Exercise 2.1 Python and Django

1 - Django's Popularity

Django's popularity is due in part to the fact it is one of the most robust frameworks available to a web developer working in python. It provides a toolkit that contains many of the key components of a fully fledged web application all within it's batteries included system (database, security, authentication, routing, reusable templates). Developers working in Django can lean on these pillars whiling devoting the greater focus on doing more creative work that defines the actual end user experience of an application expressed within program logic and design choices.

2 - Django in the Wild (5 power users)

Bitbucket - The major cloud based alternative to github, used for controlling and storing applications version. Bitbucket turned to Django mainly for the intense demands of the request traffic of millions daily between development teams and their projects.

Spotify - Music streaming and playlist behemoth. Django was a scaling decision as the platform massively expanded and backend needed to handle requests made of it's catalog of millions of songs from it's millions of daily users, all streamed in high fidelity. That backend speed as well it's its extensibility with powerful machine learning instruments dictating many algorithmic functions upon the music catalog and it's users preferences and recommendations.

Dropbox - Cloud file storage and sharing in all formats including (.png, .mp3, .mp4). Python makes up a chunk of the codebase so when needing to solve some key web/cloud problems including file sharing, account syncing across the cloud and platforms, Django allowed teams to snap into action, and sync nicely with the python foundations in place.

The Washington Post - The digital offerings of the world renowned newspaper/ journal. Django's handling of the constant churn many pages along with it's managing of enormous swaths of WSP user data and user interactions.

Mozilla Browser - one of the big 3 in web browsing with an ethos around an ethical, open and data secure web. Django was flexed to great degree handling the millions and millions of monthly request coming over the API, as well as storing the sensitive account data including traffic, passwords and general demands of of modern web browsing.

Scenarios to use/not use Django

- You need to develop a web application with multiple users. Yes, handling authentication, profile security and storing user data.
- You need fast deployment and the ability to make changes as you proceed. Yes, Django is built for streamlining deployment and honing in on unique experience of an application without overhead, it is also intended to accept different plugins and tools built and added after.
- You need to build a very basic application, which doesn't require any database access or file operations. No, not necessary. This application's limited scope wouldn't reap any of the benefits provided by plugging into something so comprehensive and featured as Django.
- You want to build an application from scratch and want a lot of control over how it works. No, Django is extremely opinionated and dictates many of the foundational pieces of any application that uses it.
- You're about to start working on a big project and are afraid of getting stuck and needing additional support. Yes, Django is open source, has a responsive and active development team, it is highly documented and the community of invested and collaborative users grows each day.

(Python installed)

```
[(web-dev) caseysabal@Caseys-iMac Achievement 2 % code .
 zsh: command not found: code
[(web-dev) caseysabal@Caseys-iMac Achievement 2 % code .
[(web-dev) caseysabal@Caseys-iMac Achievement 2 % python --version
 Python 3.11.4
 (web-dev) caseysabal@Caseys-iMac Achievement 2 %
```

(VirtualEnvs)

```
(achvmt_2) caseysabal@Caseys-iMac Achievement 2 % workon
achvmt_2
base-new
cf-python-base
cf-python-copy
test-base
web-dev
(achvmt_2) caseysabal@Caseys-iMac Achievement 2 %
```

(Django 4.2.4)

```
web-dev
(achvmt_2) caseysabal@Caseys-iMac Achievement 2 % workon web-dev
(web-dev) caseysabal@Caseys-iMac Achievement 2 % pip list
Package          Version
---------------- -------
asgiref          3.7.2
Django           4.2.4
numpy            1.25.2
pandas           2.0.3
pip              23.2.1
python-dateutil  2.8.2
```