2.1 Getting Started with Django

Django is popular among web developers due to its powerful and comprehensive feature set, which includes a robust ORM, built-in authentication, admin interface, and URL routing. It follows the "Don't Repeat Yourself" (DRY) principle and promotes efficient development with its batteries-included approach, allowing developers to focus on building applications rather than dealing with repetitive tasks. Additionally, Django's active and supportive community, extensive documentation, and scalability make it an attractive choice for developing complex web applications.

1. **Instagram**: Instagram, a popular social media platform for sharing photos and videos, utilizes Django as its primary web framework. Django helps power various functionalities such as user authentication, content management, and data processing, enabling Instagram to handle a large user base and provide a seamless user experience.

2. **Pinterest**: Pinterest, a visual discovery and bookmarking platform, relies on Django for its backend infrastructure. Django helps manage user accounts, handles content storage and retrieval, and supports various features such as search, recommendations, and personalized feeds, allowing users to discover and save content of interest.

3. **Spotify**: Spotify, a leading music streaming service, employs Django for its web application development. Django enables Spotify to handle user authentication, manage user-generated content, and facilitate playlist creation and management. It also supports backend processes for music recommendations and content delivery.

4. **Mozilla**: Mozilla, the organization behind the popular web browser Firefox, utilizes Django for various web projects. Django powers the backend of Mozilla's websites, including the main website, documentation, support forums, and developer resources. It helps in managing content, user authentication, and community engagement.

5. **Eventbrite**: Eventbrite, an online event management and ticketing platform, relies on Django for its web application development. Django helps handle user registration, event creation, ticketing, payment processing, and event management functionalities. It provides a scalable and secure framework for Eventbrite's platform, serving millions of users worldwide.

1. **You need to develop a web application with multiple users.**

Django would be a suitable choice for developing a web application with multiple users. Django provides built-in features for user authentication, session management, and access control, making it easier to handle user management and security. It also offers an ORM (Object-Relational Mapper) for database interactions, which simplifies data storage and retrieval for multi-user applications.

2. You need fast deployment and the ability to make changes as you proceed.

Django is known for its rapid development capabilities and flexibility, making it a good choice when fast deployment and iterative development are required. Django's extensive set of reusable components, known as "batteries included," along with its convention-over-configuration approach, allow developers to quickly build and modify applications. Additionally, Django's development server and built-in admin interface enable efficient development and debugging.

3. You need to build a very basic application that doesn't require any database access or file operations.

If the application doesn't require database access or file operations and is extremely basic, using Django might be overkill. Django is designed to handle complex web applications with database interactions and file handling capabilities. For a simple application without such requirements, a lightweight framework or library that focuses on minimalism and simplicity might be a more suitable choice.

4. You want to build an application from scratch and want a lot of control over how it works.

Django provides a high level of control and flexibility, allowing developers to customize and fine-tune various aspects of the application. It follows the "Don't Repeat Yourself" (DRY) principle and supports modular development, making it suitable for building applications from scratch. Django's extensive documentation and active community also provide resources and support for developers seeking control and customization.

5. You're about to start working on a big project and are afraid of getting stuck and needing additional support.

Django's popularity and large community make it a favorable choice for big projects where additional support may be needed. The vast Django community provides extensive documentation, tutorials, and community-driven packages, which can help developers overcome challenges and find solutions. The availability of third-party libraries and plugins also reduces the risk of getting stuck and provides additional support for complex project requirements.

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(web-dev) C:\Users\cotoj\Documents\Python>python --version
Python 3.8.7

(web-dev) C:\Users\cotoj\Documents\Python>
```

```
C:\Users\cotoj\Documents>cd Python

C:\Users\cotoj\Documents\Python>mkvirtualenv achievement2-practice
created virtual environment CPython3.8.7.final.0-64 in 4939ms
  creator CPython3Windows(dest=C:\Users\cotoj\Envs\achievement2-practice, clear=False, no_vcs_ignore=False, global=False)
  seeder FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle, via=copy, app_data_dir=C:\Users\cotoj\AppData\Local\pypa\virtualenv)
    added seed packages: pip==23.1, setuptools==67.6.1, wheel==0.40.0
  activators BashActivator,BatchActivator,FishActivator,NushellActivator,PowerShellActivator,PythonActivator

(achievement2-practice) C:\Users\cotoj\Documents\Python>
```

```
(web-dev) C:\Users\cotoj\Documents\Python>
(web-dev) C:\Users\cotoj\Documents\Python>py -m pip install Django
Collecting Django
  Downloading Django-4.2.1-py3-none-any.whl (8.0 MB)
     ---------------------------------------- 8.0/8.0 MB 4.4 MB/s eta 0:00:00
Collecting asgiref<4,>=3.6.0 (from Django)
  Downloading asgiref-3.7.2-py3-none-any.whl (24 kB)
Collecting sqlparse>=0.3.1 (from Django)
  Downloading sqlparse-0.4.4-py3-none-any.whl (41 kB)
     ---------------------------------------- 41.2/41.2 kB 1.9 MB/s eta 0:00:00
Collecting backports.zoneinfo (from Django)
  Downloading backports.zoneinfo-0.2.1-cp38-cp38-win_amd64.whl (38 kB)
Collecting tzdata (from Django)
  Downloading tzdata-2023.3-py2.py3-none-any.whl (341 kB)
     ---------------------------------------- 341.8/341.8 kB 7.2 MB/s eta 0:00:00
Collecting typing-extensions>=4 (from asgiref<4,>=3.6.0->Django)
  Downloading typing_extensions-4.6.2-py3-none-any.whl (31 kB)
Installing collected packages: tzdata, typing-extensions, sqlparse, backports.zoneinfo, asgiref, Django
Successfully installed Django-4.2.1 asgiref-3.7.2 backports.zoneinfo-0.2.1 sqlparse-0.4.4 typing-extensions-4.6.2 tzdata-2023.3

[notice] A new release of pip is available: 23.1 -> 23.1.2
[notice] To update, run: python.exe -m pip install --upgrade pip

(web-dev) C:\Users\cotoj\Documents\Python>
(web-dev) C:\Users\cotoj\Documents\Python>django-admin --version
4.2.1

(web-dev) C:\Users\cotoj\Documents\Python>python --version
Python 3.8.7

(web-dev) C:\Users\cotoj\Documents\Python>
```