Dr. D. Y Patil Institute of Technology

Department of Information Technology

Sant Tukaram Nagar, Pimpri, Pune-411018 Affiliated to Savitribai Phule Pune University, Pune

Internship Report On

"Django-WebApp "

Submitted to the Savitribai Phule Pune University, Pune in partial fulfillment of the requirements for the award of the degree B.E. Information Technology

Submitted by

Atharva Patil

Exam Seat No:

T190248555

Under the Guidance of

Prof. Sarika Pabalkar

Academic Year

2022-23

Dr. D. Y. Patil Unitech Society's
Dr. D. Y. Patil Institute Technology, Pimpri, Pune-18
Department of Information Technology

CERTIFICATE

This is to certify that the Internship report entitled

"Django-WebApp "

Submitted by

Patil Atharva Anant
TIT56

is a bonafide work carried out under the supervision of Prof. Sarika Pabalkar and it is submitted towards the partial fulfillment of the requirement of Savitribai Phule Pune University, Pune in the academic year 2022-23 for the award of the degree of Bachelor of Engineering (Information Technology)

Prof.Sarika Pabalkar	Dr. Selva Mary G.	Dr. Lalit Kumar Wadhwa
(Guide)	(Head of Department.)	(Principal)

Seal/Stamp of the College

Examiner 1 :

Date :

Examiner 2:

Allotment Letter

Elite Softwares

Allotment Letter

To,

Atharva Anant Patil

Subject: Allotment letter regarding Internship.

We are pleased to permit the mentioned Student of **Engineering** for **Industrial Internship in Web Development, Python-DJango Framework Intern**.

Date of Commencement of the Internship: **23rd / January / 2023**

The Student should show keen interest in learning the concept related to the internship and follow the instruction given by the developer guide for the successful completion of the internship.

Best Regards,

Swami Panjala
Founder and CEO
Elite Softwares, Pune

Add: CoHive, Dnyanvatsal Complex, Opp. Vandevi Mandir, Karve Road, Kothrud
Pune – 411052. https://www.elitesoftwares.co.in

Internship Certificate

Elite Softwares

TO WHOMSOEVER IT MAY CONCERN

INTERNSHIP CERTIFICATE

This is to certify that **Atharva Anant Patil** has successfully completed internship in "**Web Development, Python-DJango Framework Intern**" under the assistance and guidance in connection with his/her Industrial Internship at Elite Softwares.

Duration of this Internship was from **23rd / January / 2023 to 23rd / February / 2023**

He/she was found sincere & hard working during this tenure.

We wish him/her all the best for his/her future endeavors.

Best Regards,

Swami Panjala
Founder and CEO
Elite Softwares, Pune

Add: CoHive, Dnyanvatsal Complex, Opp. Vandevi Mandir, Karve Road, Kothrud
Pune – 411052. https://www.elitesoftwares.co.in

Acknowledgment

First, I would like to thank **Prof. Sarika Pabalkar,** the **Founder and CEO of Elite Softwares Mr. Swami Panjala** for giving me the opportunity to do an internship within the organization.

I also would like all the people that worked along with me in Elite Software with their patience and openness they created an enjoyable working environment. It is indeed with a great sense of pleasure and immense sense of gratitude that I acknowledge the help of these individuals.

I am highly indebted to **Director Mr. Swami Panjala** and **Principal Dr. Lalit Kumar Wadhwa**, for the facilities provided to accomplish this internship. I would like to thank my **Head of the Department Dr. Selva Mary G**. for her constructive criticism throughout my internship. I would like to thank, **Internship Coordinator Prof. Deepak Patil and Prof. Ujawala Salunke**for their support and advice to get and complete an internship in the above-said organization. I am extremely grateful to my department staff members and friends who helped me in the successful completion of this internship.

Atharva Patil

TIT56

Organization details

We at Elite Softwares Pune based Software Company since 2011 with more than 1000 Clients and we developed more than 8000 Students for Self-Employment in Web Development.

We Specialize and we work only for School and College ERP (Enterprise Resource Planning) Software and Technical Workshops for Entrepreneurship Development.

We are budding company whose sole purpose is 'SERVICE'. Our aim is to provide dynamic IT solution to our education domain clients and of course self-employment workshops for students. Using our School and College ERP Products, we are trying to automate education domain where starts with enquiry to generate Leaving Certificate all in one solution we provide.

Efficiency is in our veins and we strive for excellence. We are a software providing company which takes wholesome responsibility; that includes all basic information, whereabouts, branch offices, contacts, requirements, basically all rolled into one.

Versatility is our niche and customer satisfaction is our goal. We provide specific and customized IT solutions to our clients. With our IT expertise, we combine our knowledge and professional experience to apply ourselves to our vision - hence our products are innovative, user-friendly, and usually find a niche place in the vast IT sector.

- Website: https://www.elitesoftwares.co.in/
- Founder and CEO: Mr. Swami Panjala
- Email Id: swami@elitesoftwares.co.in
- Contact: 9096622683

Abstract

The report is describing the task I completed as Web Development Python-Django Framework at Elite Softwares during Feb-March 2023. It provides an overview of the company, an overview of my role and the project I worked on at the company. The report presents the project that I completed during my internship at Elite Softwares which is “Python Django WebApp”

To develop a web-based application there are several programming languages that are in use. Some of them are only used for the frontend and backend design of the software. For example, HTML5, CSS, Bootstrap. Some of the languages used for backend are Python and Django. Sql lite is used for the database. This project has been completed successfully and results were according to expectations. All the circuits are tested and working to our expectations.

his report is describing the work I completed as a Computer Engineering intern at InfoLabz during June-July of 2022. It provides an overview of the company; an overview of my role and the projects I worked on at the company.
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And all the Circuits are tested and working to our expectations.
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Introduction

Python-Django is a high-level web framework built in Python. Django provides a convenient way to build web applications quickly, with its clean and pragmatic design philosophy. Django follows the Model-View-Template (MVT) pattern, which is similar to the Model-View-Controller (MVC) pattern but with some differences, making it easier to develop web applications.

A Python-Django internship can be a great way to learn web development with Python, and gain hands-on experience building real-world web applications. During the internship, you are likely to learn how to set up the Django framework, including creating virtual environments, installing dependencies, and configuring database settings. You will also learn how to build web applications with Django, including creating models, views, and templates, working with URL routing, handling forms and user inputs, and integrating third-party libraries and APIs to enhance the functionality of the application.

In addition, you may also learn how to deploy a Django application to a web server, including configuring web servers, working with DNS settings, and configuring SSL certificates for secure HTTPS connections.

