MINI PROJECT
(2021-22)

“NXT-Blogger”

Project Report

Institute of Engineering & Technology

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Department of Computer Engineering & Applications

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Declaration

I/we hereby declare that the work which is being presented in the Bachelor of technology. Project "NXT-Blogger", in partial fulfilment of the requirements for the award of the Bachelor of Technology in Computer Science and Engineering and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of Mr. Manoj Varshney , Technical Trainer, Dept. of CEA,GLA University.

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

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Certificate

This is to certify that the project entitled "NXT-Blogger", carried out in Mini Project – II Lab, is a bonafide work by Ayush Kulshreshtha, Dipendra Bhardwaj, Amish Gupta, Prateek Mishra, Aditya Sharma and is submitted in partial fulfilment of the requirements for the award of the degree Bachelor of Technology (Computer Science & Engineering).

Signature of Supervisor:
Name of Supervisor :Dr. Manoj Varshney

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ACKNOWLEDGEMENT

Presenting the ascribed project paper report in this very simple and official form, I would like to place my deep gratitude to GLA University for providing us the instructor

Mr Manoj Varshney, our technical trainer and supervisor.

He has been helping us since Day 1 in this project. He provided us with the roadmap, the

basic guidelines explaining on how to work on the project. He has been conducting regular meeting to check the progress of the project and providing us with the resources

related to the project. Without his help, We wouldn't have been able to complete this project.

And at last but not the least we would like to thank our dear parents for helping us to grab this opportunity to get trained and also our colleagues who helped us find resources during the training.

Thanking You

Sign: Ayush Kulshreshtha ,Dipendra Bhardwaj, Prateek Mishra, Amish Gupta, Aditya Sharma

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ABSTRACT

This bachelor thesis describes a case study, where We are focusing on developing a Blogging Site, using a process based upon agile development; an evolutionary development method.

The thesis will cover implementation of Next js, along with Frontend and backend development.

In the end, my case study will show that this development process was
an appropriate choice for our Blogging Site Project.

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INTRODUCTION

Next.js has become one of the most important frameworks for React applications. It helps developers to build better server-side rendering React applications without boilerplate.

There are many features in Next.js that make it one of the best React frameworks out there—a rich developer experience, smart bundling, route prefetching, TypeScript support, SEO, etc.

Creating a blog using Next.js is the best option today for those who want to have a simple but powerful blog—without ending up with a lot of code and while increasing our SEO ranking.

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What is Next.Js

Next.js is an open-source web development framework built on top of Node.js enabling React based web applications functionalities such as server-side rendering and generating static websites. React documentation mentions Next.js among "Recommended Toolchains" advising it to developers as a solution when "Building a server-rendered website with Node.js". Where traditional React apps can only render their content in the client-side browser, Next.js extends this functionality to include applications rendered on the server side.

Features and Styling

Next.js supports styling with CSS as well as precompiled Scss and Sass, CSS-in-JS, and styled JSX. In addition, it is built with TypeScript support and smart bundling. The open source transpiler Babel is used to transform and compile code into JavaScript usable by a browser. Webpack, another open-source tool, is used to bundle the modules afterwards. All of these tools are used with npm in a terminal.

The main feature of Next.js is its use of server-side rendering to reduce the burden on web browsers and provide enhanced security. This can be done for any part of the application or the entire project, allowing for content-rich pages to be singled out for

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server-side rendering. It can also be done only for first time visitors, to reduce the burden on web browsers that have yet to download any of the site's assets[] The "hot reloading" feature detects changes as they are made and re-renders the appropriate pages so the server avoids the need to be restarted. This allows changes made to the application code to be immediately reflected in the web browser, though some browsers will require the page to be refreshed. The software uses page-based routing for developer convenience and includes support for dynamic routing. Other features include hot-module replacement so that modules can be replaced live, automatic code splitting, which only includes code necessary to load the page, and page prefetching to reduce load time.

Next.js also supports Incremental Static Regeneration (ISR) and static site generation (SSG) - A complied version of the website is usually built during build time and saved as a .next folder. When a user makes a request, the pre-built version which are static HTML pages are cached and sent to them. This makes the load time very fast, but it's not suitable for every website because for interactive sites that change often and utilize a lot of user input will not be suitable.

SEO

SEO (search engine optimization) is the process of improving your application to rank better on search engines. It is very important for any blog that wants to rank better on search engines and bring in more traffic. A good application with a bad SEO ranking will not be productive, effective or successful.

