PROJECT REPORT OF BUILDING NEWS WEBISTE BY DJANGO FRAMEWORK

By

Puneet Gupta
Vikash Kumar
Pratyush Ratan
Vishwanath Sharma

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G. B. Pant Govt. Engineering College

This report will have submitted to an Assistant Professor of CSE Department Mr. Manjeet Pangtey

Abstract

This report introduces the process of creating part of a News Website which is a data-driven website used by the normal daily life newsreaders. This website has two major components: About Django framework and image of my Django project result. We implement the major part of the group component and minor part of marking component and the implementation details will explained in the report. The implementation uses a tool called Django Framework, which is an excellent open source framework for complex data-driven website development. The major part of this report will introduce how to use Django to create a database table, web page user interface and inner logic to handle user request by going through the group, permission and users component implementation process.

Contents

Chapter 1

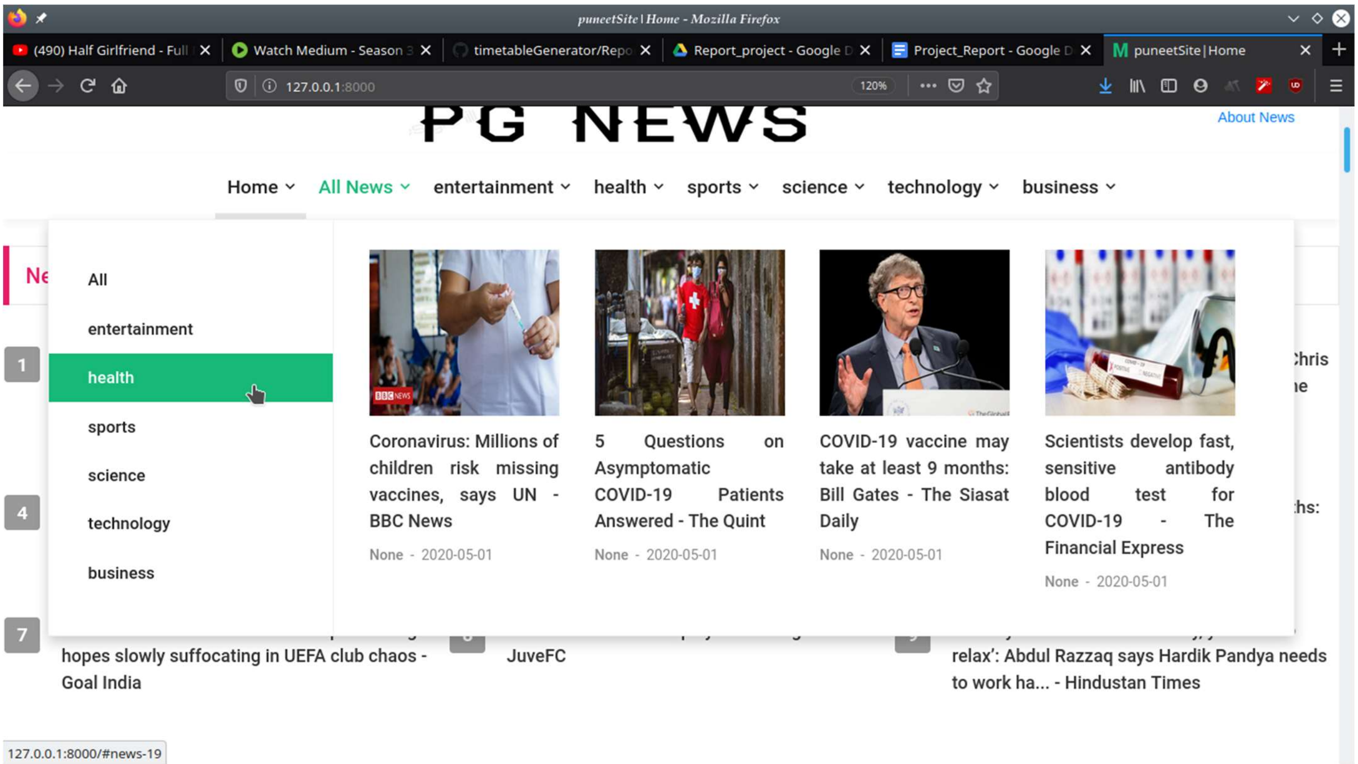
Introduction

This project report will introduce how to build part of a news website using the Django framework. Django is an open source web application framework, which is written in Python. This news website built using Django has four major components each of which has different functionality but similar architecture. In the project report, I will demonstrate details of using Django to build one major component of this system: the group component, which is my major contribution to the whole system. In addition, the technique and process, which showed here, can applied to build the other one components in the news website as well as other complex database-driven websites

This system built using Django web application framework. Django originally developed for the news-oriented site of the world company in Lawrence, Kansas. It simplifies the development process of complex, database driven web applications like a news-oriented site. Its well-designed framework includes three major parts: model, view and template. Our News Website consists of two components, which are admin Panel and Front GUI. Each component contains those three parts. When we develop the News website, we design the model of the relative component for data architecture, then the template for user interface, at last we implement the view, which includes all the functions.