Throughout the internship, you will get a chance to work on real-world projects, collaborate with other developers, and receive feedback and guidance from experienced professionals. By the end of the internship, you should have a solid understanding of web development with Python-Django, and be able to build your own web applications from scratch.

Web development using Python-Django framework is a popular choice for building complex and dynamic web applications. Django is a high-level web framework that is designed to facilitate rapid development and clean, pragmatic design. Python, being a versatile and robust programming language, provides a wide range of libraries and frameworks that simplify web development.

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Title: -

Web Development Python-Django Framework

Problem Statement: -

To develop competent and skilled web developers who can build dynamic and responsive web applications using Python and Django framework, by providing hands-on training on the basics of web development, Python programming, Django framework, database management, and deployment.

Objective: -

The primary objective of the internship is to provide students with hands-on experience in web development using Python and Django. The course covers the following objectives:

•Understanding the fundamentals of Python programming language

•Understanding the Django web framework

•Developing web applications using Python and Django

•Deploying web applications to the web

Motivation

The Motivation for Web Development Python-Django Internship are designed to provide individuals hands-on experience in web development using Python and the Django framework. online developers are in high demand as businesses and organization increasingly rely on online apps for day-to-day operations. Finding experienced web developers, on the other hand, may be difficult, and our internship program tries to solve this issue by equipping individuals with the skills and knowledge needed to pursue a career in web development.

The popularity of Python and the Django framework in web development is another motivator for this internship. Python is a flexible and widely used programming language, and Django is a sophisticated web framework that makes constructing complicated web applications easier.

Scope: -

- Learning the fundamentals of web development, such as HTML, CSS, and JavaScript.
- Learning the Python programming language.
- Comprehensive understanding of the Django framework, including the creation of views, templates, and models.
- Becoming familiar with databases in web development, particularly SQL and ORM.
- Using Python and the Django framework, create responsive and dynamic web applications.
- Becoming familiar with the deployment and maintenance of web applications.

Rationale: -

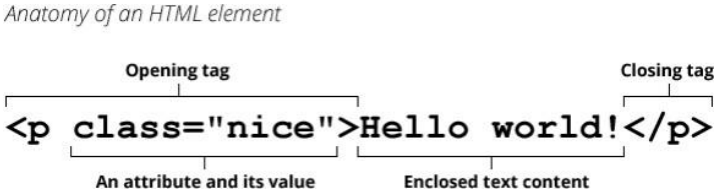
- Individuals will gain hands-on experience in web programming using Python and the Django framework.
- To satisfy the growing need for experienced web developers across several sectors.
- To provide folks the chance to learn from industry leaders and seasoned web development professionals.
- To address the scarcity of qualified web developers by offering a forum for individuals to learn the skills and information required to pursue a career in web development.
- To provide people the opportunity to work on real-world projects and obtain hands-on experience in web development.
- To improve participants' employability and prepare them for a career in web development.

➢ Programming Languages :-

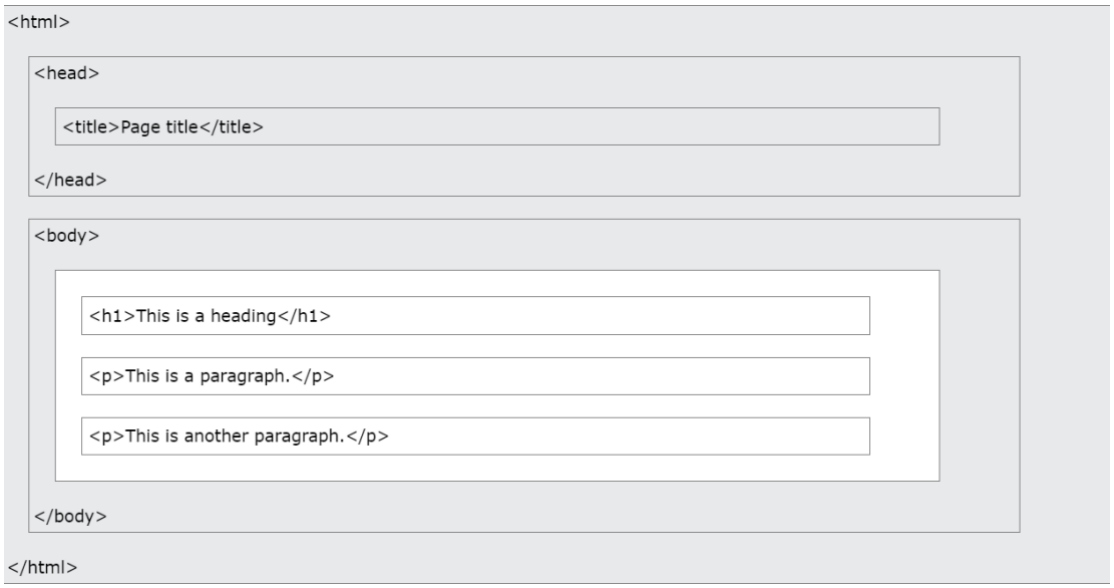
1.HTML5

HTML stands for Hyper Text Mark-up Language. It is used to design web pages using mark-up language. HTML is the combination of Hypertext and Mark-up language. Hypertext defines the link between the web pages. Mark-up language is used to define the text document within tag which defines the structure of web pages. HTML5 is the fifth and current version of HTML. It has improved the mark-up available for documents and has introduced application programming interfaces (API) and Document Object Model (DOM).

An HTML document is a plaintext document structured with elements. Elements are surrounded by matching opening and closing tags. Each tag begins and ends with angle brackets (<>). There are a few empty or void tags that cannot enclose any text, for instance <img> You can extend HTML tags with attributes, which provide additional information affecting how the browser interprets the element:



-Below is a visualization of an HTML page structure.



2.CSS3:

Cascading Style Sheets, fondly referred to as CSS, is a simply designed language intended to simplify the process of making web pages presentable. CSS allows you to apply styles to web pages. More importantly, CSS enables you to do this independent of the HTML that makes up each web page.