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Getting Started

We are going to create a new Next.js application using the Create Next App CLI tool. It helps us to easily get started with Next.js and create a new application. To get started, we are going to use the following command:

```
npx create-next-app blog-with-next-js --example --with-typescript
```

We used the `--example` option for creating a new Next.js application using the example name for the Next.js repository. We used the `--with-typescript` option for creating a new Next.js application with TypeScript.

Now that we have our new Next.js application, we are going to create our folder structure.

This is how our folder structure is going to look:

```
-- src
  -- pages
  -- components
  -- articles
  -- lib
```

We are going to remove all folders that come from the Create Next App CLI and create a new folder called `src`. Inside the `src` folder, we

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are going to create all the folders that we are going to need to create our blog.

Now, we are going to install all the dependencies that we are going to need.

Creating Our Files

After we install all of our dependencies, we are going to our pages folder and create a new file called _app.tsx.

This is how our _app.tsx file is going to look:

```
function MyApp({ Component, pageProps }: any) {
  return <Component {...pageProps} />;
}
export default MyApp
```

Now, inside our articles folder, we are going to create a new file called introducing-blog-with-nextjs.mdx. All the blog posts of our blog will be written using Markdown and should have some content outlined by -- which

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is known as front matter. The front matter holds all the information of our blog post.

This is how our first blog post is going to look:

```
---
title: "Introducing Blog with Next.js"
description: "A new blog using Next.js and Markdown"
date: "14 Apr, 2021"
slug: "introducing-blog-with-nextjs"
ogImage:
  url: "/images/articles/introducing-blog-with-nextjs.jpeg"
---
```

Now that we have our first blog post written, we are going to our lib folder and create some helper functions that we are going to need.

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Creating Our Components

Inside our components folder, we are going to create two new folders.

We are going to create a folder called ArticleItem, which is where we are going to create the component for rendering an article as a preview.

We are going to create a folder called Article, where we are going to create our component for rendering a specific article.

We are going to start with our ArticleItem folder. Inside the folder, create a file called ArticleItem.tsx and a file called ArticleItem.styles.ts.

Inside our ArticleItem.styles.ts, we are going to create some simple styling for our component using Emotion.

Next, inside our Article folder, we will create a file called Article.tsx and two more folders called Header and Content.

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Rendering Our Blog Posts

Now that we have created our components and the helper functions that we are going to need, we are going to actually create the pages for rendering our blog posts.

Inside our pages folder, we are going to have a file called index.tsx where we will render all of our blog posts.

Inside the index.tsx file we are going to import the ArticleItem component that we created. After that, we are going to import the API from our lib.ts file to return all of our blog posts.

For each blog post that we have, we're going to render an ArticleItem component. We're receiving our articles as a prop but we need to fetch them.

We're now rendering all of our blog posts correctly. Now, inside our pages folder, we're going to create a folder called blog and inside that folder create a file

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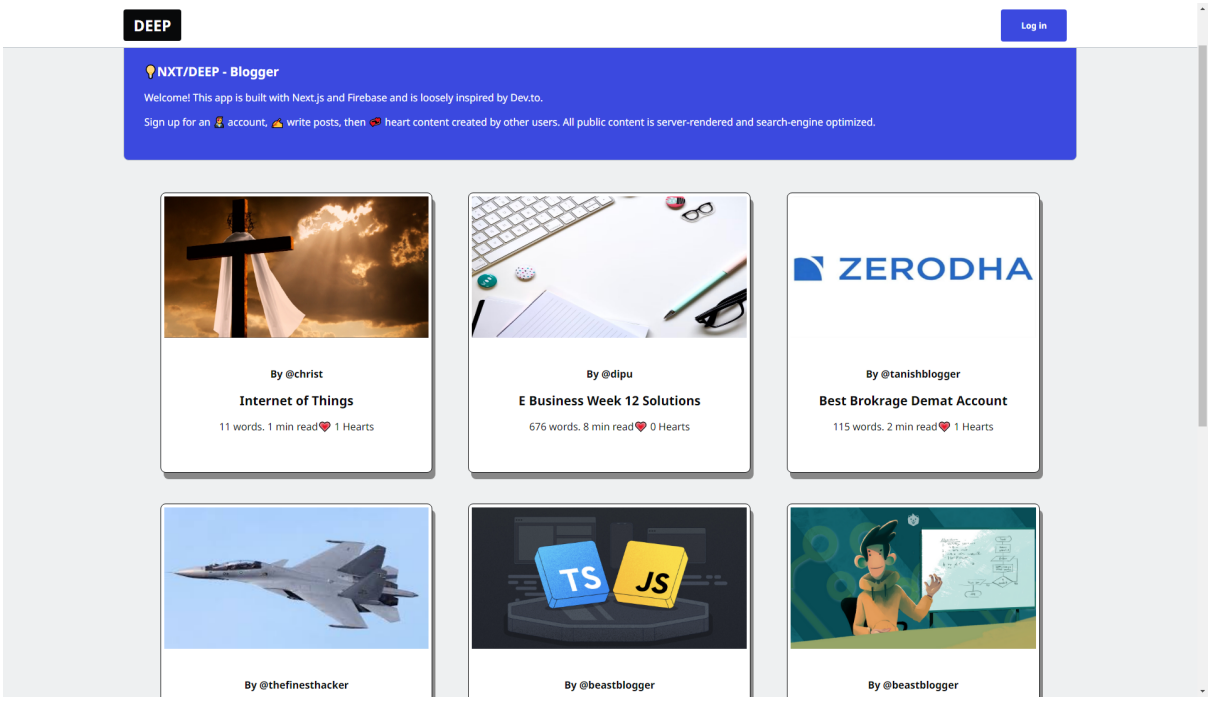
Insights Of our Blogging Site

