

Django Workshop Introduction

Advanced Programming

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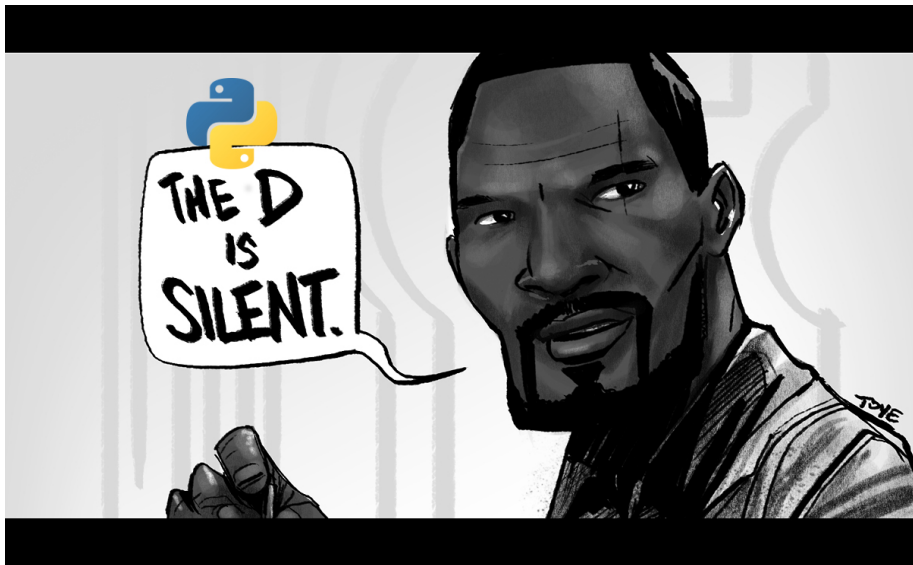
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Overview

- 1 What is Django
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- 2 Why Using Django?
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 - Equipped
 - Secure
 - Scalable
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What is Django

- ① Django is a free and open-source web framework written in python.
- ② It supports MVC architectural pattern.
- ③ Django Software Foundation is an independent organization who is responsible for the maintenance of django framework.



Free and Open-Source

- It was initially released by Adrian Holovaty and Simon Willson on 21 July 2005.
- Repository: github.com/django/django
- Website: www.djangoproject.com

Why Using a Framework?

Web Framework

A web framework is a group of software structures, designed to support development of web application. We as developers, use frameworks to be provided with a unique and standard approach.

- We can map requested URL from user to the code we have written.
- We can inject calculated values and information from database that leads to dynamic HTML files.

Why Coding in Python?

- There is a growing community of developers waiting for you.
- Less lines of code means less chance of facing bugs and easier maintenance over time.

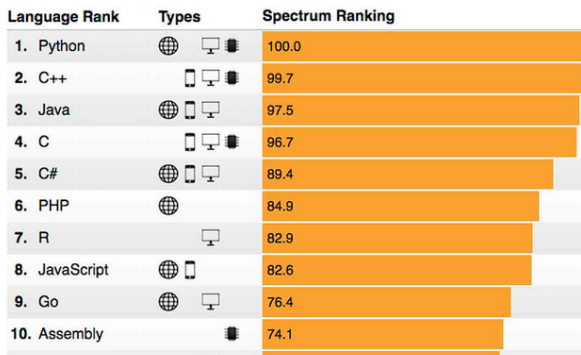


Figure: IEEE spectrum latest ranking

What is MVC or MVT?

MVC architectural pattern enables us to make Data layer, Presentation layer and Business Logic layer isolated. As a result our project will be easier to maintain and understand. It loosens the coupling between each layer of project and improves modularity and cohesion of code.

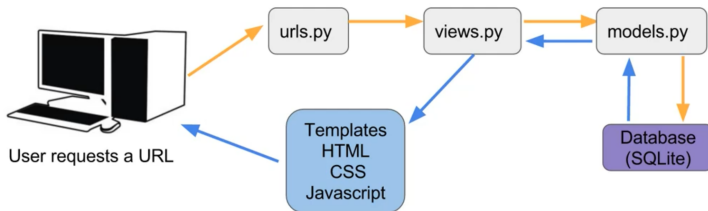
- "M" stands for Model. It is our gateway to database and `models.py` is responsible for this purpose.
- "V" stands for View. It is the representation of the application to the end user and Templates are responsible for this purpose.
- "C" stands for Control. It is the implementation of the underlying logic behind our project and `views.py` plays this role in a django project.

considering the beginning of names "`models.py`", "`views.py`" and "`templates`", makes it possible for us to use MVT and MVC interchangeably.

MVT in Practice

This is how a Django web application works:

(Very) High Level Overview of Django



Maintenance

- It is highly maintained by Django Software Foundation.
- The latest released version is 2.1.5 that has been committed in January 2019.
- There will be new features, bug-fixes and security improvements every now and then.
- there are dozens of free books, online tutorials and a strong documentation provided.

Why Using Django? (1)

- Low coupling, rapid development, and the principle of don't repeat yourself.
- Reusability of modules (apps) and pluggability of components (tools)



Ridiculously fast.

Django was designed to help developers take applications from concept to completion as quickly as possible.

Why Using Django? (2)

- Django Admin helps us authenticate users and other administrative work easily.
- Django officially supports four database backends: PostgreSQL, MySQL, SQLite, and Oracle.
- There are many servers who offer free deployment facilities for django projects.



Fully loaded.

Django includes dozens of extras you can use to handle common Web development tasks. Django takes care of user authentication, content administration, site maps, RSS feeds, and many more tasks — right out of the box.

Why Using Django? (3)



Reassuringly secure.

Django takes security seriously and helps developers avoid many common security mistakes, such as SQL injection, cross-site scripting, cross-site request forgery and clickjacking. Its user authentication system provides a secure way to manage user accounts and passwords.

Why Using Django? (4)



Exceedingly scalable.

Some of the busiest sites on the planet use Django's ability to quickly and flexibly scale to meet the heaviest traffic demands.

Why Using Django? (5)



Incredibly versatile.

Companies, organizations and governments have used Django to build all sorts of things — from content management systems to social networks to scientific computing platforms.

Django in Real World

Here are some of the most well-known websites using Django most of which are social networks:

- Public Broadcasting Service (PBS)
- Instagram
- Spotify
- YouTube
- Dropbox
- Mozilla
- The Washington Times
- Disqus
- Bitbucket
- Nextdoor
- Pinterest
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What Will We Do With Django?

In following sessions after getting familiar with basics of python and django, we will get into making a simple blog project. It has two major phases and we will add new features to it step by step. Finally, you can develop your own blog website for sharing your posts, curriculum vitae etc.

References

[https://en.wikipedia.org/wiki/Django-\(web-framework\)](https://en.wikipedia.org/wiki/Django-(web-framework))

<https://www.djangoproject.com/>

The End