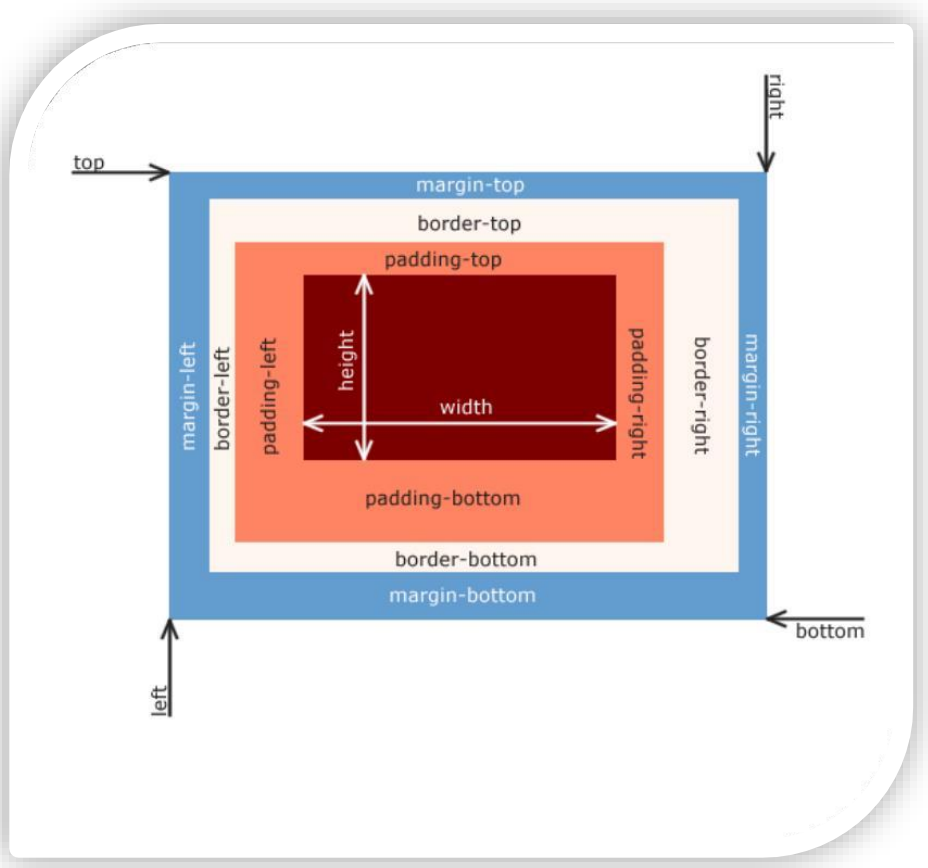
CSS describes how HTML elements should be displayed.

CSS is among the core languages of the open web and is standardized across Web browsers according to W3C specifications. Previously, development of various parts of CSS specification was done synchronously, which allowed versioning of the latest recommendations.

You might have heard about CSS1, CSS2.1, CSS3. However, CSS4 has never become an official version.

From CSS3, the scope of the specification increased significantly and the progress on different CSS modules started to differ so much, that it became more effective to develop and release recommendations separately per module. Instead of versioning the CSS specification, W3C now periodically takes a snapshot of the latest stable state of the CSS specification. The CSS

box model is essentially a box that wraps around every HTML element. It consists of: margins, borders, padding, and the actual content. The image below illustrates the box model:



3.Java Script: -

JavaScript is a lightweight, cross-platform and interpreted scripting language. It is well-known for the development of web pages many non-browser environments also use it. JavaScript can be used for Client-side developments as well as Server-side developments. JavaScript is a prototype-based, multi-paradigm, single-threaded, dynamic language, supporting object-oriented, imperative, and declarative (e.g., functional programming) styles. JavaScript engines were originally used only in web browsers, but are now core components of some servers and a variety of applications. The most popular runtime system for this usage is Node.js. JavaScript is the dominant client-side scripting language of the Web, with 97% of websites using it for this purpose. Scripts are embedded in or included from HTML documents and interact with the DOM. All major web browsers have a built-in JavaScript engine that executes the code on the user's device. Examples of scripted behavior:

- Loading new web page content without reloading the page, via Ajax or a WebSocket. For example, users of social media can send and receive messages without leaving the current page.
- Web page animations, such as fading objects in and out, resizing, and moving them.
- Playing browser games.
- Controlling the playback of streaming media.
- Generating pop-up ads.
- Validating input values of a web form before the data is sent to a web server.
- Logging data about the user's behavior then sending it to a server. The website owner can use this data for analytics, ad tracking, and personalization.
- Redirecting a user to another page.

Libraries and frameworks:

Over 80% of websites use a third-party JavaScript library or web framework for their client-side scripting.

jQuery is by far the most popular library, used by over 75% of websites. Facebook created the React library for its website and later released it as open source; other sites, including Twitter, now use it. Likewise, the Angular framework created by Google for its websites, including YouTube and Gmail, is now an open-source project used by others.

In contrast, the term "Vanilla JS" has been coined for websites not using any libraries or frameworks, instead relying entirely on standard JavaScript functionality.

4.Python:-

It Is often used as a support language for software developers, for build control and management, testing, and in many other ways. SCons for build control. Buildbot and Apache Gump for automated continuous compilation and testing. Roundup or Trac for bug tracking and project management.

Python has a simple syntax similar to the English language. Python has syntax that allows developers to write programs with fewer lines than some other programming languages. Python runs on an interpreter system, meaning that code can be executed as soon as it is written. This means that prototyping can be very quick.

Why Python?

- Python works on different platforms (Windows, Mac, Linux, Raspberry Pi, etc).
- Python has a simple syntax similar to the English language.
- Python has syntax that allows developers to write programs with fewer lines than some other programming languages.
- Python runs on an interpreter system, meaning that code can be executed as soon as it is written. This means that prototyping can be very quick.

Python can be treated in a procedural way, an object-oriented way or a functional way.

Python Syntax compared to other programming languages:-

- Python was designed for readability, and has some similarities to the English language with influence from mathematics.
- Python uses new lines to complete a command, as opposed to other programming languages which often use semicolons or parentheses.
- Python relies on indentation, using whitespace, to define scope; such as the scope of loops, functions and classes. Other programming languages often use curly-brackets for this purpose.

Example:-

```
print("Hello, World!")
```

5.Django:-

It is a high-level Python web framework that enables the rapid development of secure and maintainable websites. Built by experienced developers, Django takes care of much of the hassle of web development, so you can focus on writing your app without needing to reinvent the wheel. It is free and open source, has a thriving and active community, great documentation, and many options for free and paid-for support.