Home Page



When we go to our Website , First of all we'll get the HOME PAGE.

Where we have all the previous blogs (if any) and options to sign in/ log in.

Here you get to see all the blogs, by different user , you can read them and react.

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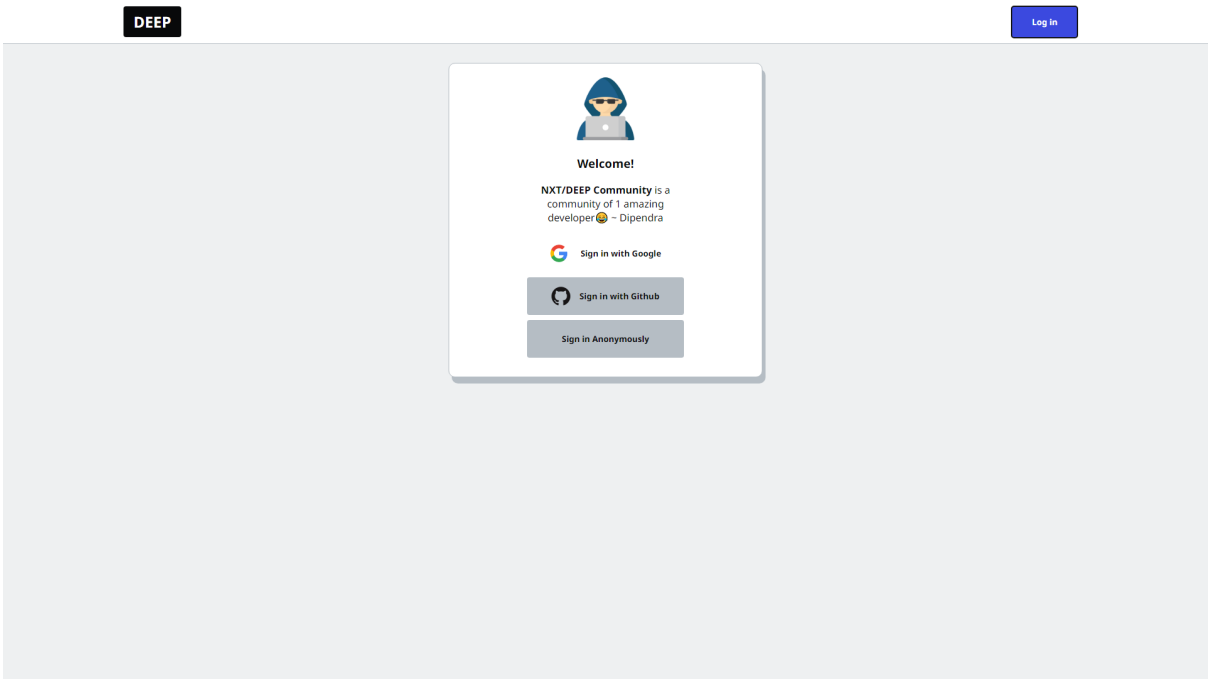
The Login page



This page right here is the Login page , here you can login with your gmail, github account , or you can just sign in anonymously.

When you sign in anonymously, it will only allow you to view the content , and does not allow you to create it .

Followed by the name of the site on the top left corner and login button at the top right .

