

INTERNSHIP REPORT

CENTER FOR DEVELOPMENT OF IMAGING TECHNOLOGY (C-DIT)



Submitted by

ANJU MARTIN (21BL14394)

DEEPTHI S PANICKER (21BL14331)

GOURI BABU (21BL14146)

SREYA KELOTH (21BL14363)

OF

Department of Electronics and Communication Engineering

RAJIV GANDHI INSTITUTE OF TECHNOLOGY

KOTTAYAM-686501

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ABSTRACT

This internship entails the development of a comprehensive web portal designed specifically for students. The web portal will feature a dynamic banner section to display important announcements, events, and updates. It will also include a dedicated articles section where students can access a variety of educational content, news, and feature stories relevant to their interests and studies. A secure login page will be integrated, enabling personalized access for each student, ensuring that content is tailored to individual needs and preferences. The portal aims to enhance the student experience by providing easy access to valuable information and fostering a sense of community through an interactive and user-friendly interface.

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INTRODUCTION

In our increasingly digital world, having a dedicated web portal can make a huge difference for students. This internship aims to create a student-friendly web portal that centralizes all essential resources. With a banner for announcements and events, and an articles section for educational content, students will always stay informed and engaged.

Security is a top priority, so we're integrating a secure login system to personalize each student's experience. By using the latest web technologies, we're building a responsive and accessible platform that supports and enhances the student journey, making their academic life more connected and efficient.

OBJECTIVES

- Create an Interactive User Interface
- Implement Banner Section
- Develop Articles Section
- Ensure Secure Login and Authentication
- Optimize for Responsiveness
- Facilitate Easy Content Management
- Implement Regular Updates and Maintenance
- Provide Comprehensive Support and Resources

SOFTWARE DESCRIPTION

The Student Web Portal is a user-friendly platform designed to centralize essential academic resources and enhance the educational experience for students. This portal aims to streamline communication, provide easy access to information, and foster a sense of community among students.

FRONTEND DEVELOPMENT

1. HTML



Figure 3.1

HTML (HyperText Markup Language) is the standard language for creating and structuring content on the web. It provides the basic structure of a website using a variety of tags and elements, such as `<html>`, `<head>`, `<body>`, `<p>`, and `<a>`, to define different parts of a web document. HTML allows for the embedding of multimedia elements, the creation of hyperlinks for easy navigation, and the inclusion of forms to collect user input. Attributes within tags offer additional information about elements, enhancing the functionality and interactivity of web pages. Overall, HTML is the foundation of web development, enabling the creation of structured and accessible web content.

2. CSS



Figure 3.2

CSS (Cascading Style Sheets) is a stylesheet language used to describe the presentation and layout of HTML documents. It controls the visual appearance of web pages, allowing developers to style elements such as colors, fonts, spacing, and positioning. By separating content (HTML) from design (CSS), it enhances the maintainability and flexibility of web development. CSS includes features like selectors, properties, and values to target and style specific elements, and it supports responsive design through media queries to ensure web pages look good on various devices. Overall, CSS is essential for creating visually appealing and user-friendly websites.

3. JavaScript



Figure 3.3

JavaScript is a versatile, high-level programming language primarily used for adding interactivity and dynamic behavior to web pages. It enables developers to create responsive user interfaces by manipulating HTML and

CSS, handling events, and updating content without reloading the entire page. JavaScript can be executed on the client side (in the browser) and, with environments like Node.js, on the server side as well. It supports various programming paradigms, including procedural, object-oriented, and functional programming. JavaScript's extensive ecosystem, including libraries and frameworks like React, Angular, and Vue, enhances its capabilities, making it essential for modern web development.

BACKEND DEVELOPMENT

4.PYTHON



Figure 3.4

Python is a high-level, interpreted programming language known for its simplicity and readability. It emphasizes code readability and allows programmers to express concepts in fewer lines of code compared to languages like C++ or Java. Python supports multiple programming paradigms, including procedural, object-oriented, and functional programming. It is versatile and widely used in various domains, including web development, data science, artificial intelligence, scientific computing, and more. Python's extensive standard library and third-party modules contribute to its popularity, offering tools and frameworks for diverse applications. Its straightforward syntax and dynamic typing make it accessible to beginners while remaining powerful for advanced developers, positioning Python as one of the most popular languages for both beginners and experienced programmers alike.