1.1 Limitation

Complex websites such as the News Website usually take some time to test and validate. The system may have some potential bugs or flaws because of the development time constraint. However, because of the powerful functionality of Django, these bugs or flaws can removed.



Coronavirus: Millions of children risk missing vaccines, says UN - BBC News

None - 2020-05-01

5 Questions on Asymptomatic COVID-19 Patients Answered - The Quint

None - 2020-05-01

COVID-19 vaccine may take at least 9 months: Bill Gates - The Siasat Daily

None - 2020-05-01

Scientists develop fast, sensitive antibody blood test for COVID-19 - The Financial Express

None - 2020-05-01

hopes slowly suffocating in UEFA club chaos - Goal India

JuveFC

relax': Abdul Razzaq says Hardik Pandya needs to work ha... - Hindustan Times

Chapter 2

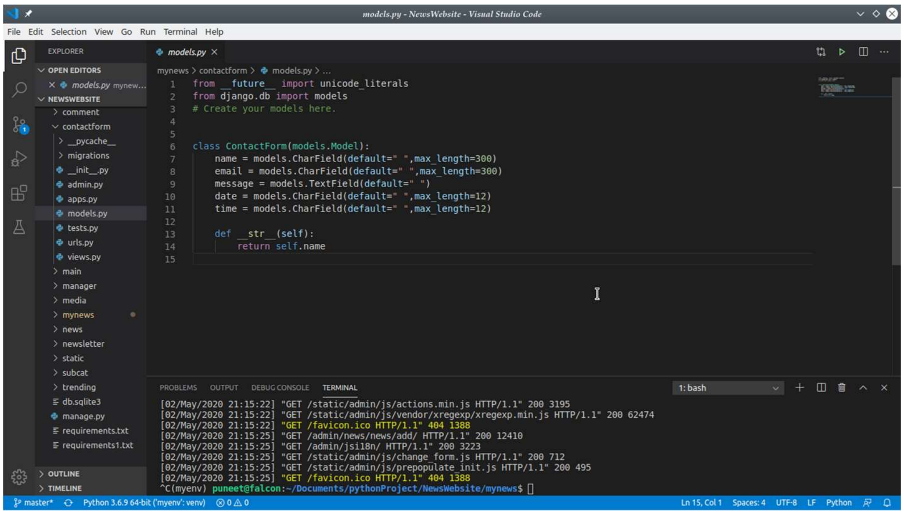
Preliminary

2.1 Django framework

Django is an open source framework written in Python. The primary goal of Django is to make the development of complex, databased websites easier. Thus, Django emphasizes the reusability and plug ability of components to ensure rapid developments. Django consists of three major parts: model, view and template.

2.1.1 Model

Model is a single, definitive data source, which contains the essential and behaviour of the data. Usually one model is one table in the database. Each attribute in the model represents an eld of a table in the database. Django provides a set of automatically generated Application Programming Interfaces (APIs) for the convenience of users.

