A project on

Article Gate

Under the Guidance of

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Course Name- Object Oriented Programming

Course Code – CS207

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Preamble:

The aim of this project is to make a website where users can interact with each other, share their ideas. To create a community in our institute where students can share their ideas, enhance their writing skills, get solutions to their problems and discuss concepts with their fellow students.

1. Organization of Project

This project report shall be presented in a four chapters, starting with Introduction, design and overflow, results, summary and conclusion.

1.1 Abstract

Blogs are a new and intriguing form of communication and personal expression. Blogs have become an important form of emotional and informational release for a growing proportion of population. In the world of internet, there is a strong need of an online community where people can share their ideas, emotions with others sitting in any corner of the world. To solve this problem we have made a community named Article Gate. Article Gate is a place to write, read, and connect. It's easy and free to post your thinking on any topic and connect with thousands of readers. Article Gate is a community of thousands of amazing writers, developers, poets and many more. The project Article gate is a website which is designed in a minimalistic way so as to provide a very clean and easy to use interface for a user. It uses Django framework for backend which uses Python language a very reliable and powerful programming language.

1.2 Introduction

A blog is a type of website where the content is presented in reverse chronological order (newer content appear first). Blog content is often referred to as entries or “blog posts”. Blogs are typically run by an individual or a small group of people to present information in a conversational style. However, now there are tons of corporate blogs that produce a lot of informational and thought-leadership style content.

Blogs evolved from online diaries and journals in the mid-90s. At that time, internet users were already running personal web pages where they published regular updates about their personal lives, thoughts, and social commentary. The term web log was first used during the late 90s, which later became ‘weblog’, then ‘we blog’, and finally just ‘blog’. Due to the growing number of such web pages, several tools started to appear, which made it easier for users to create online journals and personal blogs. These tools helped popularize blogging and made the technology accessible to non-technical users.

Blogs are a type of website. The only real difference between a blog and other types of website is that blogs are updated on a regular basis with new content, which is displayed in reverse chronological order (new blog posts first). Typical websites are static in nature where content is organized in pages, and they are not updated frequently. A blog website is dynamic in nature i.e. it is usually updated more frequently. Some bloggers publish multiple new articles a day. Blogs can be part of a larger website. Often businesses have a blog section where they regularly create content to inform and educate their customers.

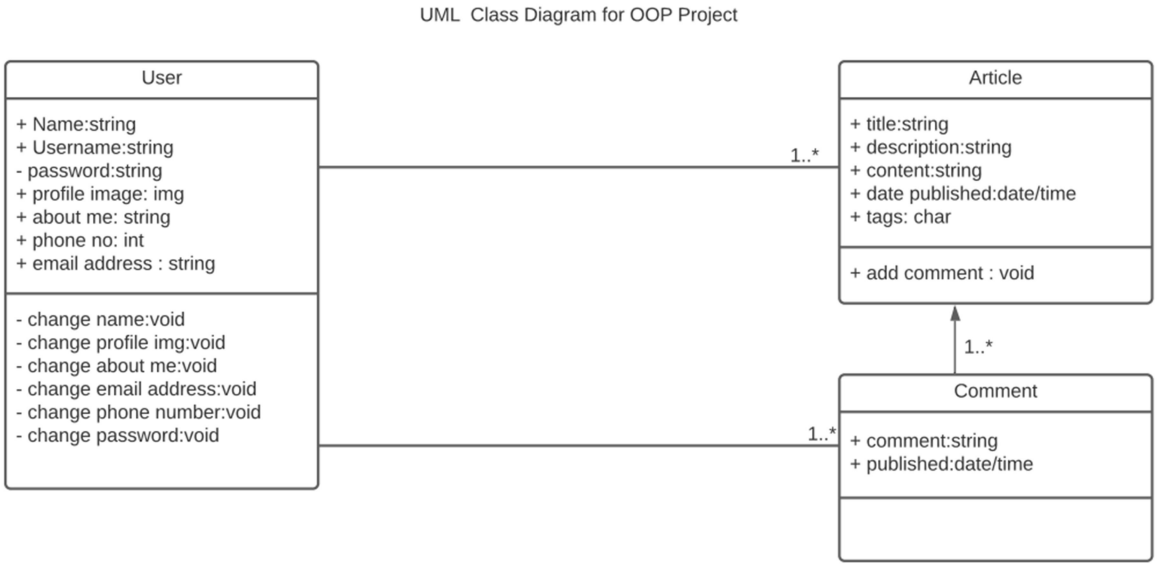
Thus among this tons of websites you can surely understand the struggles of finding a good community where you can share your ideas, promote your positive ideas. In today’s world everyone wants the best products available in the market. There are many communities in market but there are some drawbacks. There might be a good community but it might be paid and if it is free there are a lot of ads. There are many communities which promote negatives thoughts among their users.