5.FLASK



Figure 3.5

Flask, a lightweight and versatile web framework for Python, empowers developers to quickly build web applications with minimal setup and straightforward syntax. Known for its simplicity and flexibility, Flask facilitates rapid prototyping and efficient development by focusing on essential features like routing, templating with Jinja2, and modular extensions. Whether creating small projects or scaling up to larger applications, Flask's ease of learning and robust community support makes it a preferred choice among developers seeking a streamlined yet powerful tool for web development in Python.

DATABASE

6.MySQL



Figure 3.6

MySQL is an open-source relational database management system (RDBMS) known for its reliability, scalability, and ease of use. It is widely used in web applications to store and manage structured data, offering robust features for handling transactions, complex queries, and large volumes of data efficiently. MySQL supports SQL (Structured Query Language) for querying and manipulating data, making it compatible with many web development frameworks and programming languages. Its community edition is freely available, while enterprise editions provide additional features and support for mission-critical applications. MySQL's versatility and performance have made it a popular choice for powering data-driven applications across various industries, from small businesses to large-scale enterprises.

RESULTS

During the internship at C-DIT, we had the opportunity to work on developing a web portal. Spanning over a week, this internship provided us with invaluable hands-on experience in a professional setting, allowing us to apply theoretical knowledge to practical scenarios. The primary objective of the internship was to create a user-friendly web portal that facilitates a banner for announcements and events, and an articles section for educational content, the portal aimed to ensure a seamless user experience. We created a web portal that consists of three forms that deals with the banner, articles and login. To achieve this, we employed a variety of technologies. For the front-end, we utilized HTML, CSS, and JavaScript. The back-end development was supported by technologies like python, Flask and the database management involved MySQL.

Afterall, this internship was a significant milestone in our career development. It offered practical experience, enhanced technical and professional skills, and prepared us for future challenges in the field of web development.

