding offices. As such, they require a software application which helps them to log and track orders.

Requirements

As a business:

- I want to maintain a collection of `products` and `couriers`.
- When a customer makes a new `order`, I need to create this on the system.
- I need to be able to update the status of an `order` i.e: `preparing`, `out-for-delivery`, `delivered`.
- When I exit my app, I need all data to be persisted and not lost.
- When I start my app, I need to load all persisted data.
- I need to be sure my app has been tested and proven to work well.
- I need to receive regular software updates.

Technical Specifications

User Interface

You will be building a program that runs on the command line (CLI).

- UI should be logical, clear, and simple to navigate.
- It should display a menu of options, some may be nested.
- There should be the option to exit / return to main menu.
- It should handle invalid input.

Data Persistence

You will incrementally adopt three methods to persist data between user sessions:

- `txt`: Initially we'll store our data in plaintext files.
- `csv`: As our data changes shape, we'll need to switch to the CSV format.
- `SQL`: Ultimately, we'll finish up using a database.

Testing

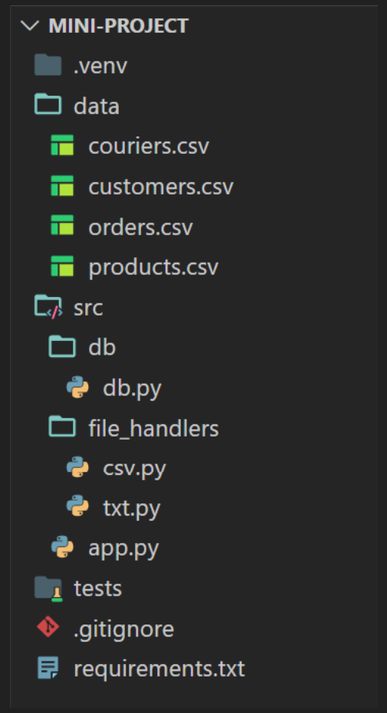
Python has some basic testing functionality built-in which we'll use to test the quality of our code. This will allow us to be confident that our app works as we intended it to.

Data Visualisation

We'll want to build some bar charts to help our client better understand the business. For this we'll use:

`Jupyter Notebooks + Matplotlib`

Suggested Project Structure



Method

- You will be allotted enough time each week to work on your project.
- Your instructor will brief you on the requirements and goals each week.
- You should each produce your own app, however pairing up with a colleague is encouraged.
- At the end you will be expected to present your finished app to a friendly panel for review.

Available Time: 6 Weeks

Stuck?

Getting stuck on something is not fun for anyone. Due to the size of the group please follow this recommended workflow:

When stuck:

- Don't panic: Relax, take a break, think about the problem.
- Google it: There is a wealth of information on the web and you'll likely find the solution to your problem quite quickly.
- Syntax: If it's a syntax problem try referring to earlier slides, or the official Python Docs / W3 Schools.
- Ask a colleague: Ask someone in the group. It's likely they too have come across and solved your problem.
- Ask your instructor: If all else fails, reach out to your instructor for some guidance.

Glossary

- `CLI` Command Line Interface
- `CRUD` Create, Read, Update, Delete
- `Refactor` The process of rewriting code to *improve* it or to fix code smells
- `Code Smell` Code that doesn't adhere to best practices
- `CSV` Comma Separated Value
- `SQL` Structured Query Language
- `Data Layer` The part of your code that handles all data interaction
- `Storage Layer` The part of your code that handles all file storage
- `UI/UX` User Interface / User Experience

Resources

- https://realpython.com/
- https://blog.finxter.com/python-cheat-sheet/
- https://www.mysqltutorial.org/
- https://websitesetup.org/mysql-cheat-sheet/

Libraries

- pylint
- black (code-formatter)
- pymysql
- matplotlib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