1.3 Literature Review

A major contribution to knowledge comes from the paper’s analysis of the motivation behind blogging – providing a framework of seven different motivational schemes. Building on this, the paper explores why blogs are a valuable and reliable source of data for analysis. The paper illustrates traits how blogs can be used for analysis, highlighting the advantages and disadvantages of their use. The paper concludes with a brief note on some of the ethical considerations of using blogs for research. [1]

2. Design and Workflow

2.1 Class Diagrams



This is a UML Class Diagram for the website Article Gate. We have a user class and each of the user has a name, username, password(private), profile image, about me section, phone number, an email address and links to his social media handles so all for these are given as attributes to the user class. Currently every attribute is public except the user's password so it is having a "-" before it in the UML class diagram. Similarly there are classes made for article and comment. An article class has title, description of the article, content, date published as its attributes. The comment class have comment, date published as its attributes. All the parameters in the article and comment classes are kept as public. The article class will have functions to add an article, edit an article, adding a comment on the article. The relationship between user class and article class is one to many as a single user can have many numbers of articles. Similarly the relationship between article class and comment class is also one to many as one article can have many numbers of comments. Thus we can also conclude that a user can comment any number of articles so the relationship between them is also one to many. Note that though comment content maybe same but the comment ids are different so the relationship is not many to many relationship.

2.1 Tech Stack involved in this project

The project can be divided mainly into three parts which are the Front-End Implementation, Back-End Implementation, Database management. And the tech stacks used for them respectively are as follows:

- Front-End: HTML, CSS, JavaScript, Bootstrap5, TailwindCSS
- Back-End: Django Framework
- Databases: Sqlite3

Note: Django framework was used in accordance to the CS207 Course because Django framework is based on python and has an extensive use of Python Object Oriented concepts.

2.2 Implementation of the Project

The project can be divided mainly into three parts which are the Front-End Implementation, Back-End Implementation, Database management.

- **Front-End Implementation**: We have provided a clean UI for the complete website. The project provides a page for user registration where it uses HTML form to take user information and submit it to the backend to save the user information into the database. Similarly in the login page also we have a HTML form to take user information and pass it to the backend to authenticate user. The home page i.e. is the landing page of the website where a user can see brief information about the website and below which we have the list of articles which the authors have posted on our website. We have introduced a feature of tags, so that we can explore articles based on a particular tag using one click. On clicking the tag the user will be redirected to a page where he will be shown all articles related to that particular tag on which he has clicked on. This page is designed using TailwindCSS. In the home page we also have every article shown with its title along with a short description of the article or few initial words of the article and the date it was published. We have also shown which category (tag) the article belongs to and also the author. We have a powerful search option in the

home page from where we can search any article by its content, title. The input for the search is taken using a HTML input tag which then using a get request is sent to the backend where there is an algorithm to search for the given query. The results of the search are rendered in a new page which is designed using TailwindCSS. The navbar is dynamically changed on the condition that a user is signed in or not. If he is signed in he will get an option to see his profile and post an article else he will get options to sign up and register. Suppose a user is signed in and he clicks on add article he will be redirected to a page which consists of a HTML form where he will write his article. The content field of the form is of type Rich Text Field so that the user can post any format of content like photos, tables, designed texts etc. The form will be of post request which will send the data to backend which then will be saved to the database. Edit article page also works on similar lines. On clicking the profile button user will be redirected to his customized profile view page which is designed using Bootstrap5. There is a similar option of editing user profile in the profile section which uses HTML form with post method. The page which displays the complete article is designed with a very clean design to enhance user experience using Bootstrap5.