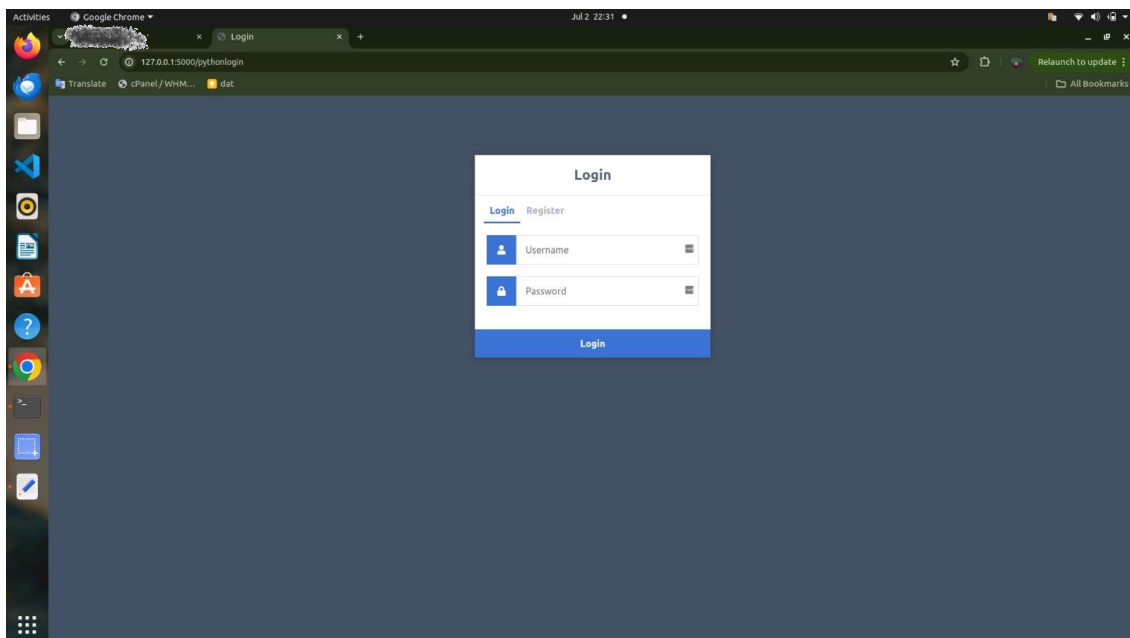


Figure 4.1 Login Page

The login page is generated or rendered dynamically based on user interactions or backend conditions. This approach allows for personalized user experiences and can involve dynamic content generation, such as displaying different elements based on user roles, authentication status, or other variables managed by the backend logic of the website.

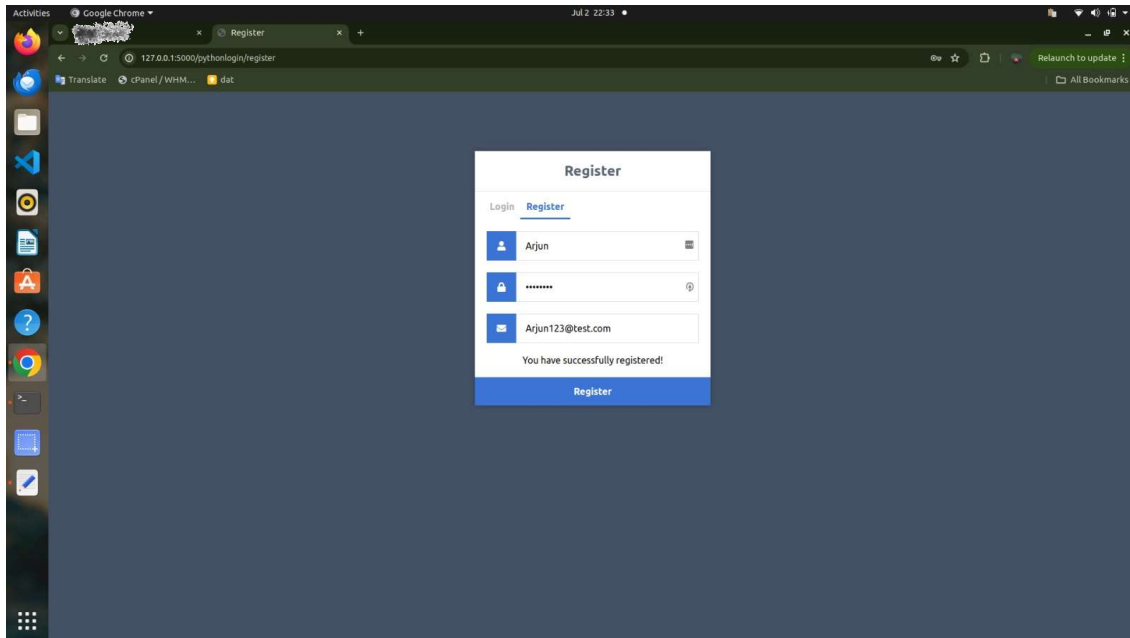


Figure 4.2 Register Page

A register page is a web page where new users can sign up or create an account by providing required information such as username, email address, password, and any additional details necessary for registration. This process often involves form submission and backend validation to ensure data integrity and security.