Django helps you write software that is:

Complete

Django follows the "Batteries included" philosophy and provides almost everything developers might want to do "out of the box". Because everything you need is part of the one "product", it all works seamlessly together, follows consistent design principles, and has extensive and up-to-date documentation.

a.Versatile

Django can be (and has been) used to build almost any type of website — from content management systems and wikis, through to social networks and news sites. It can work with any client-side framework, and can deliver content in almost any format (including HTML,

RSS feeds, JSON, and XML).Internally, while it provides choices for almost any functionality you might want (e.g. several popular databases, templating engines, etc.), it can also be extended to use other components if needed.

b.Secure

Django helps developers avoid many common security mistakes by providing a framework that has been engineered to "do the right things" to protect the website automatically. For example, Django provides a secure way to manage user accounts and passwords, avoiding common mistakes like putting session information in cookies where it is vulnerable (instead cookies just contain a key, and the actual data is stored in the database) or directly storing passwords rather than a password hash.

c.Scalable

Django uses a component-based "shared-nothing" architecture (each part of the architecture is independent of the others, and can hence be replaced or changed if needed). Having a clear separation between the different parts means that it can scale for increased traffic by adding hardware at any level: caching servers, database servers, or application servers. Some of the busiest sites have successfully scaled Django to meet their demands (e.g. Instagram and Disqus, to name just two).

d.Maintainable

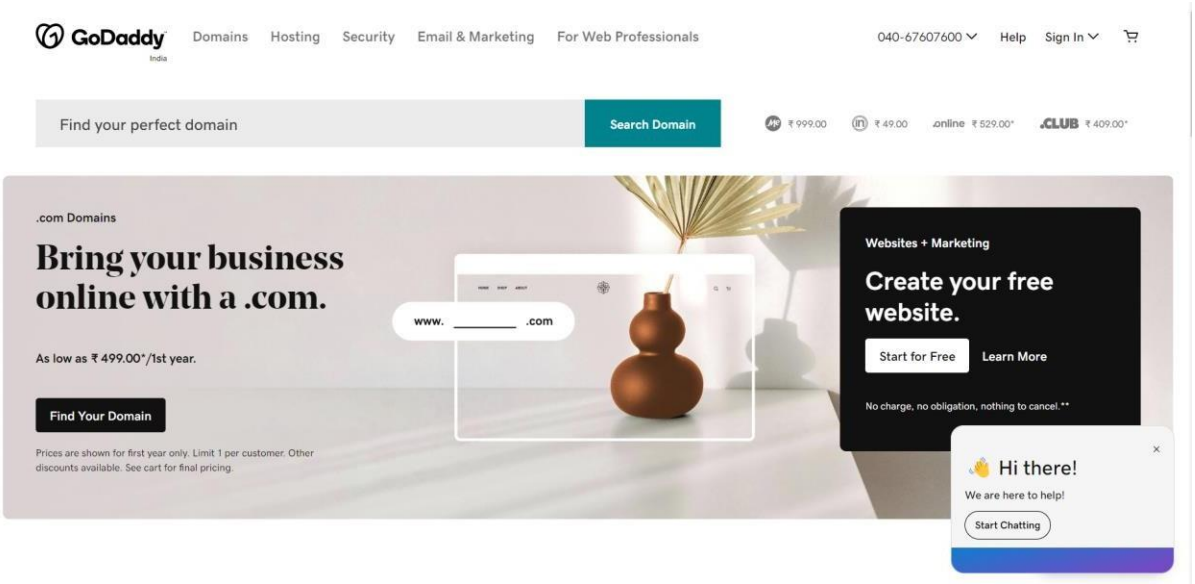
Django code is written using design principles and patterns that encourage the creation of maintainable and reusable code. In particular, it makes use of the Don't Repeat Yourself (DRY) principle so there is no unnecessary duplication, reducing the amount of code. Django also promotes the grouping of related functionality into reusable "applications" and, at a lower level, groups related code into modules (along the lines of the Model View Controller (MVC) pattern).

e.Portable

Django is written in Python, which runs on many platforms. That means that you are not tied to any particular server platform, and can run your applications on many flavors of Linux, Windows, and macOS. Furthermore, Django is well-supported by many web hosting providers, who often provide specific infrastructure and documentation for hosting Django sites.

Domain Name And Hosting :-

- A domain name is a string of characters that identifies a website. It is what users type in their browsers to visit your site.
- A domain name is the address of your website that people type in the browser's URL bar to visit your website.
- Ex. WWW. Google.Com , WWW.Youtube.Com, etc.



Hosting:-

- When a **hosting provider** allocates space on a web server for a website to store its files, they are hosting a website.
- Web hosting makes the files that comprise a website (code, images, etc.) available for viewing online. Every website you've ever visited is hosted on a server.
- The amount of space allocated on a server to a website depends on the type of hosting. The main types of hosting are shared, dedicated, VPS and reseller.
- They are differentiated by the kind of technology used for the server, the level of management provided and the additional services on offer.

What is cPanel?

It is an online Linux-based graphical interface (GUI) used as a control panel to simplify website and server management.

cPanel's automated and configurable dashboard enables just about anyone to effectively manage their websites and shared servers.

cPanel is most commonly used to manage the:

- Files
- Databases
- Email accounts
- FTP access on your site and much more

cPanel also allows you to quickly set up a domain name or transfer one over from another hosting service provider.

Access to the cPanel dashboard is provided by your web hosting provider.