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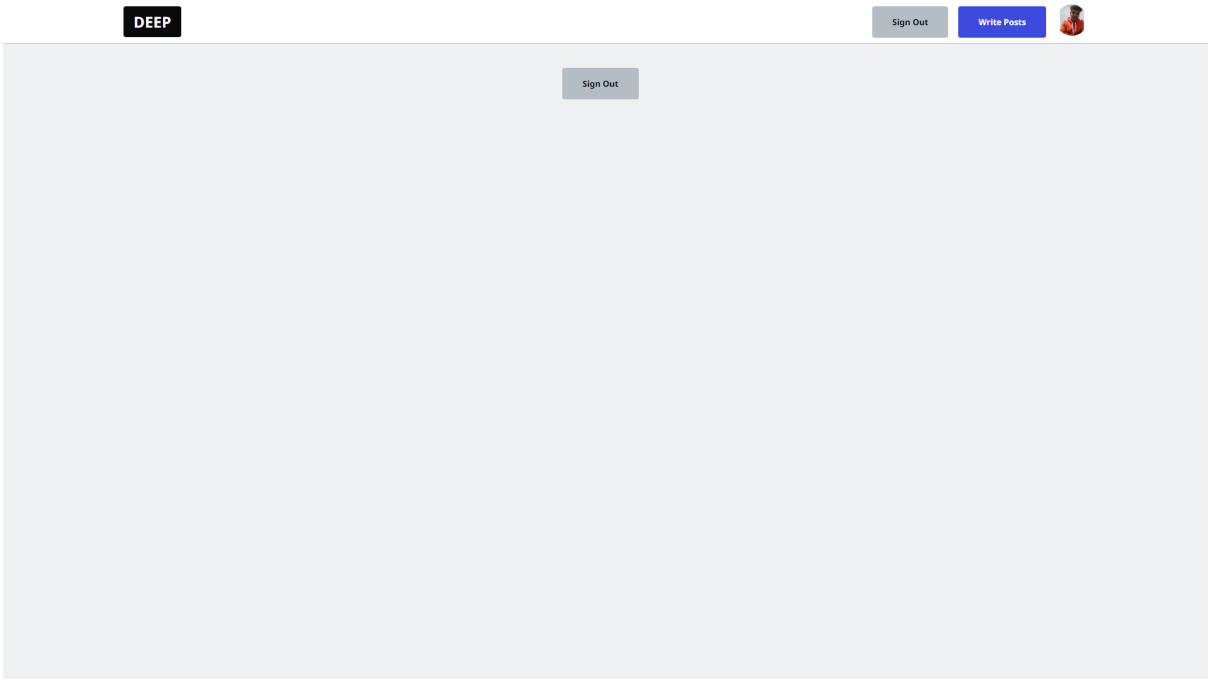
After Logging in



This page here , right after signing in, will show you your posts (if any) and allows you to write new one .

It gives you the option to write a new post or to sign out.

Followed by the SIGNOUT button at the top right corner, and before that we got a button WRITE POSTS and our Profile Picture

The name of the site is at the top left corner.

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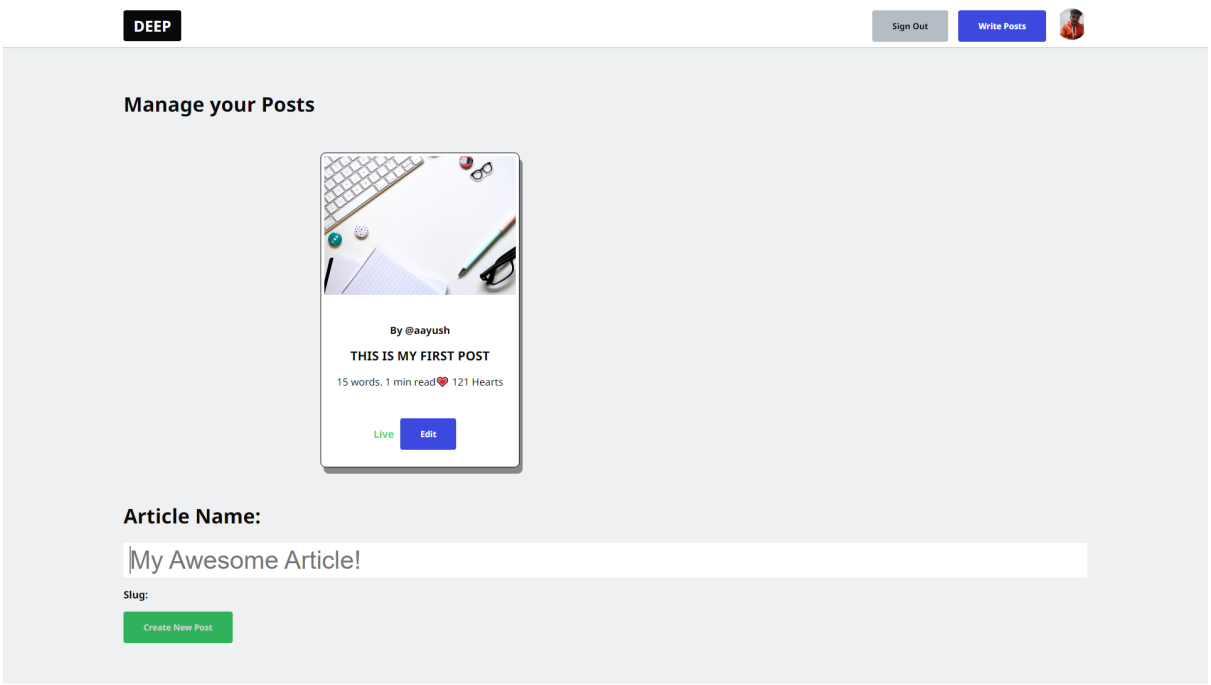
Writing a Post