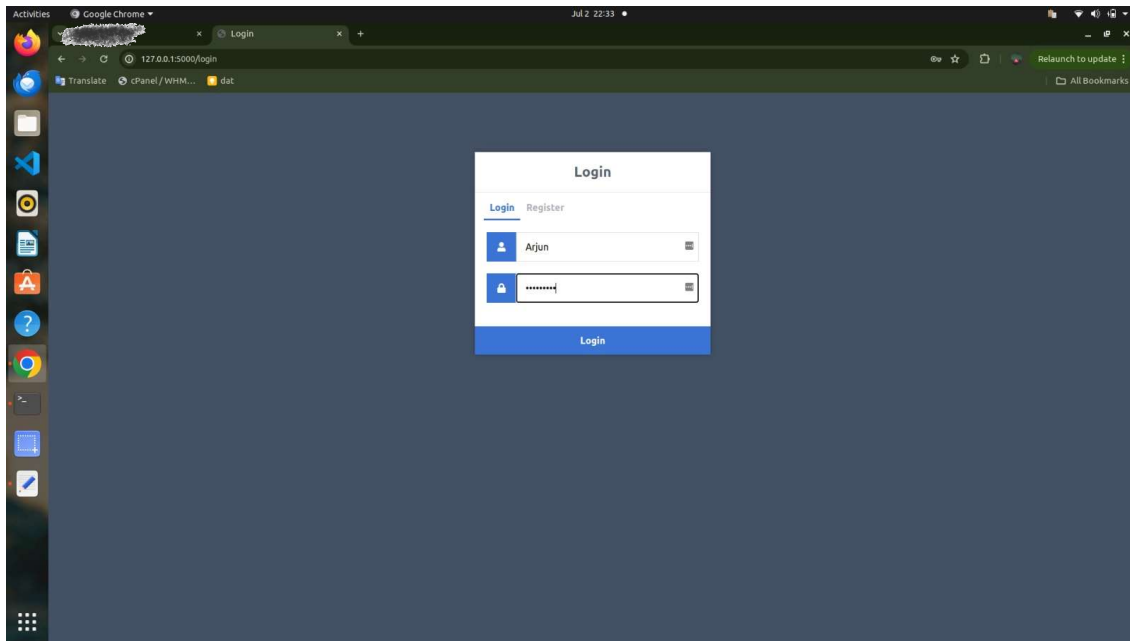


Figure 4.3 Login

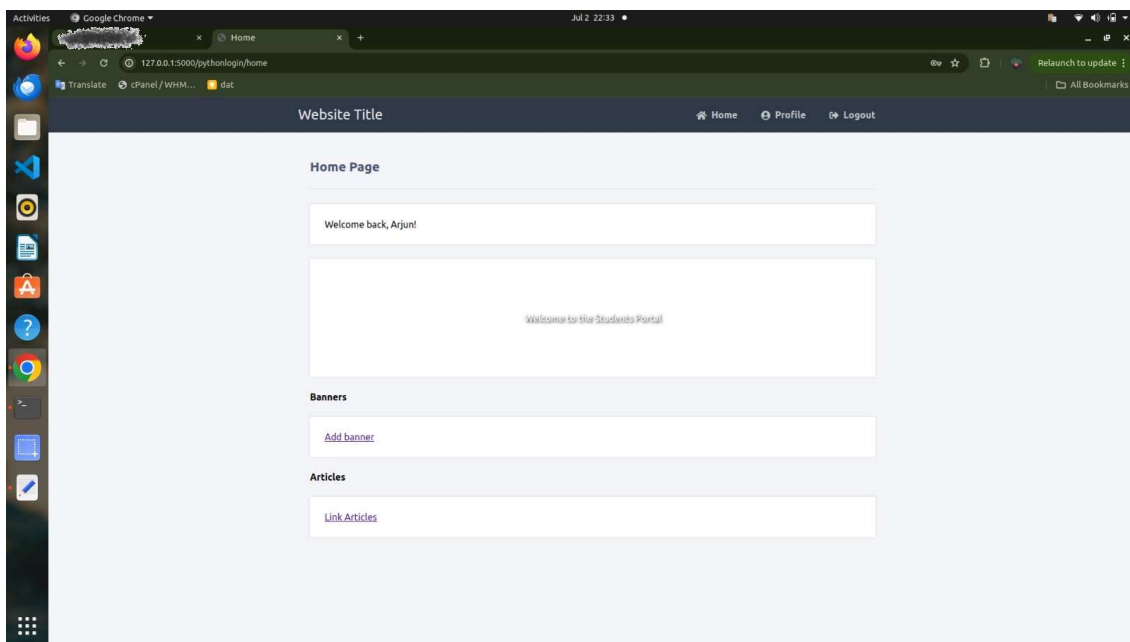


Figure 4.4 Home page

A home page is the main landing page of a website that is generated dynamically based on user interactions, session data, or backend algorithms. It typically serves as the gateway to the website's content or

services, presenting personalized information, recommended content, or updates based on user preferences, or other relevant factors.

