PROJECT REPORT OF BUILDING

NEWS WEBISTE

BY DJANGO FRAMEWORK

by

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a Report submitted for web technology project in
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Abstract

This report introduces the process of creating part of a News Webisite which is a data-driven website used by the Normal daily life news reader. This website has two ma-jor components: about django framework and image of my django project result. The major part of the group component and minor part of marking component are implemented by me and the implementation details will be introduced in the report. The implementation uses a tool called Django Framework which is an excellent open source web application frame work 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 frame work which is written in Python. This news webiste 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. Also the technique and process which is showed here can be applied to build the other one components in the news website as well as other complex database-driven websites.

This system is built using Django web application framework. Django was originally devel-oped for the news-oriented site of the world company in Lawrence, Kansas. It simpli es the development process of complex, data-base 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 webiste, 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 aws because of the development time constraint. However because of the exibility and powerful functionality of Django, these bugs or aws can be xed.

PG NEWS

About News

Home ⌄   All News ⌄   entertainment ⌄   health ⌄   sports ⌄   science ⌄   technology ⌄   business ⌄

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All

entertainment

health

sports

science

technology

business

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

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

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

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hopes slowly suffocating in UEFA club chaos - Goal India

JuveFC

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

127.0.0.1:8000/#news-19

Chapter 2
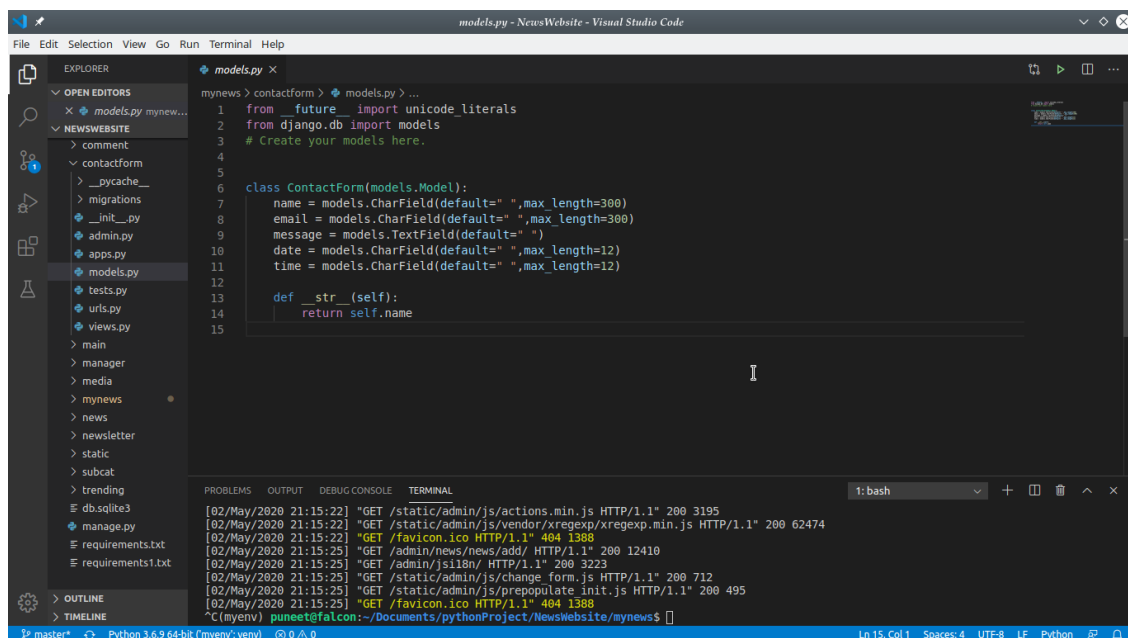
Preliminary

2.1 Django framework

Django is an open source web application frame work written in Python. The primary goal of Django is to make the development of complex, data-based websites easier. Thus Django emphasizes the reusability and pluggability of components to ensure rapid developments. Django consists of three major parts: model, view and template.

