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Django Web Framework Using Python

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ABSTRACT: Web developer use a Web framework for building applications that interface with Web and database servers. So one of the most popular framework for python is Django. Django is very demanding web framework due to its most rapid development feature. It takes less time to build applications. By using Django, we can build web application in a very less time. A web framework is a set of components which helps you to develop websites faster and easier. When you are building a websites, you always need a similar set of components: a way to handle user authentication (signing in, signing out), a management of panel for your website and forms and a way to upload more files etc. We use the Django framework because Django is fast, simple and secure and it suits any web application project. It is well established. One of the Django's main goal is to simplify work for developers. Security is also priority for django so that we can build the applications securely with Django. With the help of Django web framework, you can tackle your projects of any size, whether it is simple website or high load web applications. This paper take look in Django and taking focus on Django popularity and reasons behind becoming popular in market. Here, we present review on Django web framework that will help you to know more about Django.

KEYWORDS: Django, Features, Pros and Cons.

I. INTRODUCTION

Web framework that means you can build your web applications. But see, our websites are so important right! Django was released on 21, July 2005. Django is one of the most popular free and open source web application framework. Framework is nothing but a combination of components and packages. If you want to build some complex applications there are so many things you need it ready-made. Example- you want to build web applications you don't want to do everything from scratch because it will be time consuming right, so we will be using framework here now Django is not only framework available, the moment you say web app we have certain frameworks so one of the famous is Django. As we know Django is a web application course right. If you talk about any Business they need their own online presence, in fact most of the virtual solutions which we use now –a-days are web applications. example-if you want to buy something online we have amazon, flipkart etc we have so many applications available which are based on web. If you want to make your website as dynamic so we use Django to build application as a backend part in python. Now when it comes to web application one thing is very famous which is MVC, doesn't matter which language you learn we have this common MVC(Model View Controller). We have model for data, we have view-the html format you see on the screen, and the controller which will control the operations. MVC will help you to build good web applications. But In Django we have something similar to MVC not exactly MVC which we normally call as MVT or MTV which is Model View Template. Django follow MVT. [5]

II. LITERATURE SURVEY

Django is a python based web framework “for perfectionists with deadlines “ which is based on MVC design pattern Django handles the common web development task, is exceedingly fast and scalable, secure, and incredibly versatile (Django Software Foundation 2015c) – making it a tool for rapid development of web application with clean and maintainable codes.

In MVC design pattern, the models in Django represent the data models in the backend whereas the templates represent the view. Django framework adopts the philosophy of loose coupling so that different parts of a systems are loosely dependent on each other. hence a single part of the system has a single role which can easily be replaced with many more similar functional components. [7]

A. Django Philosophy

As mentioned above, loose coupling is one of the fundamental philosophy of Django Web Framework which enables so many different stacks of the framework to work in cohesion but it also independent of one another

whenever it is possible. For example, the URL's in Django are independent of the python code that generates view and it can be changed without changing a single line in view codes.

See here, Less code is another Django design philosophy promoting the use of as less code as possible. Here, quick development is yet another philosophy which can be summarized with "for perfectionists with deadlines" tag line. In Django, code repetition is not allowed as it is mentioned in DRY ("Don't Repeat Yourself") philosophy. [4]

B. Why Django?

Most of the time, a framework handles common web development tasks. Using Django the developers emphasize the specific aspects of the application because they are developing web development frequently rather than implementation. As being a python web framework, it follows python's "batteries included" philosophy which might not be implemented in other frameworks.

Additionally, Django has a great community and well documentation which makes easier for beginners by enticing in real project development tasks.. the information about so many different django communities can be found in officially django project site. Django also has a built in admin panel so that users can manage site and other database objects. It is also possible to be familiar with data models from the django shell. [3]

III. FEATURES OF DJANGO

1. Excellent Documentation : Documentation is one of the main reasons to **start learning Django**. Suppose If we compare Django with other open source technologies, it offers you the best documentation in the market.

Better way of documentation of any technology is like a very well-established library for any developer. So that he can search for any type of function which is desired with ease with the time involving in the searching purpose only. The documentation of technology is also one of the best categories to grade a technology, because it lets other developers other than its own creators to efficiently utilize the technology.