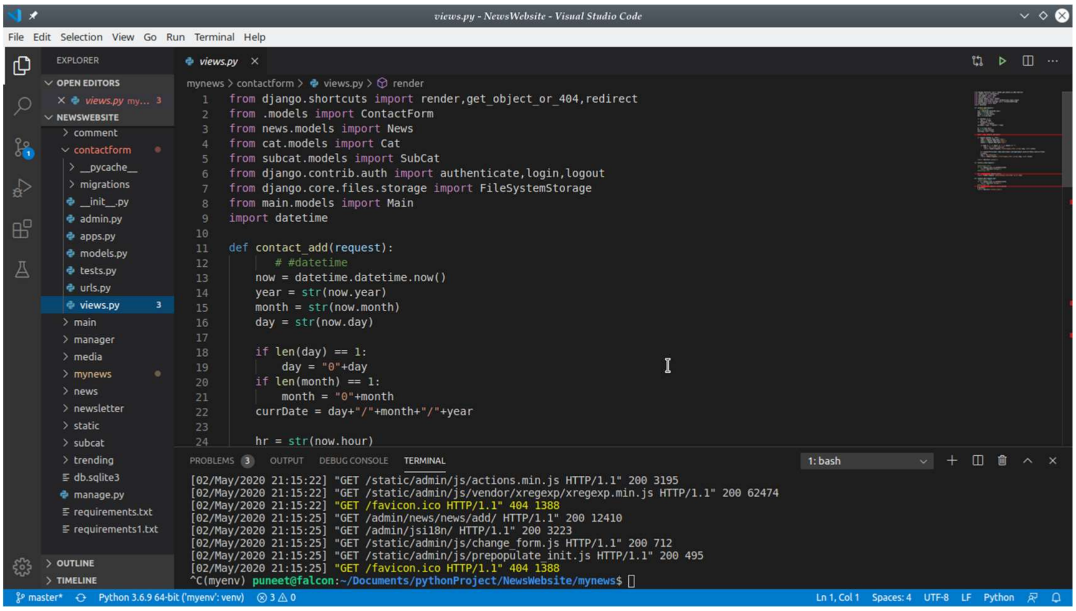


```python
from __future__ import unicode_literals
from django.db import models
# Create your models here.


class ContactForm(models.Model):
    name = models.CharField(default=" ",max_length=300)
    email = models.CharField(default=" ",max_length=300)
    message = models.TextField(default=" ")
    date = models.CharField(default=" ",max_length=12)
    time = models.CharField(default=" ",max_length=12)

    def __str__(self):
        return self.name

```

```
[02/May/2020 21:15:22] "GET /static/admin/js/actions.min.js HTTP/1.1" 200 3195
[02/May/2020 21:15:22] "GET /static/admin/js/vendor/xregexp/xregexp.min.js HTTP/1.1" 200 62474
[02/May/2020 21:15:22] "GET /favicon.ico HTTP/1.1" 404 1388
[02/May/2020 21:15:25] "GET /admin/news/news/add/ HTTP/1.1" 200 12410
[02/May/2020 21:15:25] "GET /admin/jsi18n/ HTTP/1.1" 200 3223
[02/May/2020 21:15:25] "GET /static/admin/js/change_form.js HTTP/1.1" 200 712
[02/May/2020 21:15:25] "GET /static/admin/js/prepopulate_init.js HTTP/1.1" 200 495
[02/May/2020 21:15:25] "GET /favicon.ico HTTP/1.1" 404 1388
^C(myenv) puneet@falcon:~/Documents/pythonProject/NewsWebsite/mynews$ 
```

2.1.2 View

View is short form of view file. It is a file containing Python function, which takes web requests and returns web responses. A response can be HTML content or XML documents or a \404 error" and so on. The logic inside the view function can be arbitrary as long as it returns the desired response. To link the view function with a particular URL we need to use a structure called URLconf, which maps URLs to view functions.