2.1.1 Model

Model[4] is a single, de nitive data source which contains the essential eld and behavior of the data. Usually one model is one table in the database. Each attribute in the model represents a eld of a table in the database. Django provides a set of automatically-generated database application programming interfaces (APIs) for the convenience of users.

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 fucntions.

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 be replaced by the result when the template is 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.

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 com-bining 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 secreenshot of my newswebsite 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 adminn and users not able to publish the news only admin has ability to allow users to publish the news and comment
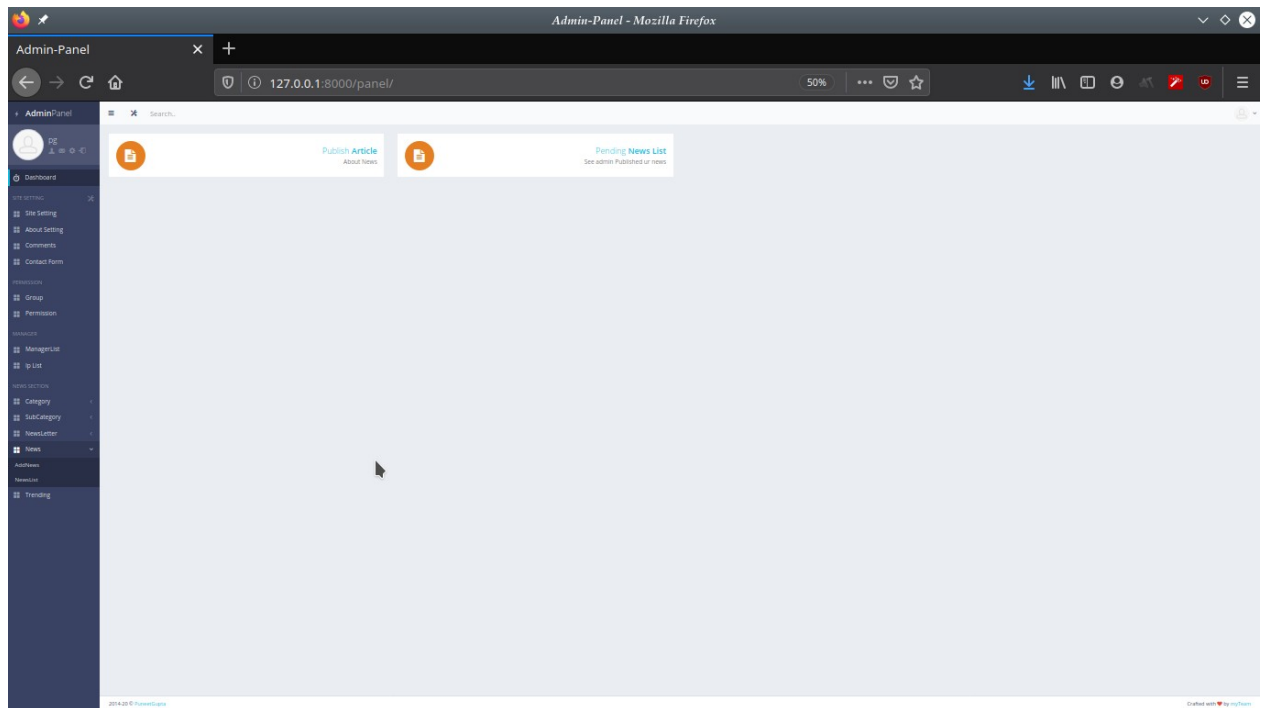
Deploy the website ::