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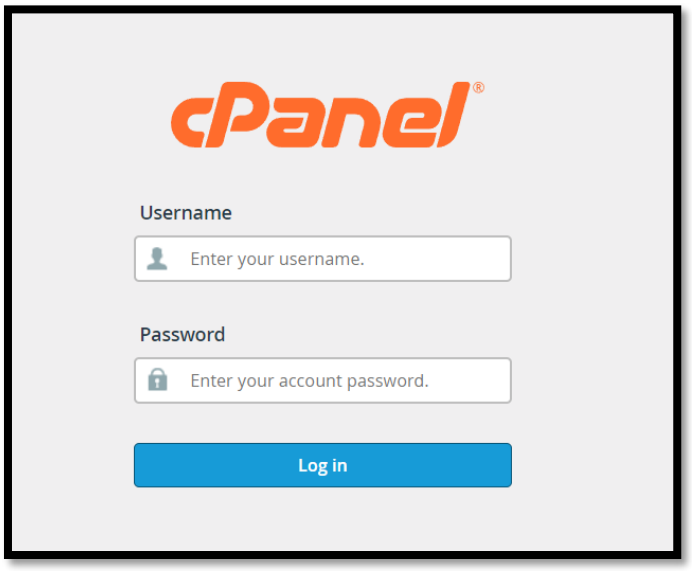
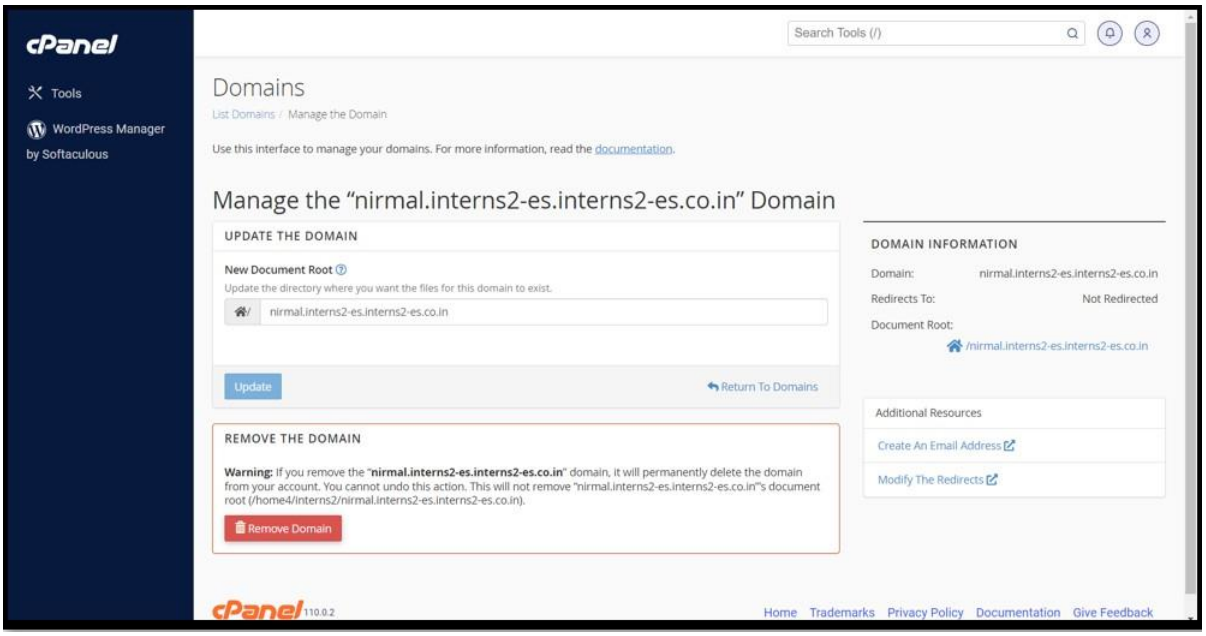
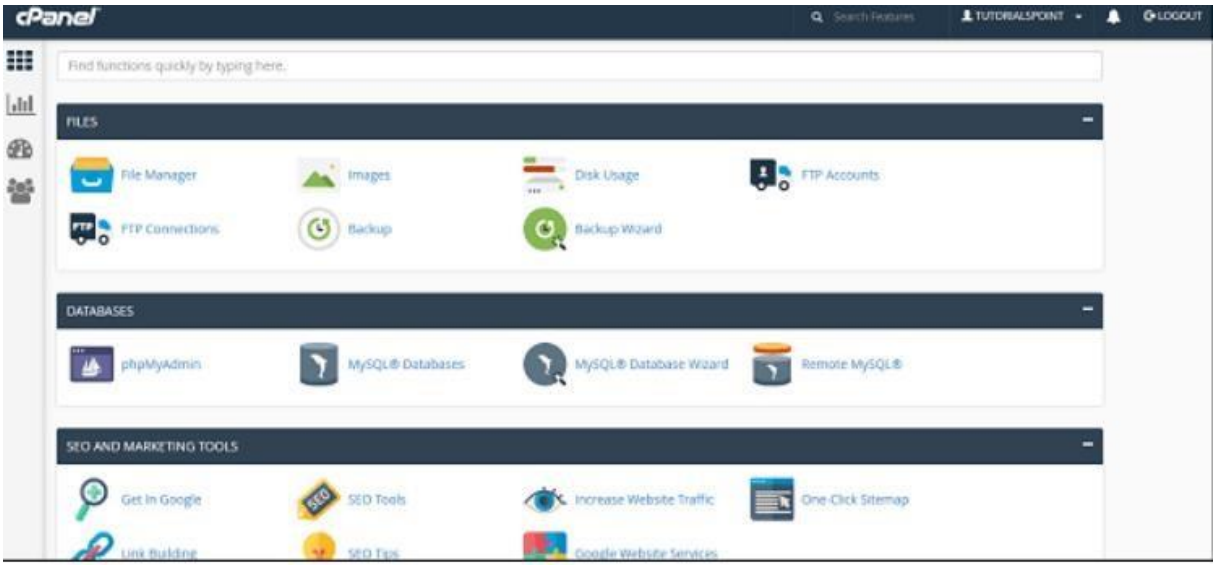






Ease of usage: -

Using cPanel to manage your website doesn't need advanced technical knowledge. cPanel lets users perform complicated tasks such as these with just a few clicks:

- Creating subdomains
- Managing files
- MySQL databases
- Generating site backups

Hardware & Software Requirements

Hardware

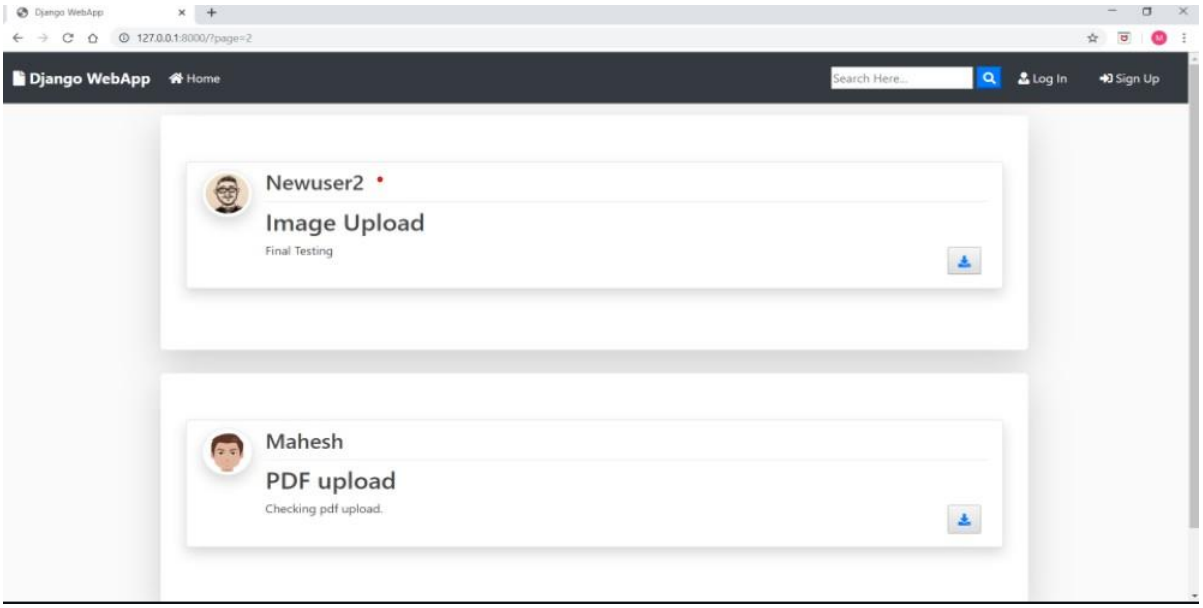
- 8gb ram desktop or laptop
- internet connection with 4 MBPS speed