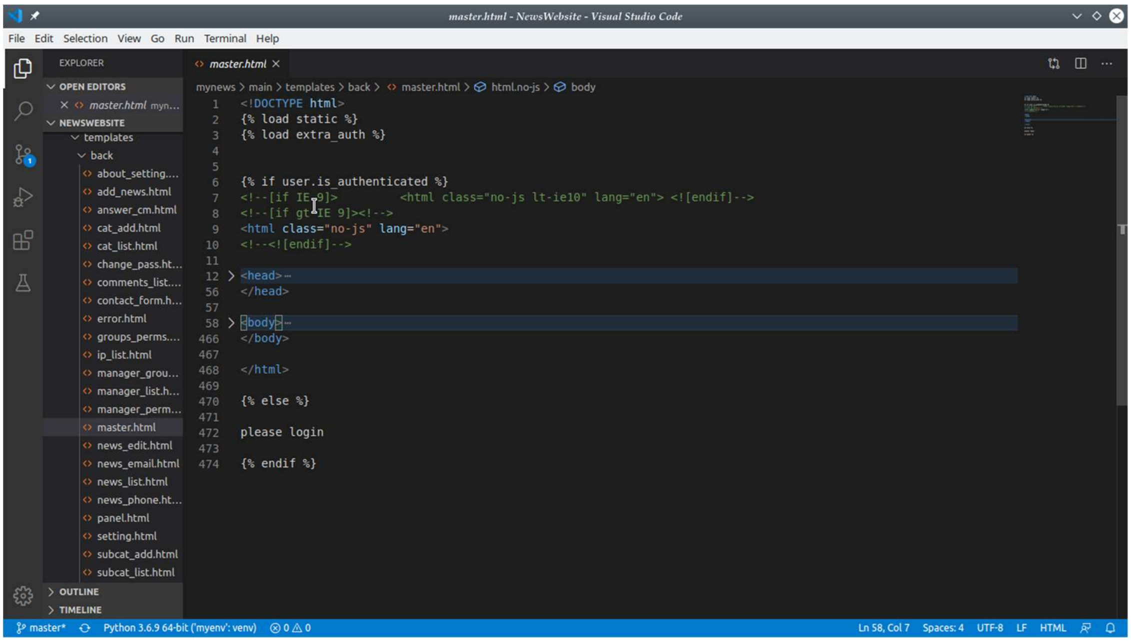


```python
from django.shortcuts import render,get_object_or_404,redirect
from .models import ContactForm
from news.models import News
from cat.models import Cat
from subcat.models import SubCat
from django.contrib.auth import authenticate,login,logout
from django.core.files.storage import FileSystemStorage
from main.models import Main
import datetime

def contact_add(request):
        # #datetime
    now = datetime.datetime.now()
    year = str(now.year)
    month = str(now.month)
    day = str(now.day)

    if len(day) == 1:
        day = "0"+day
    if len(month) == 1:
        month = "0"+month
    currDate = day+"/"+month+"/"+year

    hr = str(now.hour)
```

```
[02/May/2020 21:15:22] "GET /static/admin/js/actions.min.js HTTP/1.1" 200 3195
[02/May/2020 21:15:22] "GET /static/admin/js/vendor/xregexp/xregexp.min.js HTTP/1.1" 200 62474
[02/May/2020 21:15:22] "GET /favicon.ico HTTP/1.1" 404 1388
[02/May/2020 21:15:25] "GET /admin/news/news/add/ HTTP/1.1" 200 12410
[02/May/2020 21:15:25] "GET /admin/jsi18n/ HTTP/1.1" 200 3223
[02/May/2020 21:15:25] "GET /static/admin/js/change_form.js HTTP/1.1" 200 712
[02/May/2020 21:15:25] "GET /static/admin/js/prepopulate_init.js HTTP/1.1" 200 495
[02/May/2020 21:15:25] "GET /favicon.ico HTTP/1.1" 404 1388
^C(myenv) puneet@falcon:~/Documents/pythonProject/NewsWebsite/mynews$ 
```

2.1.3 Template

Django's template is a simple text file, which can generate a text-based format like HTML and XML. The template contains variables and tags. Variables will replaced by the result when the template evaluated. Tags control the logic of the template. We also can modify the variables by using filters. For example, a lowercase filter can convert the variable from uppercase into lowercase.



```
<!DOCTYPE html>
{% load static %}
{% load extra_auth %}


{% if user.is_authenticated %}
<!--[if IE 9]>          <html class="no-js lt-ie10" lang="en"> <![endif]-->
<!--[if gt IE 9]><!-->
<html class="no-js" lang="en">
<!--<![endif]-->

<head>⋯
</head>

<body>⋯
</body>

</html>

{% else %}

please login

{% endif %}
```

2.2 Python

Python is the language used to build the Django framework. It is a dynamic scripting language similar to Perl and Ruby. The principal author of Python is Guido van Rossum. Python supports dynamic typing and has a garbage collector for automatic memory management. Another important feature of Python is dynamic name solution, which binds the names of functions and variables during execution.