i deploy the website at pythonany where at begineer permission for 3 month free hosting
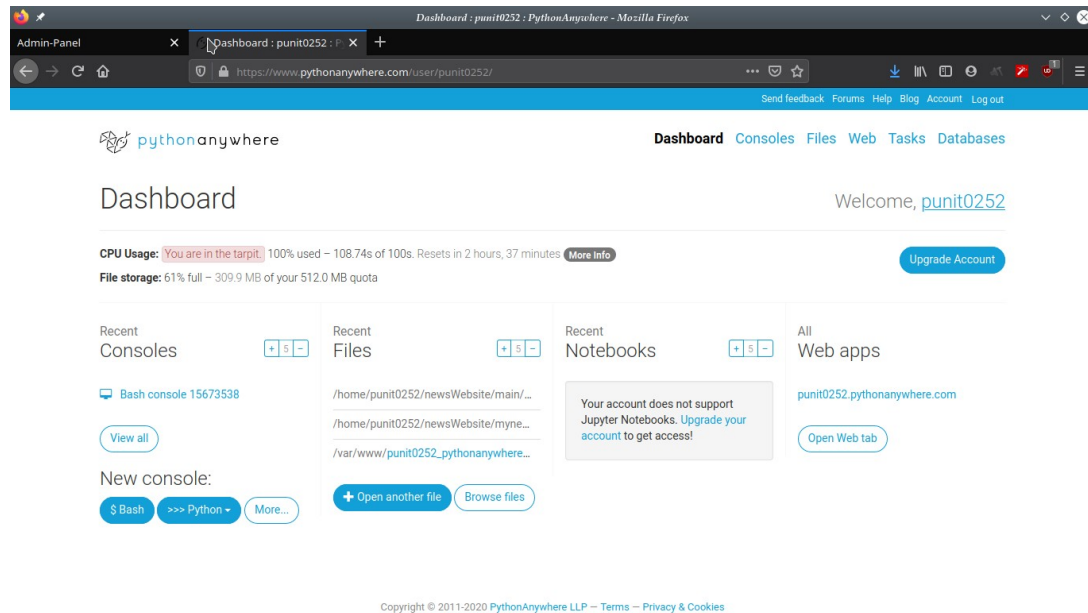
Front Gui of Website:

The Gui of my website i take help from different website and ready made templates or use wordpress to build the resposive website.
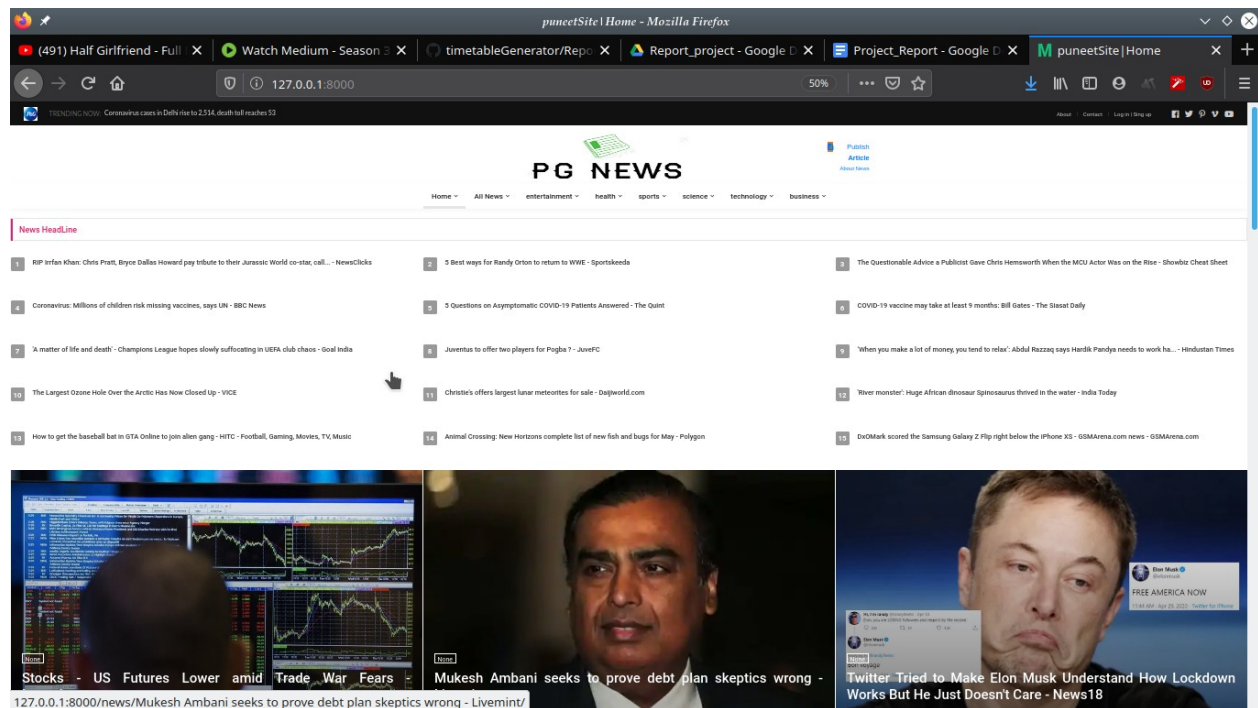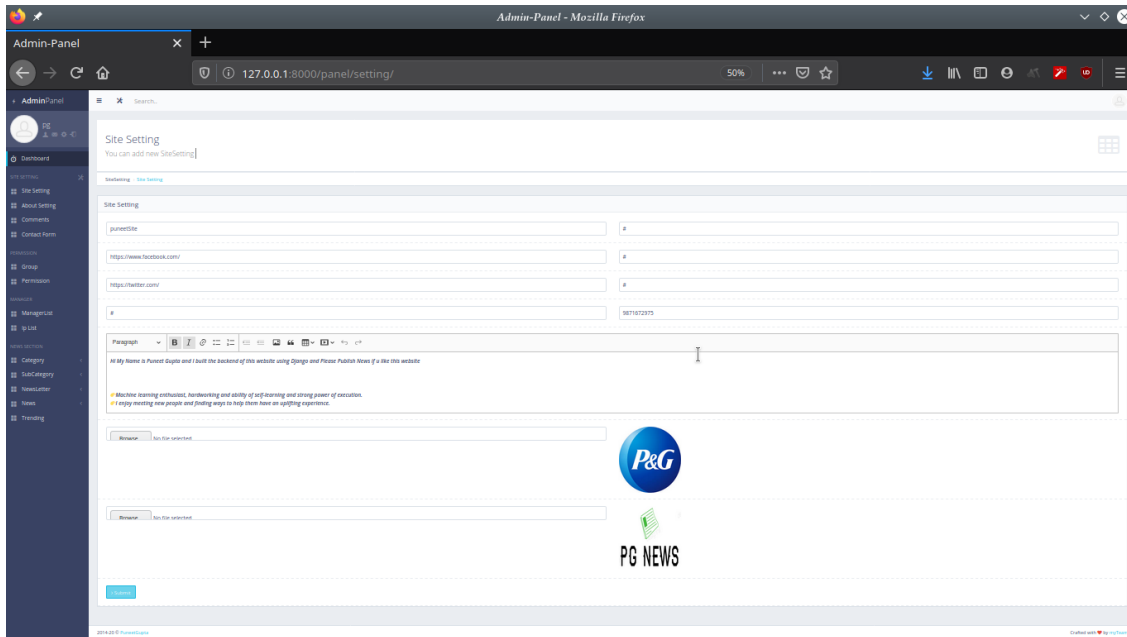
3.2   An overview of the Django framework development process
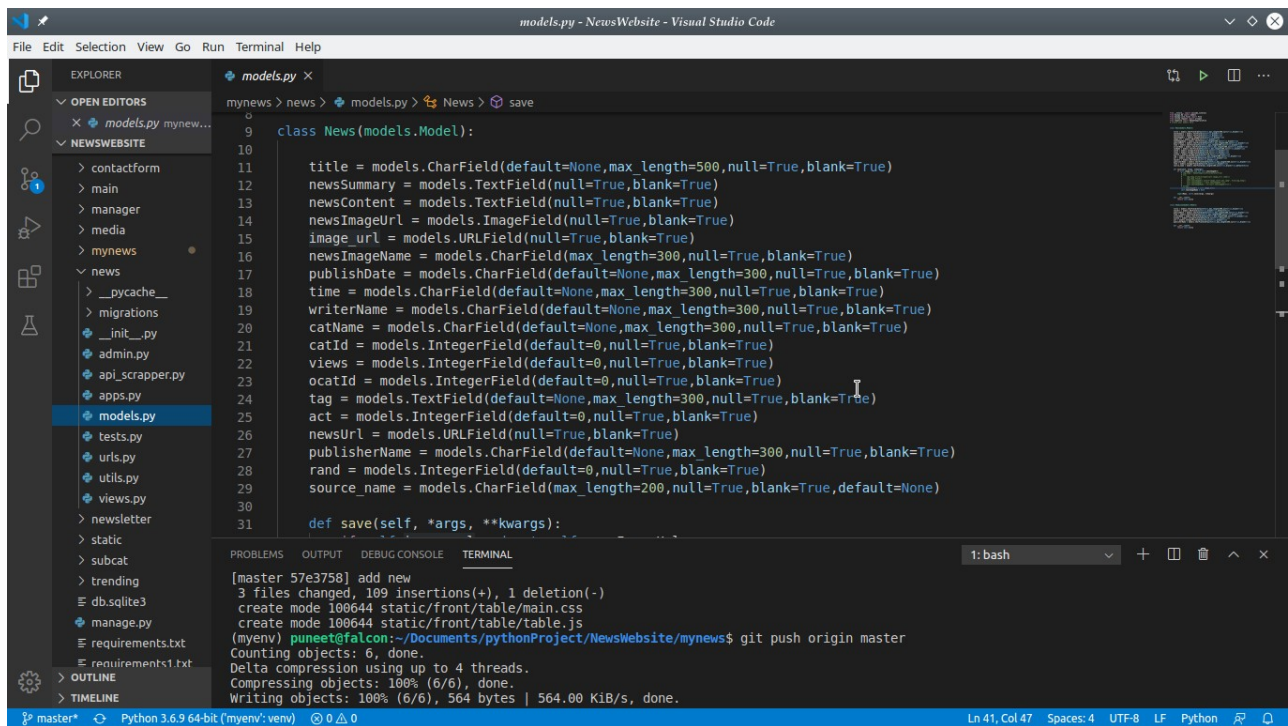
To build such a complicated web system, we need three major parts for each component: database, user interface and the functions to interact in between. Django framework provides su cient functionalities to implement these three parts. Corresponding to database, user interface and functions in between, Django has model, template and view components to deal with each part respectively. Django's model component helps programmer to de ne and maintain tables in the database, while its template component helps to write html les 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