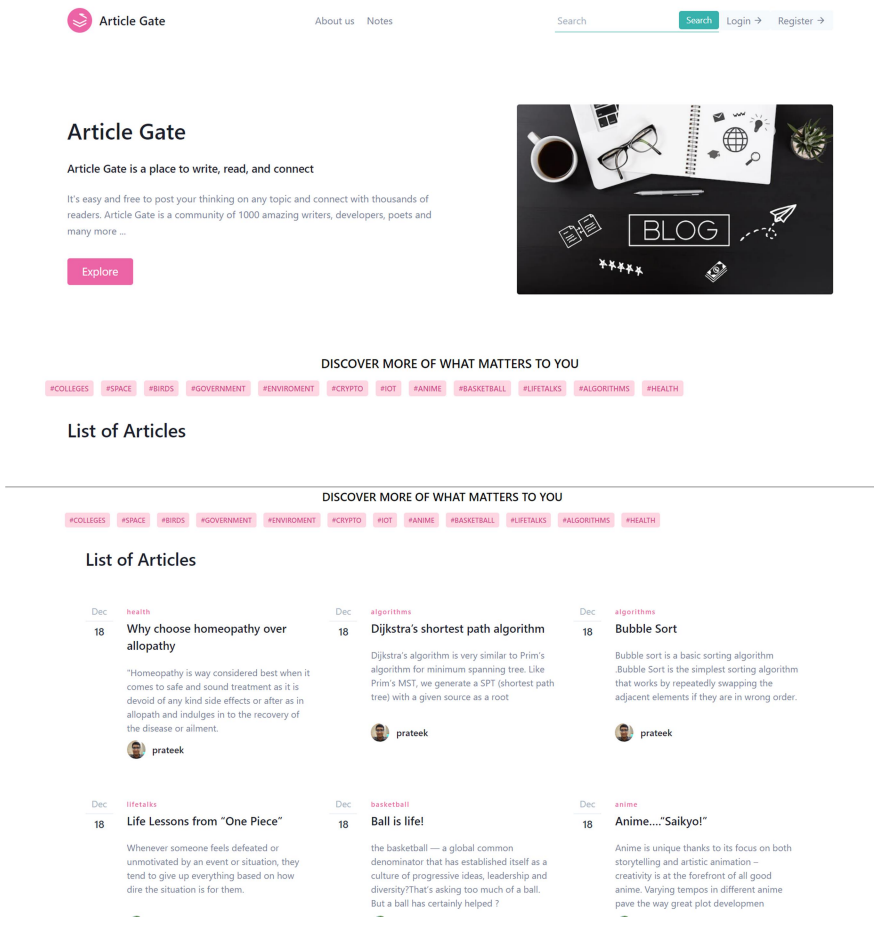
- **Back-End Implementation:** The project uses Django Framework for backend implementation. In Django we divide the project into apps, where each app serves different functionality and then we can integrate them together. This project is divided into two apps namely article app, user app. Each of this app consists of some basic files such as __init__.py, admin.py, apps.py, models.py, tests.py, views.py. The main file where we write the backend algorithms is views.py. The functions used in this project are:
    - Search Functionality – This is implemented using Django's i_contains function in which we compare the query with the title and content of all the articles using optimized search algorithm.
    - Tag Functionality – For implementing the tag functionality, an attribute was added in article class which helps to create a row in article table in the database. Then using filter function we render the articles with the particular tag only.

- Saving Forms – All the data which is returned by the HTML forms is saved using .save () method.

- **Database Implementation:** The database used in this project is sqlite3. The tables and columns are made by creating classes in models.py where each class represents a table and the attributes of the class are the columns in the database table. There are three database tables for storing articles, comments, users.