Chapter 3

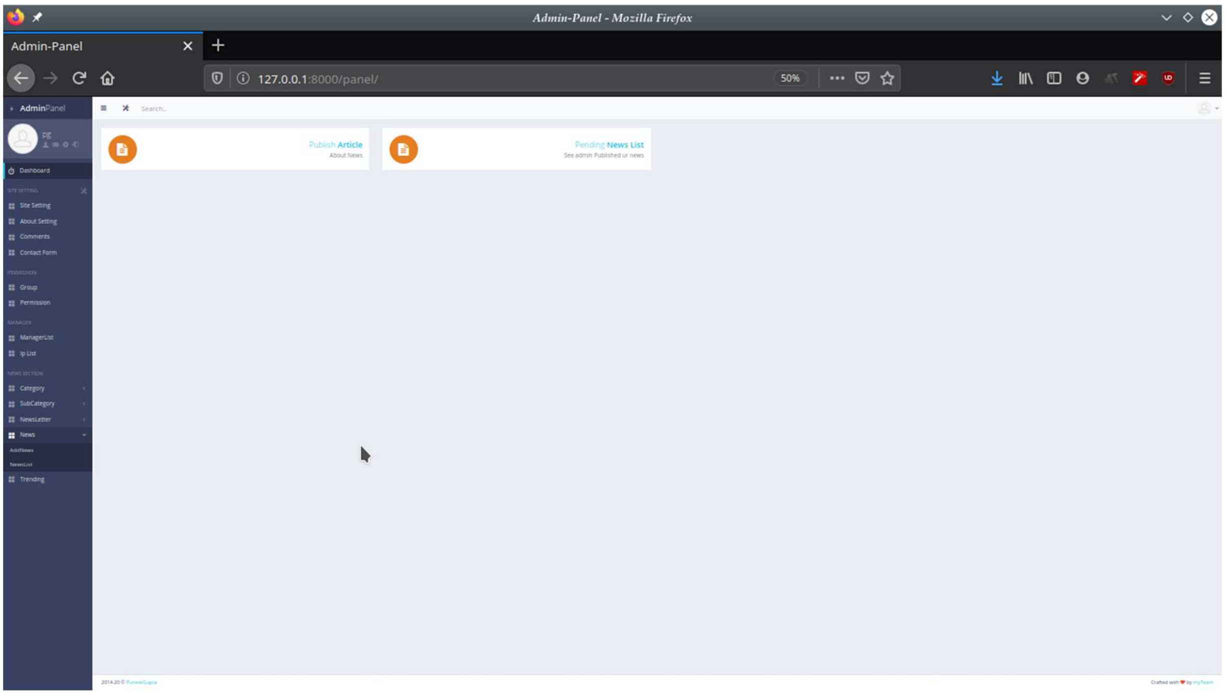
Project overview

3.1 An overview of the project

Our desired result of the News Website is an integrated web-based system combining several current systems in use. It will include the following two major components:

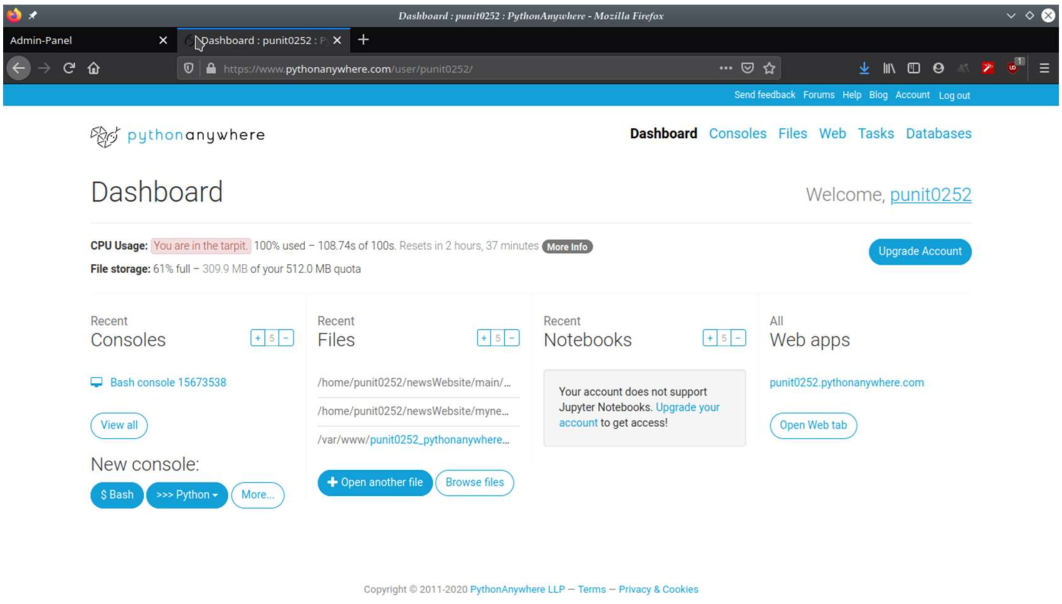
Admin Panel:

In This Admin Panel i introduce approx. 12 news links in panel as u can see in below screenshot of my news website and every button has add ,delete or edit functionality and advanced security feature also introduce to limit the users to get access of my functions like users is not able to see news list of admin and users not able to publish the news only admin has ability to allow users to publish the news and comment.



Deploy the website:

We deploy the website at python anywhere at beginner permission for 3 year hosting.



Dashboard : punit0252 : PythonAnywhere - Mozilla Firefox
Admin-Panel
Dashboard : punit0252 : P
https://www.pythonanywhere.com/user/punit0252/
Send feedback
Forums
Help
Blog
Account
Log out
pythonanywhere
Dashboard
Consoles
Files
Web
Tasks
Databases

Dashboard

Welcome, punit0252

CPU Usage: You are in the tarpit. 100% used – 108.74s of 100s. Resets in 2 hours, 37 minutes More Info