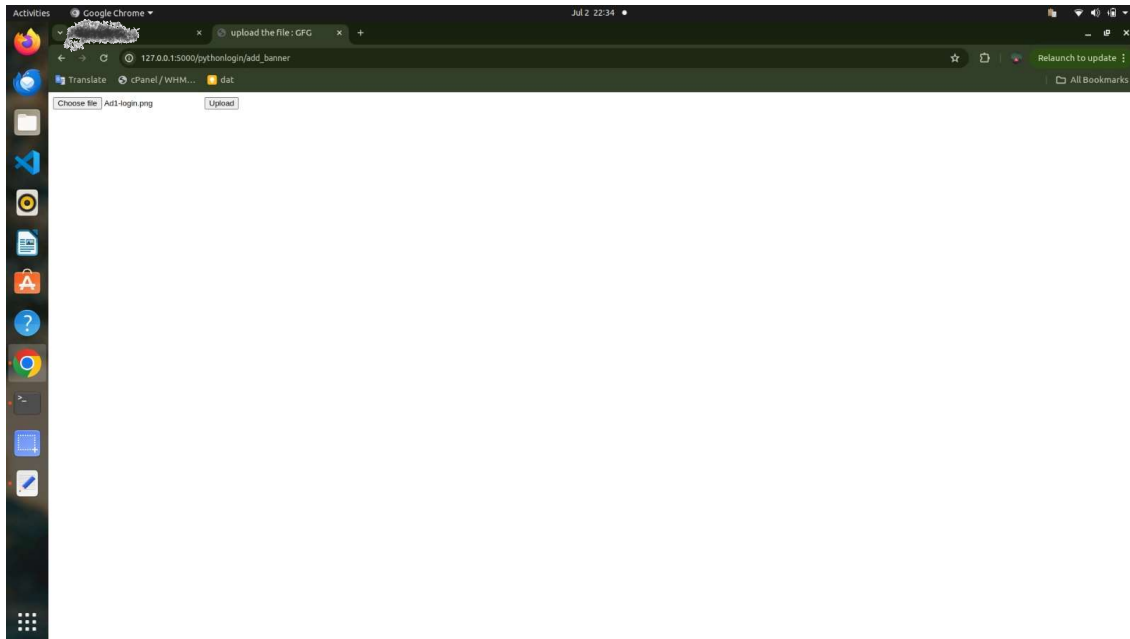


Figure 4.5 Banner Choose file

A banner page is a web page within a content management system or administrative interface where authorized users can create, edit, and manage banners or advertisements displayed on a website. It allows for uploading images or multimedia content, setting display parameters such as duration and positioning, and tracking performance metrics like clicks or impressions.