In this page , We get the option to manage and view our previous post if any, with a thumbnail on it and also with an edit option.

It first asks for the Title for our next blog or article before moving us to posting it.

Followed by the SIGNOUT button at the top right corner, and before that we got a button WRITE POSTS and our Profile Picture

The name of the site is at the top left corner.

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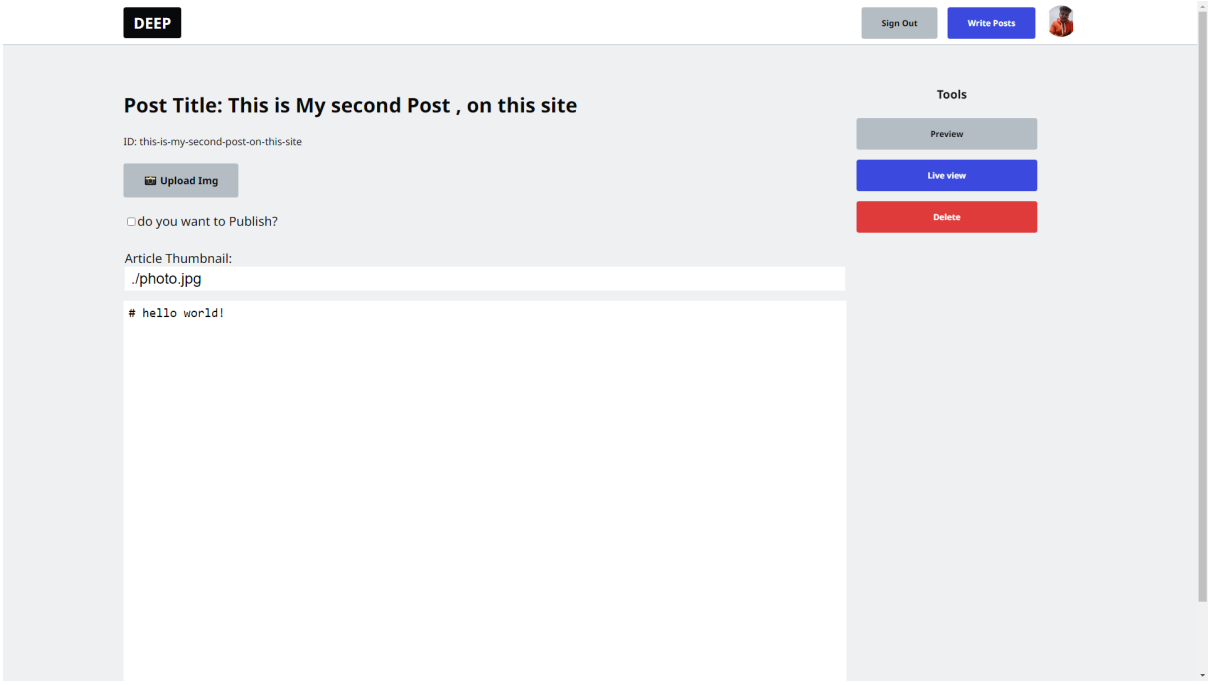
Posting Our Post



This is an interesting page in our site , as it contains, how our post or blog should look like It gives us the power to choose the article's thumbnail, we can upload an image of our desire.