3. Results

3.1 Screenshots of the live functional website



Article Gate

Why choose IIIT Dharwad

Written by : oop

November 30, 2021

Author - oop

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IIIT Dharwad is an Institute of National Importance set up in 2015 in Public-Private-Partnership mode between the Ministry of Education, Government of India, Government of Karnataka and industry partner Keonics under an Act of Parliament (23 of 2017). The Institute offers BTech and PhD programs and is about to move to its spacious permanent campus of 60 acres of Hubballi and Dharwad are already a recognized centre for educational institutes of repute including engineering, medical, law and other colleges, universities and an Indian Institute of Technology. With this environment and rapidly improving connectivity to the IT capital Bengaluru, IIIT Dharwad is strategically positioned to develop into one of the best institutes of national importance. I consider it my duty and privilege to place on record the guidance, direction and support provided by the Board of Governors. I also thank the faculty and staff for their continued energy, enthusiasm and efforts in providing state of the art education to our students for their overall growth. In conclusion, I deem it our privilege to work in this fledgling institution." **- Dr. Kavi Mahesh, Director**

Comments

Comment something

Comment

prateek
December 18, 2021
nice institute

oop
December 02, 2021
nice article

ArticleGate-Signup

Username*

Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Email*

Password*

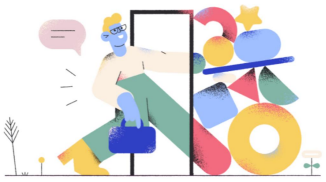
- Your password can't be too similar to your other personal information.
- Your password must contain at least 8 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.

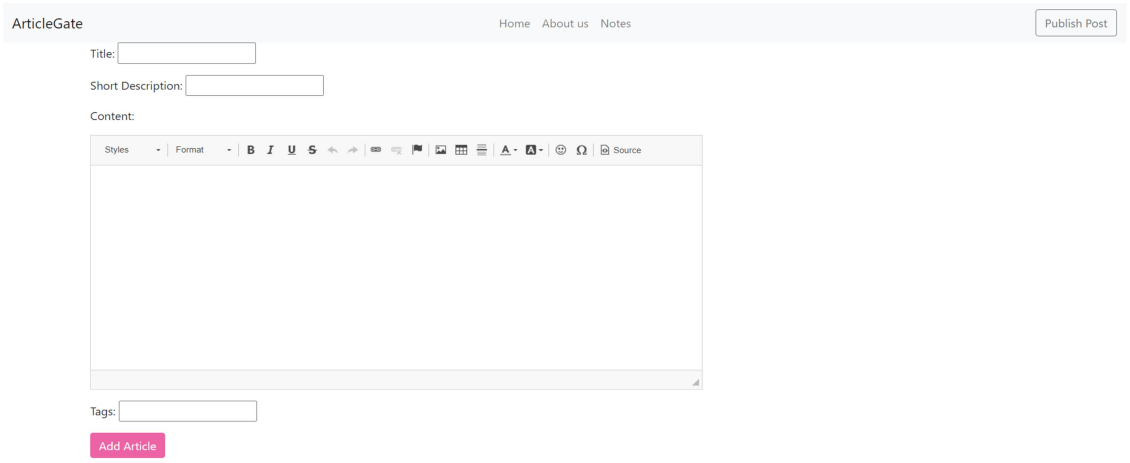
Password confirmation*

Enter the same password as before, for verification.