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 are created initially when the news website is deployed. Some information is input into the database at the beginning, However, most information will be 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 rst 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 webiste is sqlite3. We only need to write one sentence to setup the database:

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 newswebsite
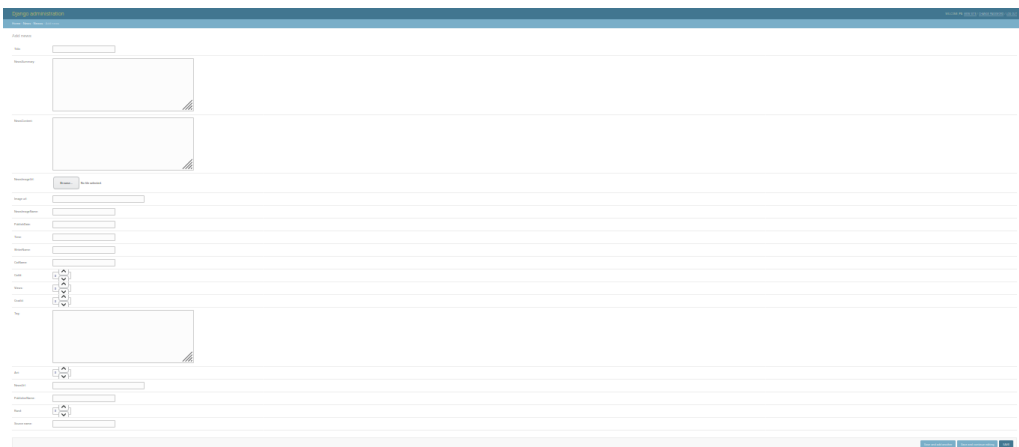

Figure : Group table in database

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

Chapter 5

Conclusion

The Django framework gives us a simple and reliable way to create the News Webiste. 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.

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