Software

- Visual Studio Code
- Google Chrome or Mozilla Firefox browser

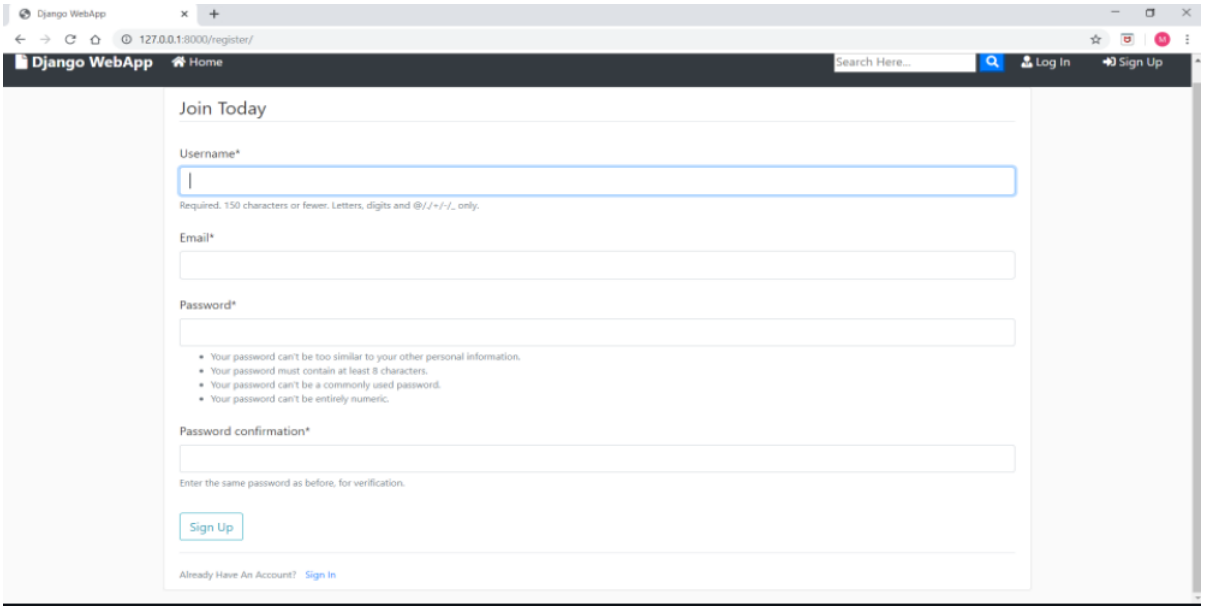
RESULTS/ OUTPUTS

1. Home Page



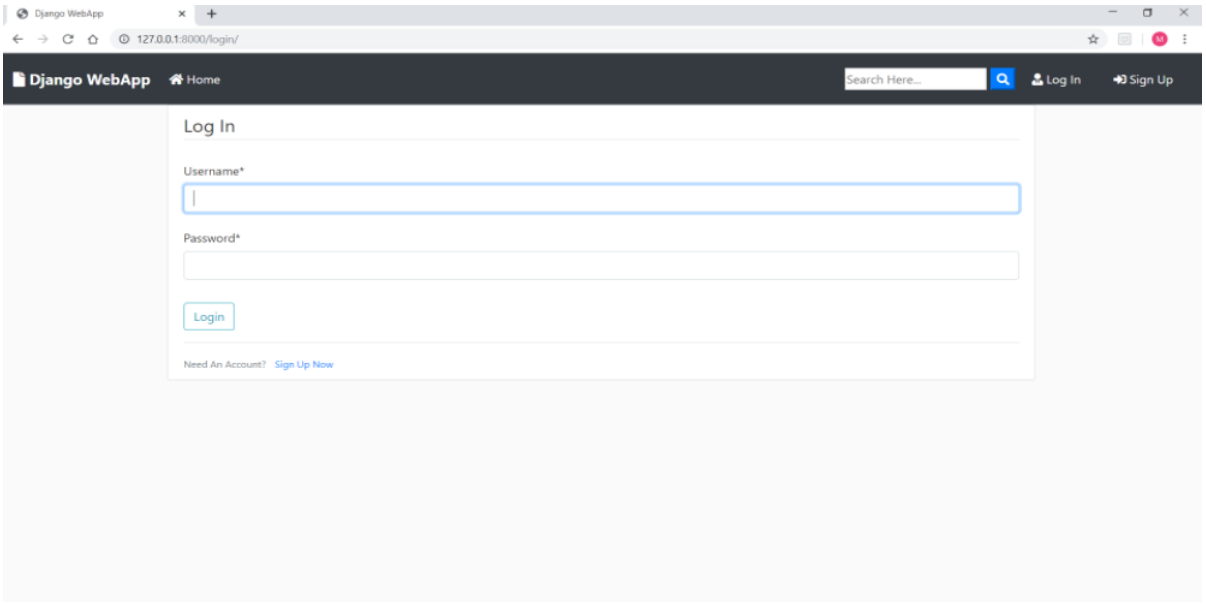
This is the home page of web app in which all users accounts are there