Signup

Already have an account ? Sign In

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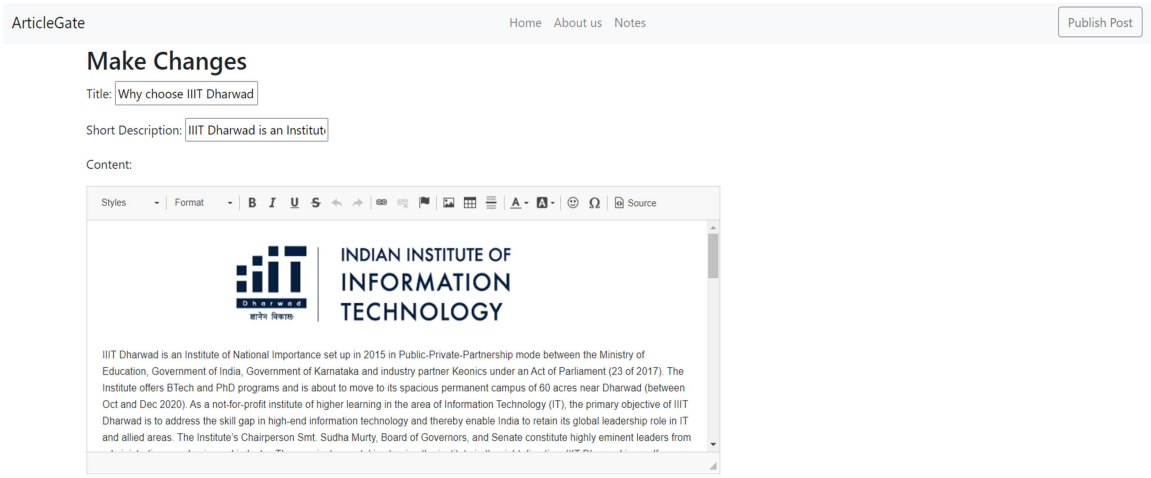
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IIIT Dharwad is an Institute of National Importance set up in 2015 in Public-Private-Partnership mode between the Ministry of Education, Government of India, Government of Karnataka and industry partner Keonics under an Act of Parliament (23 of 2017). The Institute offers BTech and PhD programs and is about to move to its spacious permanent campus of 60 acres near Dharwad (between Oct and Dec 2020). As a not-for-profit institute of higher learning in the area of Information Technology (IT), the primary objective of IIIT Dharwad is to address the skill gap in high-end information technology and thereby enable India to retain its global leadership role in IT and allied areas. The Institute's Chairperson Smt. Sudha Murty, Board of Governors, and Senate constitute highly eminent leaders from
This field is required.
Tags:
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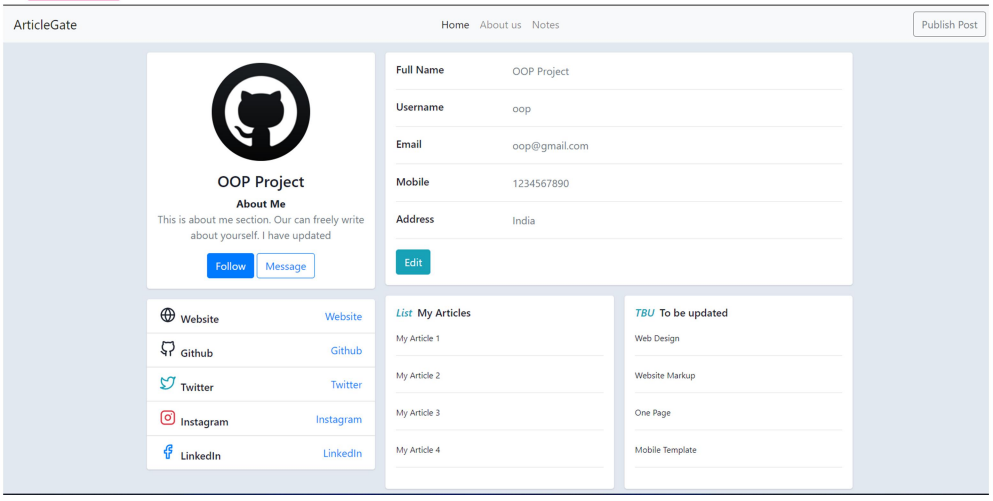
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My Article 2
My Article 3
My Article 4
TBU To be updated
Web Design
Website Markup
One Page
Mobile Template

4. Conclusion

4.1 Summary

In today's world everything is digitalized, people wish to share their idea, thoughts through a proper digital medium and we tried to develop Article Gate which is a place to write, read, and connect. It's easy and free to post your thinking on any topic and connect with thousands of readers. Article Gate is a community of thousands amazing writers, developers, poets and many more.

4.2 Future Plans

1. **Better Tag Search Algorithms:** We have optimized the search function and are working to make our Tag search faster using appropriate data structure.
2. **Article Selection Team:** we will invite more learned and experienced people across the globe as our article selector and reviewer team.
3. **Regular Up gradation With Latest Technology:** We will keep our technologies up-to-date with the latest technology so that the user will get smooth, fast, and steady with more exciting features.
4. **Introduce Machine Learning:** We will appropriate machine learning models to show customers favorite articles at his/her home screen.

4.3 References

- [1] - Alsamadani, H.A., 2018. The Effectiveness of Using Online Blogging for Students' Individual and Group Writing. International Education Studies, 11(1), pp.44-51.