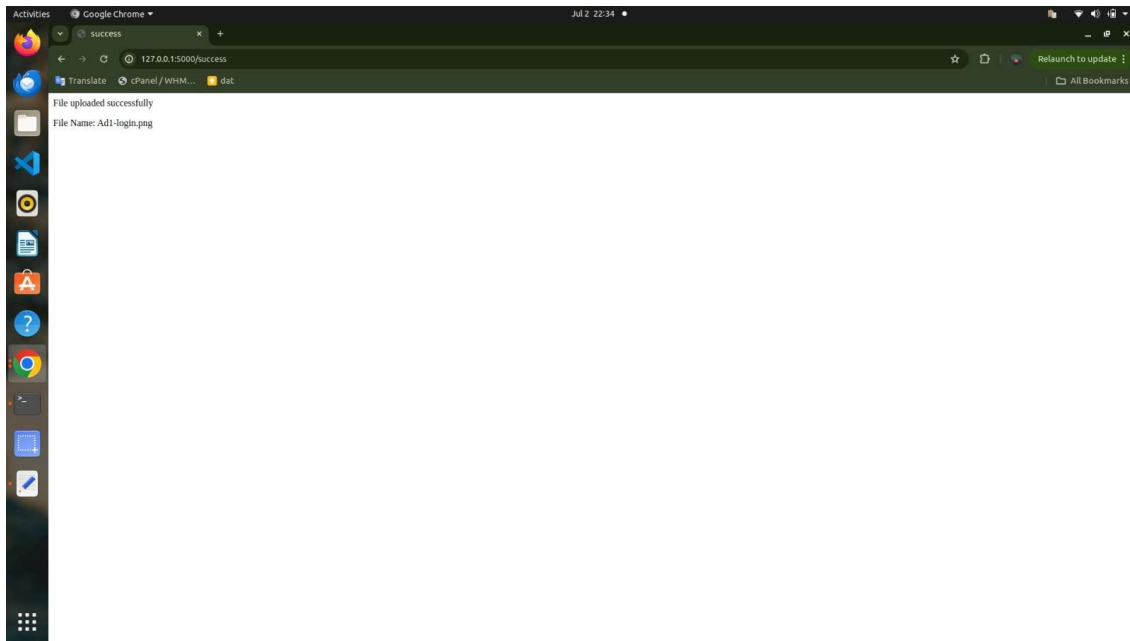


Figure 4.6 File uploading page

Upon submission, the file is securely transferred to a server where it undergoes validation to ensure it meets specified criteria such as file type and size limits. Once validated, the file is stored in a designated location on the server. The user is then notified of the successful upload, enabling the file to be dynamically integrated into the website's banner management system for display as promotional content.

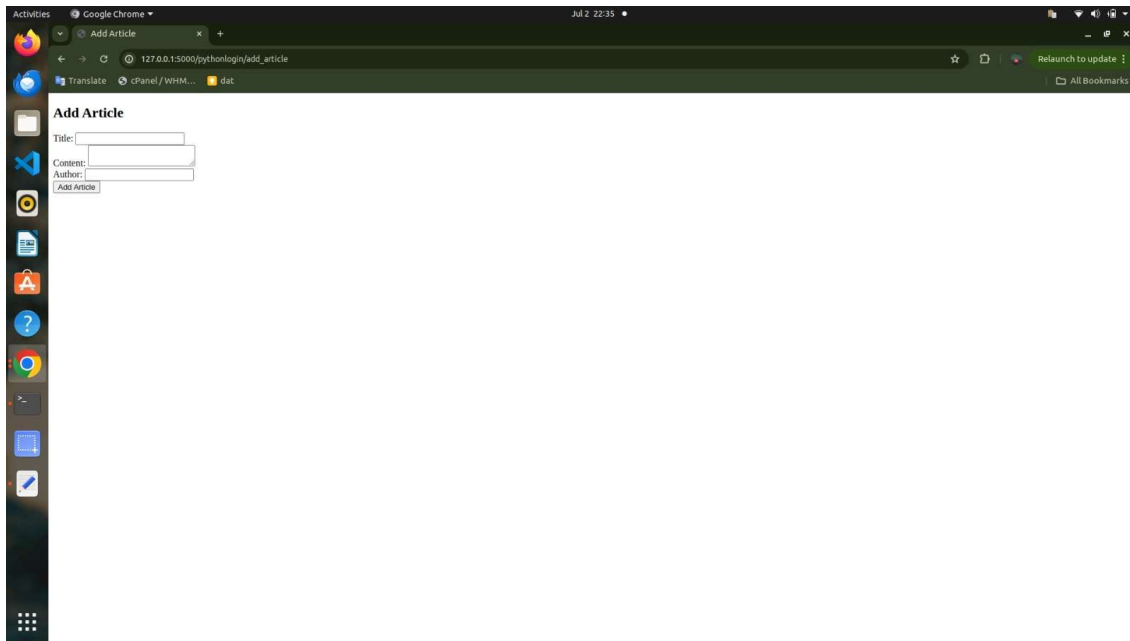


Figure 4.7 Add article page

The article-adding page allows users to submit new articles to be stored in the MySQL database and displayed on the main page of the website. This involves creating a form where users can input the article's title and content, and then handling the form submission to insert the new article into the database.