We have been also provided with some tools like : PREVIEW, LIST VIEW, DELETE.

While creating our blog , it also shows the TITLE which we have given early.

Followed by the SIGNOUT button at the top right corner, and before that we got a button WRITE POSTS and our Profile Picture

The name of the site is at the top left corner.

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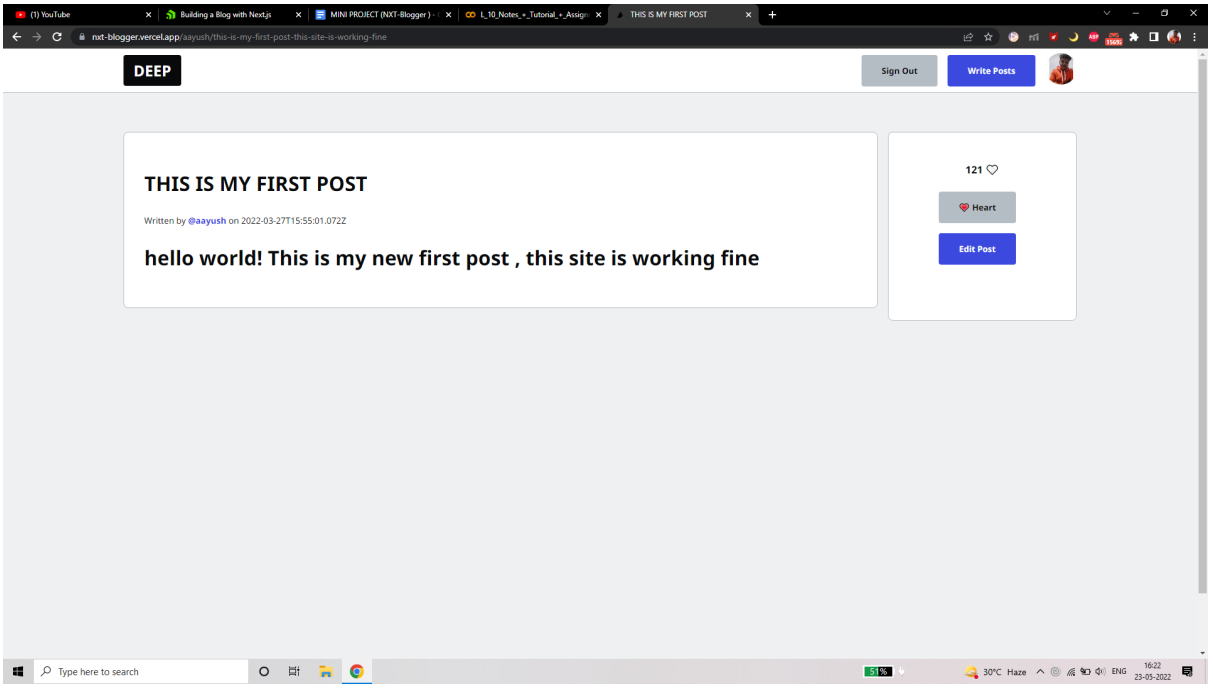
Our Profile



Here we can see our profile , where we can edit and review our posts.

First of all we can see our post, telling us by whom it is written or posted.

On the right section of the window , we can see how many likes our post has got with two option HEART and EDIT POST

Followed by the SIGNOUT button at the top right corner, and before that we got a button WRITE POSTS and our Profile Picture

The name of the site is at the top left corner.