2. SEO optimised : SEO is nothing but a Search Engine Optimization as from the name it means that adding your websites to the search engine so that it appears in the top results. The search engine uses some algorithms which are sometimes does not co-operate web-developers. Since we are creating different kind of websites in the human understandable form and they have to add it in the URL form on the server so that it is the best recognized by the search engine.

3. Versatile In Nature : It is very versatile in its own Django way. The logical project structure and Model view template architecture of Django sometimes we seem very limitless. But, it is just opposite because by giving us the different files, it is providing us with a solid foundation, which can be used to make whatever application we want to create.

4. Thoroughly Tested : It is properly tested, Whenever we are learning a new technology, we want it to be durable and powerful enough to make the dynamic changes which are happening in the industry. Well, Django achieves that task with the flying colors. "Django is in the industry for more than a decade and it is still popular technology which is beating and popular than other web frameworks. More number of MNCs and all over the world uses this framework for creating projects so that we can say that it works well to handle all the traffics and it is also accomplish international standards.

5. Python Web Framework : Python is also one of the main reasons for people because of this language they started learning Django. It is that one tool which can solve all your problems and in any kind of operation, we can use it. It's very simple and easy to use. All these features are inside Python.

6. High Scalability : A lot of MNCs on a worldwide uses Django framework because it is get implemented there without any defects or errors. It is the best example of Django being scalable, it has the high scalability.

7. High Security : Django is super secure. To prove this high security feature, you can always take a examples of lots of websites which are worldwide and support huge traffic. Django is secure because it covers the loopholes which were once left open for the backend developers to complete. while working in Django you may not feel it but the expert and the backend developers can tell the quality and security of the work which is done by Django so that it is highly secure.

8. Rapid Development : Rapid development means that we will not need expert backend knowledge to make a fully functional websites. We will also not create separate server files to design the databases and you can connect the same while also making another file for transferring data from the server. Django handles this work very securely and a lot of other tasks. We will not need extra files for each task. [1]

IV. USES OF DJANGO

I am gonna list out some of the tech companies that actually use django so if I go through my list here I listed out nine ,we have Youtube, dropbox, google, quora, reddit , instagram , pinterest ,disqus , so that should give you an idea of the type of websites that can actually be built with it and the scalability. [6]



V. ADVANTAGES OF DJANGO

1. Fast: Django is very fast web framework .It supports model template view architecture . this framework encourage rapid web development .it take care of many we development so that you can focus on writing a web app.

2. Fully Loaded: Django is fully loaded. Django includes various types of helping modules and libraries which can be use to handle web development tasks. Django takes care of user authentication,site maps etc.

3. Secure: Django is responsible to take security and it helps developers to avoid many common security mistakes, such as SQL injection, cross –site scripting etc. it is user authentication system which provides a secure way to manage user accounts and passwords.

4. Scalable: Django is extremely scalable in nature . It allows yo to scale your applications horizontally after that you will able to support millions of requests as we have seen in number of applications like instagram,bitbucket etc. and we have the the ability means we can flexibly switch from small to large scale applications projects.

5. Versatile: Django web framewok is very versatile in nature . It allows to build applications for different domains. Now – a- days , various companies are using django to build different applications like :Content management, scientific computing platforms, etc. [2]

VI. DISADVANTAGES OF DJANGO

There are many disadvantages of Django mentioned below.

1. Uses routing patterns specify its URL
2. Django is too monolithic.
3. Everything is based on Django ORM.
4. Components get deployed together.
- 5.While maintaining backward compatibility ,its moving far too slowly. [2]



VII. CONCLUSION

Django web framework is an excellent choice for any developer . there are many developers who wants to build modernand robust web applications with a minimum amount of code. It is also popular, under the active development, and thoroughly battle-tested by the largest websites in the whole world. So far, I loved the Django. Everything is simple, easy to follow and learn but sometimes you would have to think deep down to understand how Django do certain things and by then you would have gained enough experience so you will not stress about it.

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