

Student's Name

Professor's Name

Course

Date

Website Development in Python, Django

In the past, websites would be developed from scratch. Usually, it would take a very long time to come up with a fully working website. The time taken would make the developers concentrate more on delivering the website and ignore other important things like security. Modern website development embraces the use of frameworks to simplify the development process. Django is a modern backend website development framework that is built upon the python programming language.

Django follows a unique architecture of Model-View-Controller (MVC) called Model-View-Template (MVT). This architecture addresses the separation of concerns. The models define the database design, the views define the business logic, while the templates constitute the website's frontend (Burch 154).

OWASP top 10 are security concerns when it comes to website development. Django addresses the concerns, lets have a look at how Django handles SQL injection and cross-site scripting. Django handles database operations in a parameterized manner. Data input in forms also undergoes data sanitization in an attempt to prevent SQL injection. When it comes to cross-site scripting, the use of forms mandates a valid cross site reference forgery token. (Alchin et al, 27)

```
{% extends "base.html" %}
{% load crispy_forms_tags %}
{% block content%}
```

```

<div style="margin-top: 70px;">
  <h2>Add a category</h2>

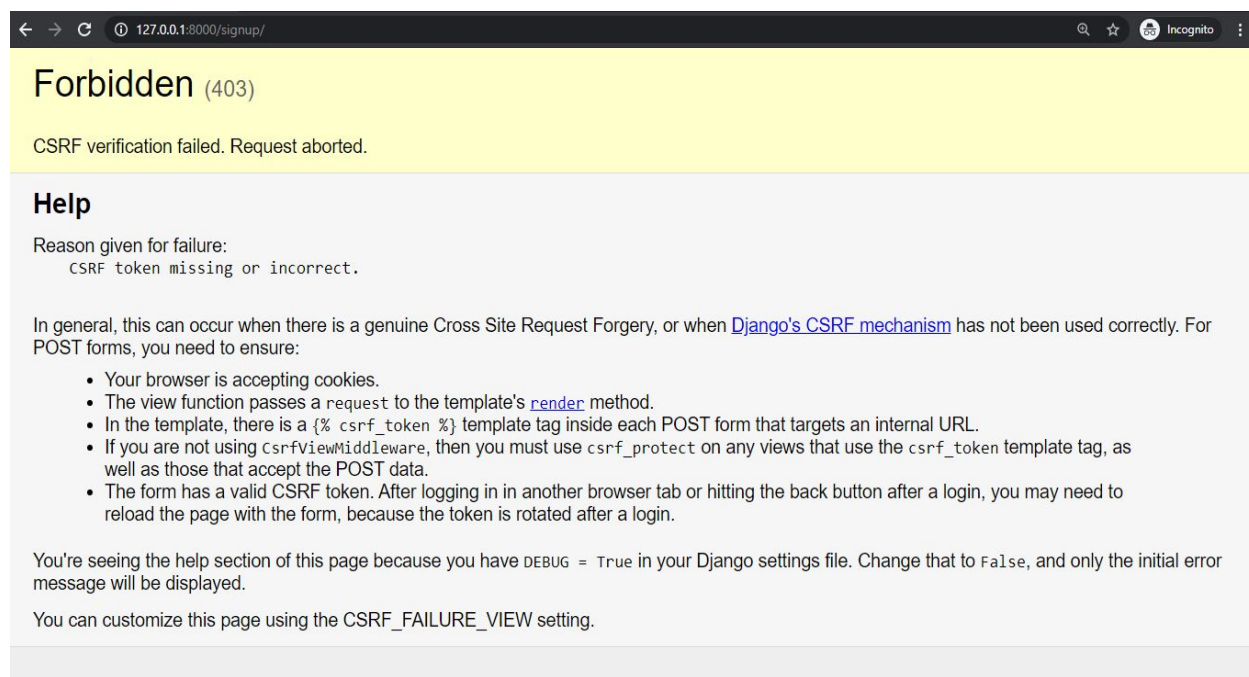
  <form action="" method="post">
    {% csrf_token %}
    <p name="chei" class="form-control">
      {{ form|crispy }}
    </p>

    <input type="submit" value="Submit" />
  </form>
</div>

{% endblock content%}

```

Failure to have one Django gives an error like in this screenshot:



When it comes to the frontend, Django uses jinja templating which allows developers to write DRY code by employing template inheritance. HTML can be used to define the repeating parts of a website like the Navigation bar. The code snippet below is for a file named base.html.

```

<!doctype html>
<html>

```

```

<head>
<title>Africa Golf Awards</title>
<meta name="viewport" content="width=device-width, initial-scale=1,
shrink-to-fit=no">
{% include 'snippets/css.html' %}

</head>
<body>
    {% include 'snippets/nav.html' %}

    {% block content%}

    {% endblock content %}
    {% include 'snippets/footer.html' %}

    {% include 'snippets/js.html' %}

</body>
</html>

```

Here is a code snippet for index.html which inherits from base.html:

```

{% extends "base.html" %}

{% block content%}

<div id="home" class="container-fluid">

<div class="row">
<div id="tron" class="jumbotron container col-10 offset-1"
style="text-align:center; height:400px width:400px; opacity:0.75;" >
    <h1 class="display-4">African Golf Awards.</h1>
    <p class="lead">{{name}} </p>
    <hr class="my-4">
    <p class="lead">Vision: To Integrate Africa Through The Game Of Golf.</p>
    <a class="btn btn-primary btn-lg" href="#" role="button">Learn more</a>
</div>

</div>
</div>

{% endblock content%}

```

Django being built upon python; it integrates other technologies like machine learning easily being Python-based as well. The integration being logic bases should be incorporated in the views.py. Below is an example of integrating Django with Raspberry Pi.

```
def kc(request):  
    message=""  
  
    if GPIO.input(channel):  
        message="Water The Farm"  
        print( " No Water Detected!")  
    else:  
        message="Water Level is Okay"  
        print( "Water Detected!")  
    return  
render(request, 'irrigation.html', {'msg':message, 'hum':hum, 'temp':temp})
```

In conclusion, the advantages Django present to developers makes it a handy tool to learn and implement. A deep dive can help one overcome challenges like limited customization.

Works Cited

Alchin, Marty, Jacob Kaplan-Moss, and George Vilches. *Pro Django*. Vol. 2. Apress, 2013.

Burch, Carl. "Django, a web framework using python: Tutorial presentation." *Journal of Computing Sciences in Colleges* 25.5 (2010): 154-155.



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