2. Sign Up Page



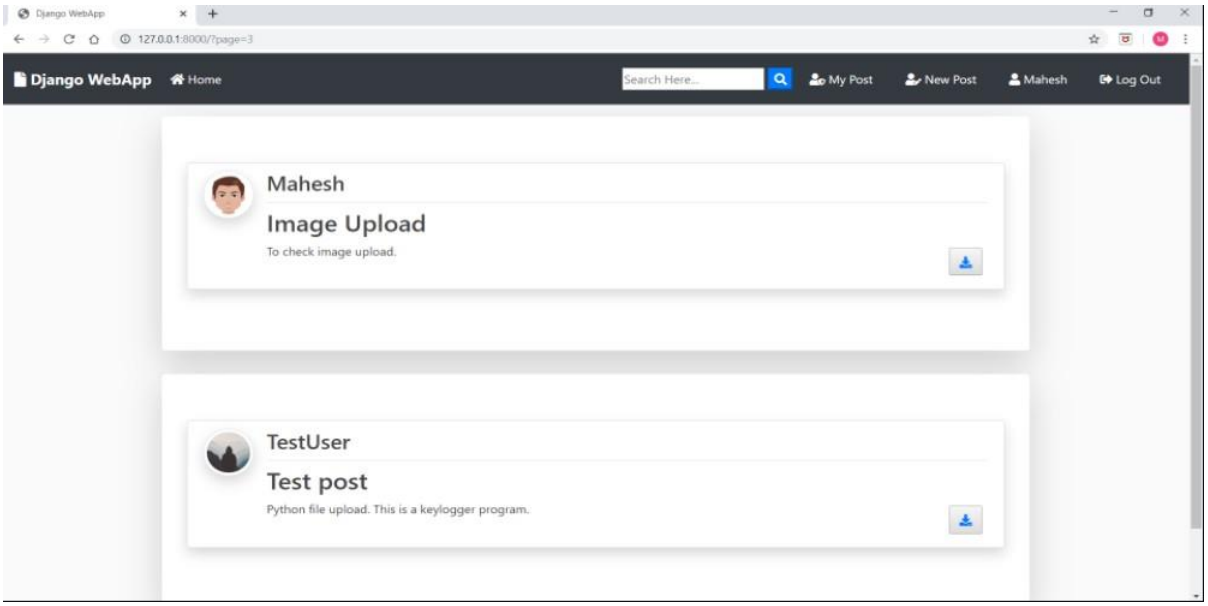
This is the sign up page where new user can create his/her account

3. Login Page



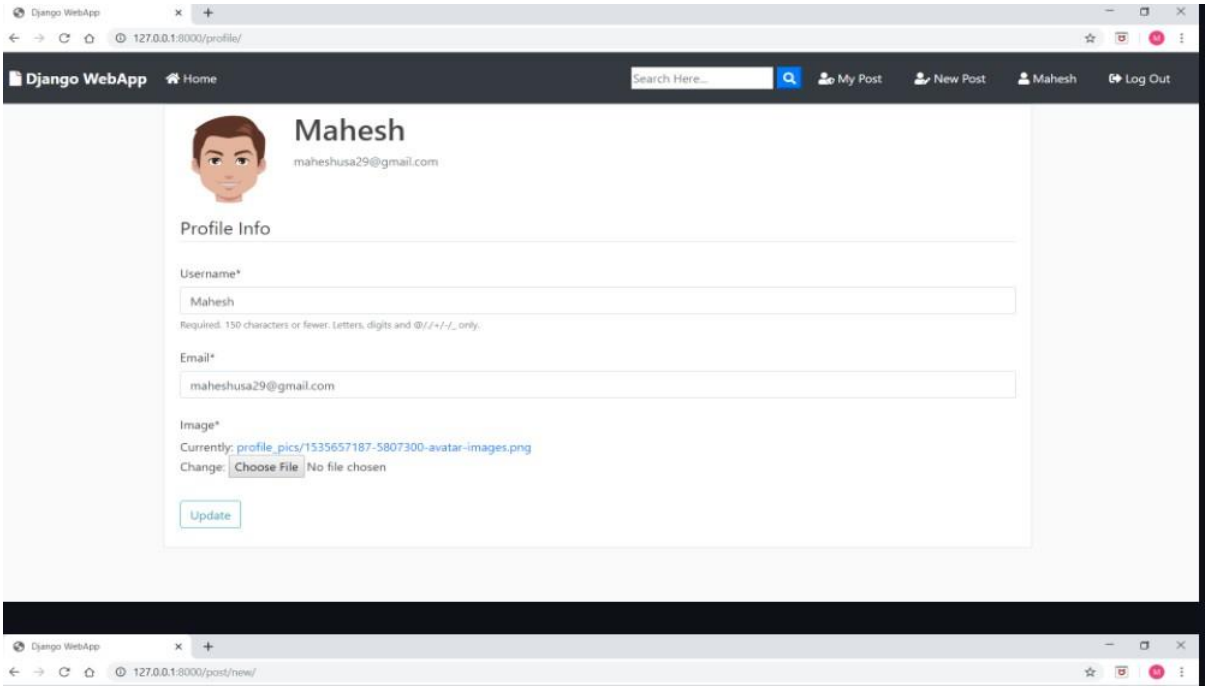
Already registered user can login to their account

4. New Account



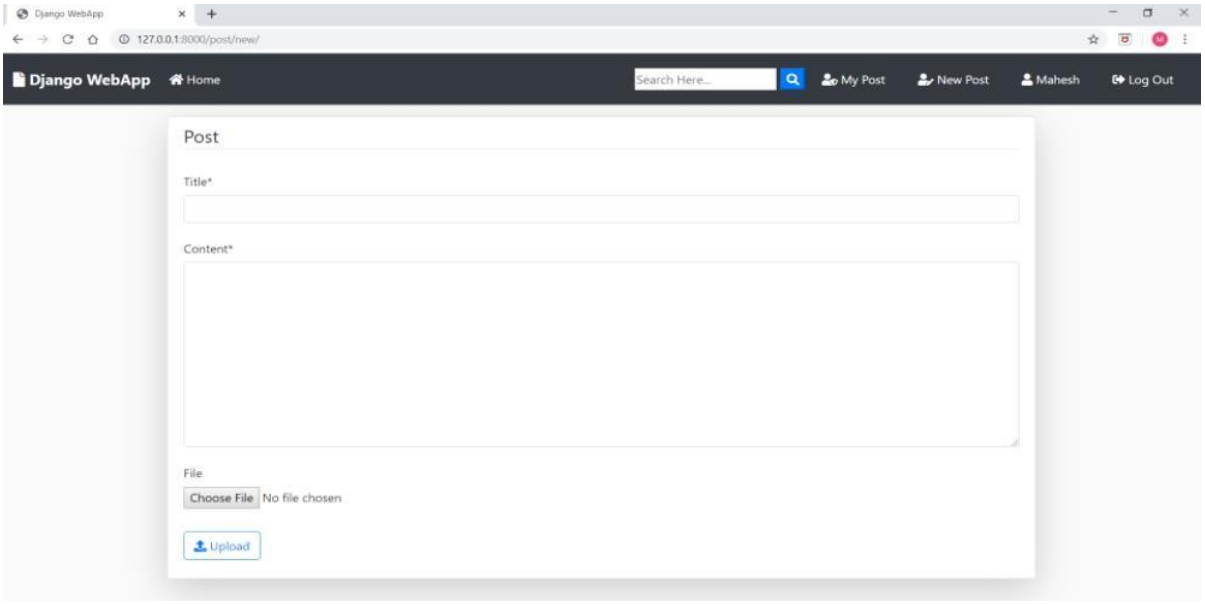
This is how home page looks after creating new account