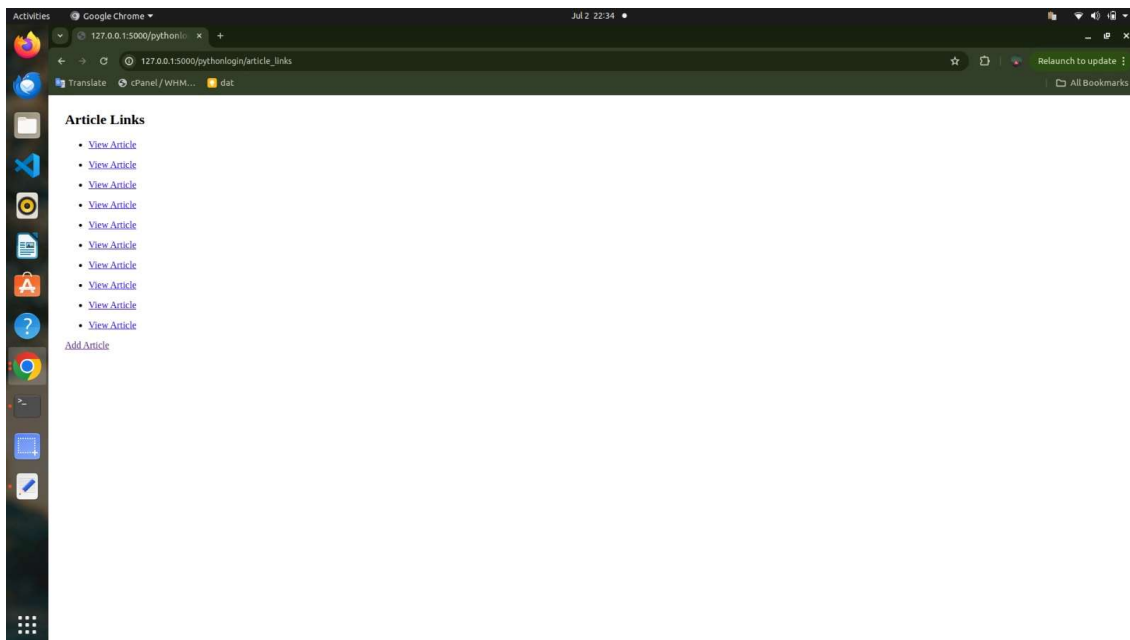


Figure 4.8 Article links

The article links feature enhances the user experience by allowing users to click on individual article titles to view the full content on a separate page. This involves adding hyperlinks to each article title on the main page and creating a new route and template to display the full article content.