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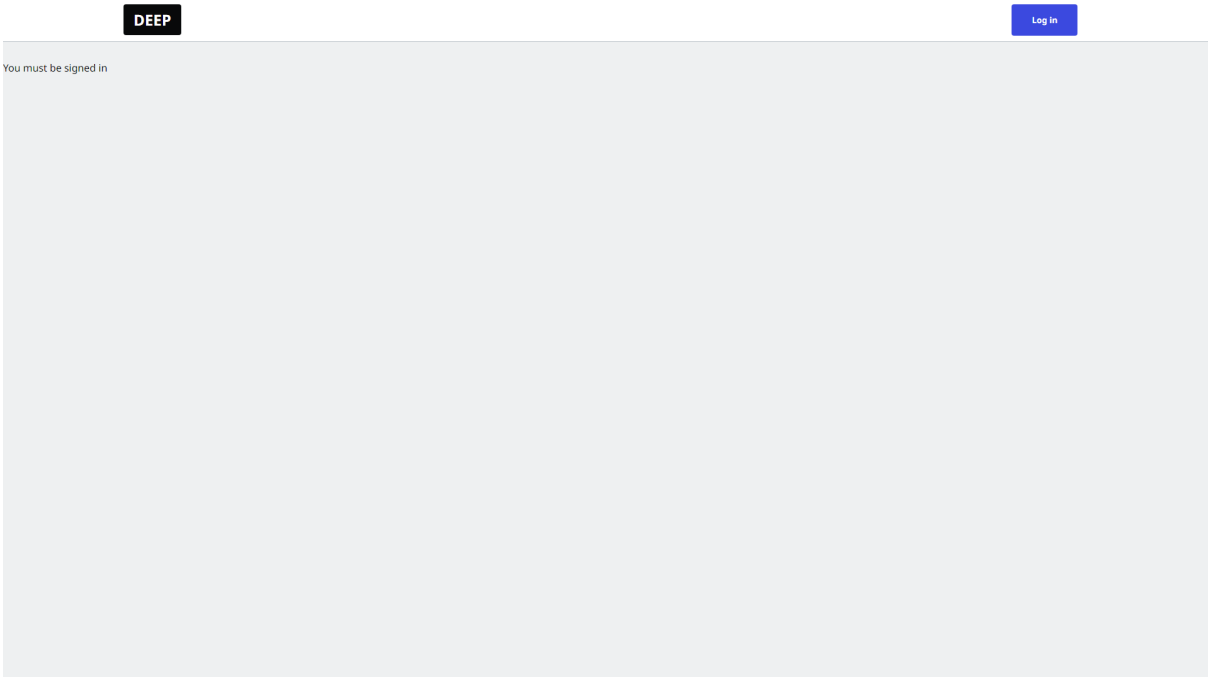
Signing Out



On Signing Out , we'll automatically be directed to the Signed/Logged Out Page, and there will be a text telling us to login in again , in order to view or access the site.

Followed by the LOGIN button at the top right corner, and the name at the top left corner.

You can see the text " YOU MUST BE SIGNED IN ".

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CODE

```
import Head from 'next/head'
import PropertyCard from "../components/PropertyCard";
import Link from "next/link";
import {db} from "../lib/firebase";

interface Post {
    name: string;
    description: string;
    size: string;
}

export const getServerSideProps = async () => {
  let posts: Post [] = [];
  try {
    const snapshot = await db.ref('/properties').once('value',
(snapshot) => {
      snapshot.forEach((childSnapshot) => {
        const childData = childSnapshot.val();
        posts = [...posts, childData];
      });
    });
  } catch (error) {
    console.log(error);
  }
  return {
    props: {
      posts,
    },
```

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```
  };
};


function Home({ posts }: { posts: Post[] }) {
  return (
    <div className="flex min-h-screen flex-col items-center
justify-center py-2">
      <Head>
        <title>Quick Reply</title>
        <link rel="icon" href="/favicon.ico" />
      </Head>

      <main className="flex w-full flex-1 flex-col
items-center justify-center px-20 text-center">
        <h1 className="text-6xl font-bold">
          Welcome to{' '}
          <a className="text-blue-600"
href="https://www.quickreply.ai/">
            Quick Reply!
          </a>
        </h1>
        <Link href={"/property"}>
          <div className="mt-6 w-96 rounded-xl border p-6
text-left">
            <h2 className="text-2xl font-bold">
              Add New Property
            </h2>
          </div>
        </Link>
```

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```
        <div className="mt-6 flex max-w-4xl flex-wrap
items-center justify-around sm:w-full">
          {posts.map((item, index) => {
            return <PropertyCard
              key={index}
              name={item.name || "name"}
              description={item.description || "description"}
              size={item.size || "size"} />;
          })}
        </div>
      </main>

      <footer className="mt-8 flex h-24 w-full items-center
justify-center border-t">
        <a
          className="flex items-center justify-center gap-2"
          href="https://github.com/Dipendra-creator"
          target="_blank"
          rel="noopener noreferrer"
        >
          Created by Dipendra Bhardwaj
        </a>
      </footer>
    </div>
  );
}

export default Home;
```

```
import Link from 'next/link';
```