File storage: 61% full – 309.9 MB of your 512.0 MB quota

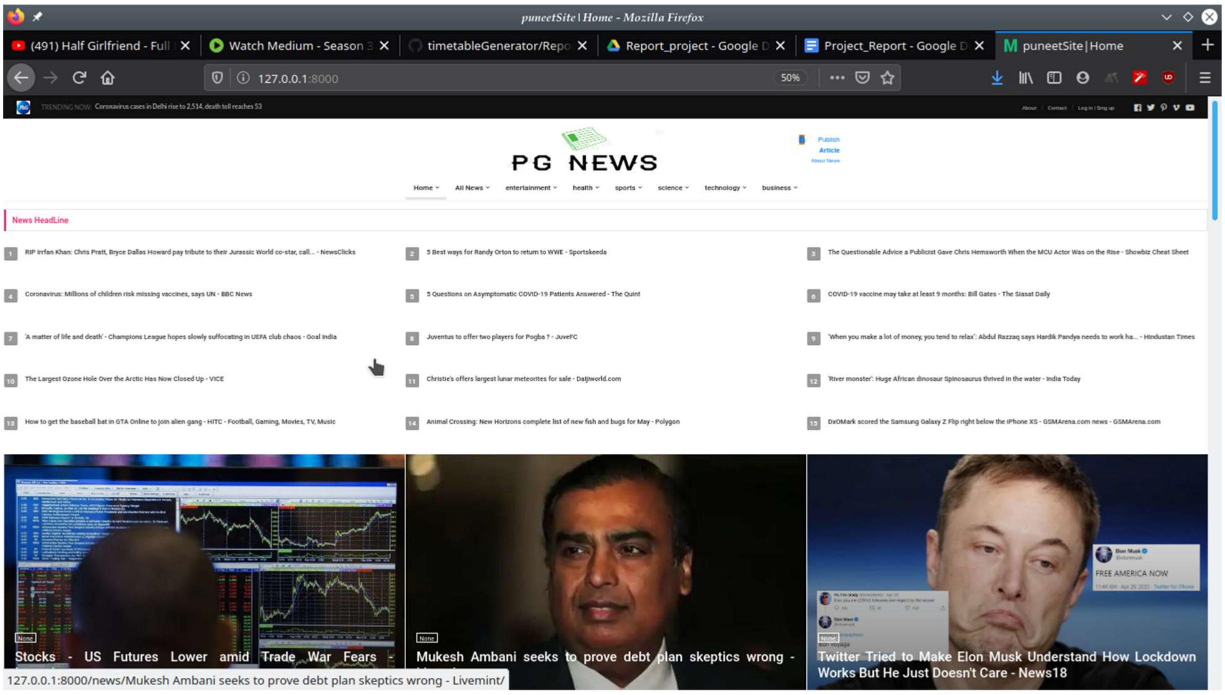
/home/punit0252/newsWebsite/main/...
/home/punit0252/newsWebsite/myne...
/var/www/punit0252_pythonanywhere...

Your account does not support Jupyter Notebooks. Upgrade your account to get access!

Copyright © 2011-2020 PythonAnywhere LLP — Terms — Privacy & Cookies

Front GUI of Website:

The GUI of my website i take help from different website and readymade templates or use WordPress to build the responsive website.



TRENDING NOW: Coronavirus cases in Delhi rise to 2,514, death toll reaches 53

News HeadLine

1 RIP Irrfan Khan: Chris Pratt, Bryce Dallas Howard pay tribute to their Jurassic World co-star, call... - NewsClicks

2 5 Best ways for Randy Orton to return to WWE - Sportskeeda

3 The Questionable Advice a Publicist Gave Chris Hemsworth When the MCU Actor Was on the Rise - Showbiz Cheat Sheet

4 Coronavirus: Millions of children risk missing vaccines, says UN - BBC News

5 5 Questions on Asymptomatic COVID-19 Patients Answered - The Quint

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10 The Largest Ozone Hole Over the Arctic Has Now Closed Up - VICE

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13 How to get the baseball bat in GTA Online to join alien gang - HITC - Football, Gaming, Movies, TV, Music