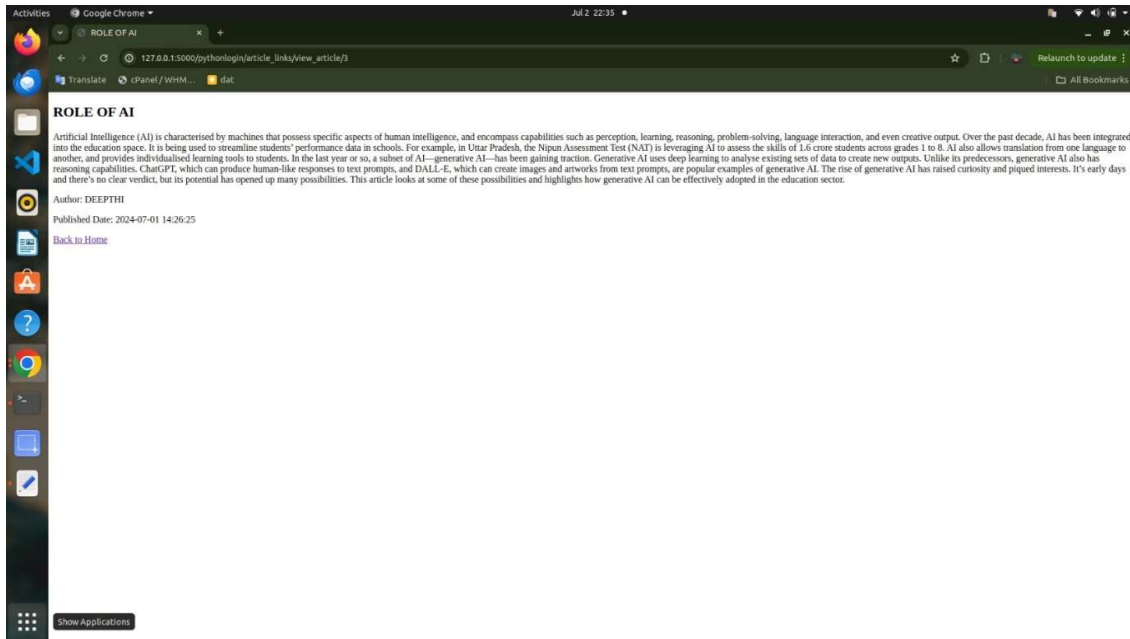


Figure 4.9 Article view

This page typically lists articles in a user-friendly format, displaying essential details such as titles, summaries, and dates. Each article is often presented as a clickable link leading to a dedicated article detail page. This setup ensures ease of navigation and encourages engagement by allowing users to browse and select articles of interest seamlessly.

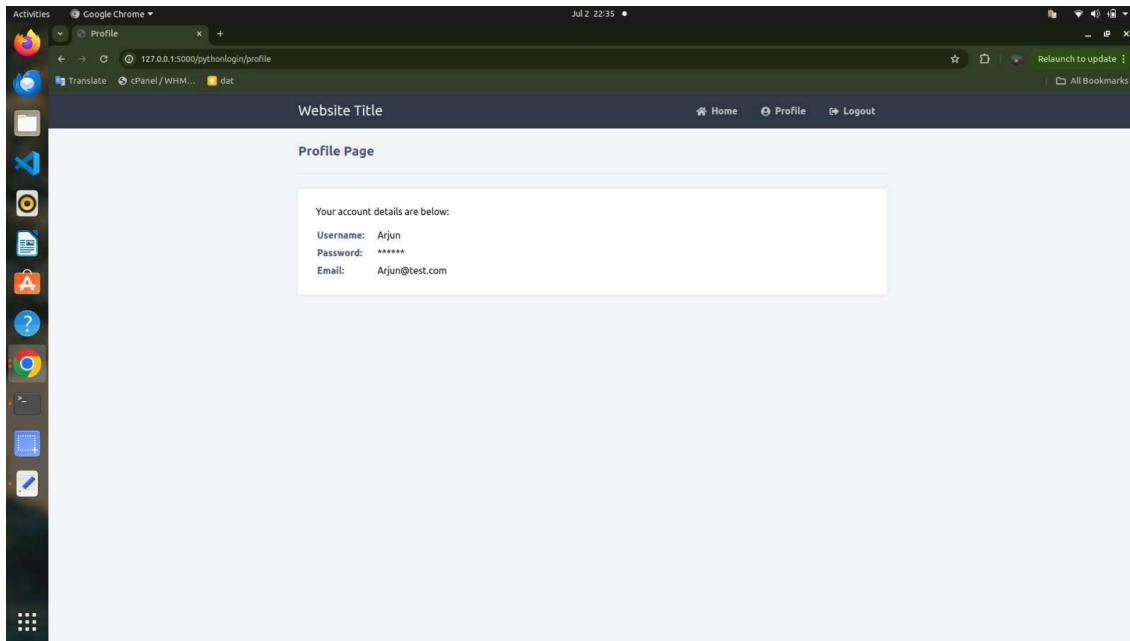


Figure 4.10 Profile

A profile page involves backend systems to manage user data securely, frontend development for designing the page layout and interaction elements, and possibly integration with authentication systems for secure access and management of user profiles. This page plays a crucial role in enhancing user engagement and providing a personalized experience.

CONCLUSION

In conclusion, the development of the web portal for students has been a rewarding journey marked by significant achievements and valuable learning experiences.

The internship successfully integrated essential features. Utilizing HTML, CSS, JavaScript, and frameworks like Flask ensured a robust and responsive design, while adherence to best practices in web development contributed to scalability and reliability. Moving forward, ongoing maintenance and potential enhancements will continue to optimize the portal's functionality, aiming to further support and enrich the student community's educational experience.

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