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```
import React, {useState} from 'react';
import {db} from '../lib/firebase';


const Property = () => {
    const [name, setName] = useState("");
    const [description, setDescription] = useState("");
    const [size, setSize] = useState("");

    function addItems(name: string, description: string, size:
string) {
        var items = {
                name: name,
                description: description,
                size: size
        };

        db.ref('/properties').push(items);
    }

    const handleSubmit = (e: React.FormEvent<HTMLFormElement>)
=> {
        e.preventDefault();
        addItems(name, description, size);
        setName("");
        setDescription("");
        setSize("");
    }
```

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```
    const handleNameChange = (e:
React.ChangeEvent<HTMLInputElement>) => {
        setName(e.target.value);
    }
    const handleDescriptionChange = (e:
React.ChangeEvent<HTMLTextAreaElement>) => {
        setDescription(e.target.value);
    }
    const handleSizeChange = (e:
React.ChangeEvent<HTMLInputElement>) => {
        setSize(e.target.value);
    }

    return (
        <div className="flex min-h-screen flex-col
items-center justify-center py-2">

            <main className="flex w-full flex-1 flex-col
items-center justify-center px-20 text-center">
            <h1 className="text-6xl font-bold">
                Welcome to{' '}
                <a className="text-blue-600"
href="https://www.quickreply.ai/">
                Quick Reply!
                </a>
            </h1>

            <div className="mt-6 flex max-w-4xl flex-wrap
items-center justify-around flex max-w-4xl sm:w-full border">
                <div>
```

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```
                <form onSubmit={handleSubmit}>
                    <div className="mt-8 flex flex-col
items-center justify-center">
                        <label className="text-2xl font-bold">
                            Name
                        </label>
                        <input
                        type="text"
                        name="name"
                        value={name}
                        onChange={handleNameChange}
                         placeholder="Enter name"
                         className="border block w-full px-4
py-2 mt-2 text-gray-700 focus:border-blue-400
focus:ring-blue-300 focus:ring-opacity-40
dark:focus:border-blue-300 focus:outline-none focus:ring" />
                    </div>
                    <div className="mt-8 flex flex-col
items-center justify-center">
                        <label className="text-2xl font-bold">
                            Description
                        </label>
                        <textarea name="description"
id="description"
                        value={description}
                        onChange={handleDescriptionChange}
                        placeholder="Description"
                        className="border block w-full px-4
py-2 mt-2 text-gray-700 focus:border-blue-400
```

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```
focus:ring-blue-300 focus:ring-opacity-40
dark:focus:border-blue-300 focus:outline-none focus:ring"
                        required></textarea>
                    </div>
                    <div className="mt-8 flex flex-col
items-center justify-center">
                        <label className="text-2xl font-bold">
                            Size
                        </label>
                        <input
                        type="text"
                        placeholder="Enter size (100m2)"
                        name="size"
                        value={size}
                        onChange={handleSizeChange}
                        className="border block w-full px-4
py-2 mt-2 text-gray-700 focus:border-blue-400
focus:ring-blue-300 focus:ring-opacity-40
dark:focus:border-blue-300 focus:outline-none focus:ring"/>
                    </div>
                    <div className="mt-8 mb-8 flex flex-col
items-center justify-center">
                        <button type="submit" className="px-6
py-2 leading-5 text-white transition-colors duration-200
transform bg-gray-700 rounded-md hover:bg-gray-600
focus:outline-none focus:bg-gray-600">Add</button>
                    </div>
                    <Link href="/">
                        <div className="mt-8 mb-8 flex
flex-col items-center justify-center">
```

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```
                                <div className="px-6 py-2
leading-5 text-white transition-colors duration-200 transform
bg-blue-700 rounded-md hover:bg-blue-600 focus:outline-none
focus:bg-blue-600">HOME</div>
                            </div>
                        </Link>

                    </form>
                    </div>
                </div>
                </main>

                <footer className="mt-8 flex h-24 w-full
items-center justify-center border-t">
                <a
                    className="flex items-center justify-center
gap-2"
                    href="https://github.com/Dipendra-creator"
                    target="_blank"
                    rel="noopener noreferrer"
                >
                    Created by Dipendra Bhardwaj
                </a>
                </footer>
            </div>
    )
}

export default Property;
```

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```
import '../styles/globals.css'
import type { AppProps } from 'next/app'

function MyApp({ Component, pageProps }: AppProps) {
  return <Component {...pageProps} />
}

export default MyApp
```

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CONCLUSION

Creating a blog using Next.js is very easy and straightforward. The benefits of Next.js, especially for blogs, are huge. Your blog application will have a very good performance, a small bundle and a good SEO score.

We have successfully completed our blogging site, under the supervision of our mentor, we really learned a lot from this opportunity and are glad to work on it

Undersign

Dipendra Bhardhwaj
Ayush Kulshreshtha
Prateek Mishra
Amish Gupta
Aditya Sharma