14 Animal Crossing: New Horizons complete list of new fish and bugs for May - Polygon

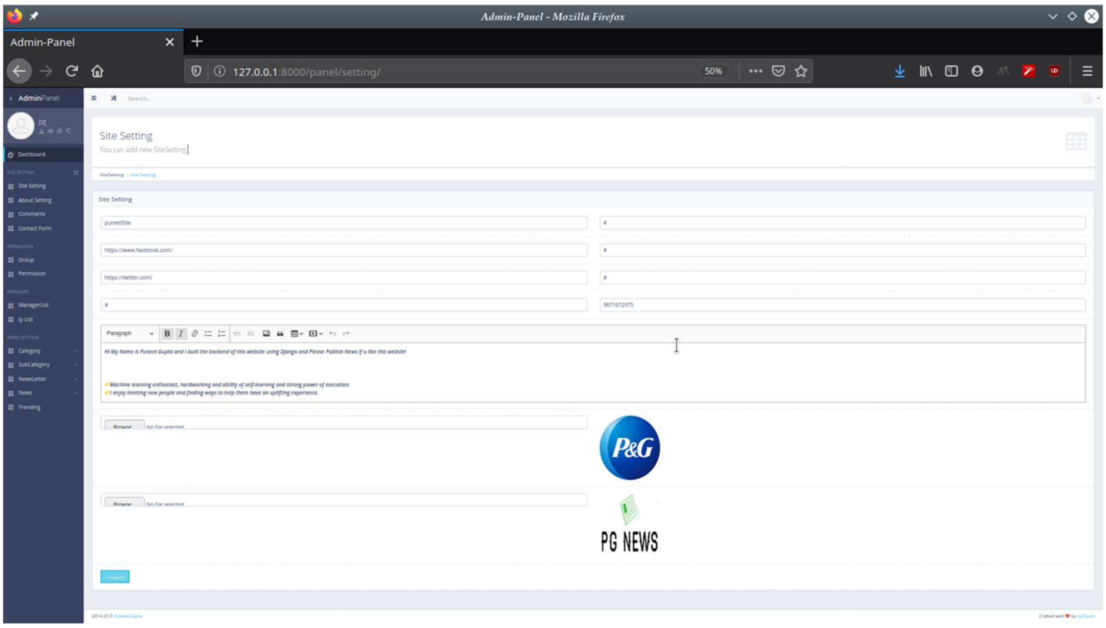
15 DxOMark scored the Samsung Galaxy Z Flip right below the iPhone XS - GSMArena.com news - GSMArena.com

None
Stocks - US Futures Lower amid Trade War Fears -

None
Mukesh Ambani seeks to prove debt plan skeptics wrong -

None
Twitter Tried to Make Elon Musk Understand How Lockdown Works But He Just Doesn't Care - News18

127.0.0.1:8000/news/Mukesh Ambani seeks to prove debt plan skeptics wrong - Livemint/



Site Setting

puneetSite | #

https://www.facebook.com/ | #

https://twitter.com/ | #

| 9871672975

Hi My Name is Puneet Gupta and I built the backend of this website using Django and Please Publish News if u like this website

Machine learning enthusiast, hardworking and ability of self-learning and strong power of execution.
I enjoy meeting new people and finding ways to help them have an uplifting experience.

3.2

An overview of the Django framework development process

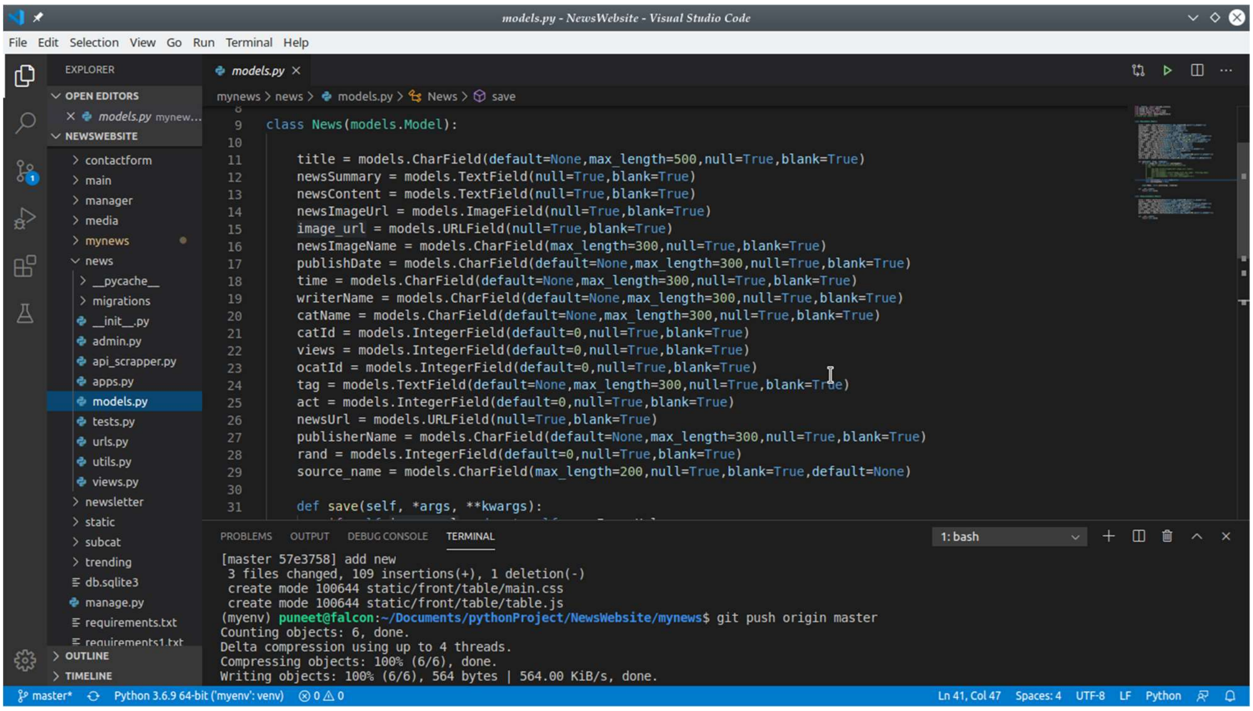
To build such a complicated web system, we need three major parts for each component: database, user interface and the functions to interact. Django framework provides sufficient functionalities to implement these three parts. Corresponding to database, user interface and functions in between, Django has model, template and view components to deal with each part respectively. Django's model component helps programmer to define and maintain tables in the database, while its template component helps to write html files using a combination of both html syntax and Django syntax. For those functions in between, Django provides a view component, which reads the input from user interface and makes corresponding changes in the database.