5. User Profile



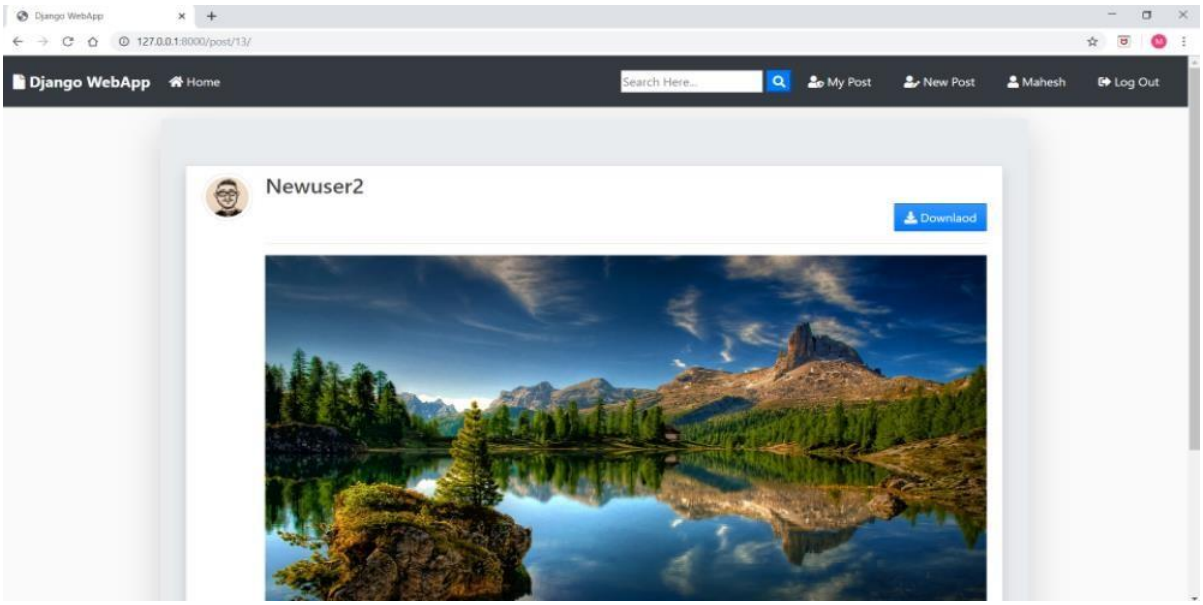
This is how user account looks like after registrations

6. Creating Post



UI for registered user creating new post to account

7. **User Post**



User Posted the image

Internship Diary

Sr. no	Date	Task
1.	23/01/2023	Domain name Creation
2.	24/01/2023	Python Identifiers
3.	25/01/2023	Variable and Data Type's, Type casting and operator
4.	27/01/2023	String and string's method
5.	30/01/2023	List in python
6.	31/01/2023	Tuple in python
7.	01/02/2023	Sets in python
8.	02/02/2023	Dictionary in python.
9.	03/02/2023	Python condition and if statement
10.	06/02/2023	Loops in python and function in python
11.	07/02/2023	Lambda function in python and python module
12.	08/02/2023	File Handling and OOP's Concept
13.	09/02/2023	SQLite database creates using database and creating, inserting data into table
14.	10/02/2023	Getting started with Django and creating first project
15.	13/02/2023	Create App and URLs dispatcher
16.	14/02/2023	Started with the project
17.	15/02/2023	Created login page
18.	16/02/2023	Set up the frontend using

19.	17/02/2023	html,bootstrap and javascript
20	18/02/2023	Installed Django framework for backend
21	19/02/2023	Created registration form
22	20/02/2023	Set up the backend
23	21/02/2023	Configured setting.py in backend
24	22/02/2023	Done with project

Future Scope

As technology evolves, so does the way we use and access information. With the advent of web application development, businesses can create custom-made applications that make accessing data quicker and easier than ever before.

In this blog post, we'll explore some of the latest trends in web application development and how they're changing the way businesses operate. We'll also take a look at some of the challenges developers face in today's market and how they're working to overcome them.

1. Blockchain Technology

The world of web development is about to transform with the introduction of the blockchain. With the rise in cyber-security, many companies are turning towards blockchain for its high levels of protection, secure transactions, and ability to store critical data across multiple locations globally.

Blockchain is one of the technologies that revolutionize and has the potential to transform many industries. It was designed as an open and distributed ledger with decentralized consensus. It functions through modification-resistant blocks to minimize transaction settlement frequency while lowering financial business costs for participants on its network – all these features make it stand out among other technologies.

2. Progressive Web Apps (PWAs)

In a time when we're all becoming more conscious about privacy and security, Progressive Web Apps (PWAs) provide an essential solution for keeping your users safe. These modern web applications have high functionality levels without issues loading or crashing on different browsers- even when accessed varies like mobile devices. They can also prevent data tampering by avoiding caching capabilities that are sometimes prone in websites served over traditional HTTP-URLs.

PWA is a great way to make your website more engaging, as it not only provides easy-to-use features but also enables push notifications. You can share the link with friends who may want access.

3. Cybersecurity

Cybersecurity is a serious issue that we need to address. According to Cybersecurity Ventures (as cited by Business Insurance), the growth rate for this industry has been rapid, with some reports projecting that cybercrime will cost $6 trillion per year by 2021.

Cybersecurity is an integral part of our day-to-day lives. It helps ensure that companies and industries are protected by biometric security, GDPR regulations, etcetera to protect their databases from hackers who may try to access private information such as credit card numbers or social security numbers which could be used against you in countless ways, including identity theft.

4. Machine Learning

Web developers are uniquely positioned to leverage data to create an online presence that is both engaging and professional. Creative Web development companies can use this same power for their clients' benefit through machine learning, which helps them understand customer needs better than ever before.

Developers who have a background in computer science and programming can now add big data to their skills with machine learning, which is expected to lead them toward better outcomes for the website they're developing.

Conclusion

The Web Development Python-Django Internship provides students with hands-on experience in web development using Python and Django. With an increasing need for web developers, this internship can assist students in laying a solid basis for a future in web development or a related sector. Students will have the knowledge and abilities needed to create and deploy web applications using Python and Django by the conclusion of the internship.

References

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