Chapter 4

4.1 Create the database tables

To get started, we need to create a backend of the system, which is the database. All the tables in the database for this news website include information for news content, title, summary author name, date, time so forth. These tables created initially when the news website deployed. Some information input into the database at the beginning; however, most information will inserted or updated in the database dynamically (For example, creating a group). Every time we want to create a new group, we will insert a tuple into the Group table to make the database consistent with the real world.

To have a Group table in the database, we rest need to choose which database we are going to use. Django supports almost all popular databases such as MySQL, sqlite3, and oracle. The one we used for this news website is sqlite3. We only need to write one sentence to setup the database:



```python
class News(models.Model):

    title = models.CharField(default=None,max_length=500,null=True,blank=True)
    newsSummary = models.TextField(null=True,blank=True)
    newsContent = models.TextField(null=True,blank=True)
    newsImageUrl = models.ImageField(null=True,blank=True)
    image_url = models.URLField(null=True,blank=True)
    newsImageName = models.CharField(max_length=300,null=True,blank=True)
    publishDate = models.CharField(default=None,max_length=300,null=True,blank=True)
    time = models.CharField(default=None,max_length=300,null=True,blank=True)
    writerName = models.CharField(default=None,max_length=300,null=True,blank=True)
    catName = models.CharField(default=None,max_length=300,null=True,blank=True)
    catId = models.IntegerField(default=0,null=True,blank=True)
    views = models.IntegerField(default=0,null=True,blank=True)
    ocatId = models.IntegerField(default=0,null=True,blank=True)
    tag = models.TextField(default=None,max_length=300,null=True,blank=True)
    act = models.IntegerField(default=0,null=True,blank=True)
    newsUrl = models.URLField(null=True,blank=True)
    publisherName = models.CharField(default=None,max_length=300,null=True,blank=True)
    rand = models.IntegerField(default=0,null=True,blank=True)
    source_name = models.CharField(max_length=200,null=True,blank=True,default=None)

    def save(self, *args, **kwargs):
```

```
[master 57e3758] add new
 3 files changed, 109 insertions(+), 1 deletion(-)
 create mode 100644 static/front/table/main.css
 create mode 100644 static/front/table/table.js
(myenv) puneet@falcon:~/Documents/pythonProject/NewsWebsite/mynews$ git push origin master
Counting objects: 6, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 564 bytes | 564.00 KiB/s, done.
```

DATABASE_ENGINE = ’sqlite3’

Next, we create the Group table in the database. Django uses a class called model[R] to represent the database table schema. To create a table we just need to write a new class derived from model class. Here is an example:
This piece of code creates a table called group, which stores the information of groups in courses. The table has three columns: name corresponding to the name of the group; manager corresponding to the group manager; news corresponding to my news website.

Figure: Group table in database

The group component has two tables of its own, both of which used in the creating group process. They are Group table, which has already introduced above, and Group Member table, which represents the memberships of students in the group. I will skip the details of the Group Member table since it has a similar structure to the Group table.

Chapter 5

5.1 Conclusion

The Django framework gives us a simple and reliable way to create the News Website. It provides powerful functionalities and concise syntax to help programmers deal with the database, the web page and the inner logic. The experience of developing the group component in the system also helped me learning a lot of website development with Django. Within the Django framework, we have successfully accomplished the requirements of the system.

Bibliography

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