

# **Tech-Edu Verse**

## **A MINI PROJECT REPORT**

*in partial fulfillment for the award of the degree*

*of*

## **BACHELOR OF ENGINEERING**

**in**

## **Computer Science & Engineering**

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**INSTITUTE OF ENGINEERING & TECHNOLOGY**

**Khandari Campus, Agra**

**Dr. B. R. Ambedkar University, Agra (282002)**

**December, 2023**

## DECLARATION

We the students of B.E. (Computer Science & Engineering) of III semester, I.E.T. Khandari Campus Agra, declare that the mini project work and its presentation were carried out for the fulfilment of Bachelor Degree in Computer Science & Engineering under the guidance of **Er. Subodh Sharma**. We also declare that the total work for the same is original and nowhere it was used or submitted for the same

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**CERTIFICATE**

Certified that this mini project report “**Tech-Edu Verse**” is the bonafide work of [Kamal Maurya \(2309005374009\)](#), [Divyansh Rai \(2309005374005\)](#), [Suhas Bharti \(2309005374013\)](#), [Jyoti Pal \(2309005374016\)](#), and [Ankita Gupta \(2309005374015\)](#) who carried out the project work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

**Project Guide**  
(Deptt. Of Computer Science & Engineering)

**Department In-Charge**  
(Deptt. Of Computer Science & Engineering)

## ACKNOWLEDGEMENT

We would like to thank “Department of Computer Science & Engineering”, Institute of Engineering & Technology, Khandari, Agra for providing us the knowledge, resources and opportunity for completion of the project.

This project would not have been possible without the valuable assistance of many people to whom we are indebted. We would sincerely thank our respected project guide **Er. Subodh Sharma** Department of Computer Science & Engineering for motivating us, providing guidance, mighty support, valuable suggestion, timely co-operation and countless help till the successful completion of the project.

We express our grateful thanks to **Er. Rajesh Lavania**, in charge, Department of Computer Science & Engineering for his valuable suggestion and fruitful encouragement throughout the duration of doing this project.

Finally thank to all our staff member of Department of Computer Science & Engineering who have directly or indirectly support us throughout the project.

We are also indebted to **Dr. M.P. Singh Director, Institute of Engineering & Technology, Khandari, Agra** for his cooperation, encouragement and providing us all the facilities during the project work

Thank you all.

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# TECH-EDU VERSE

## Online Study Platform

### 1. Introduction of the Project

- ✓ In the digital era, where technology is reshaping the landscape of education, the need for accessible and quality online learning resources has never been more pressing. Addressing this crucial need, our project, TechEduVerse, emerges as a beacon of hope for learners across the globe. Developed on the robust Python programming language and leveraging the dynamic Django framework, TechEduVerse is a pioneering web-based platform designed to democratize education by offering a wide range of online courses entirely free of charge.

At the heart of TechEduVerse lies our commitment to breaking down the barriers to education. In a world where educational resources are often gatekept behind hefty fees, we believe in the transformative power of making learning accessible to everyone, regardless of their financial circumstances. Our platform serves as a virtual nexus where curious minds and aspiring professionals can converge to enhance their skills, knowledge, and competencies in various domains, all without the burden of cost.

TechEduVerse is meticulously crafted to cater to a diverse audience, encompassing students, professionals, and lifelong learners. Our curriculum is thoughtfully designed to include courses across a spectrum of fields, including but not limited to, technology, science, humanities, and the arts. Each course is structured to foster an engaging and interactive learning experience, combining video lectures, quizzes, and hands-on projects to ensure a comprehensive understanding of the subject matter.

Developed with the Django framework, TechEduVerse stands out for its scalable, secure, and user-friendly interface. Django's high-level features have enabled us to create a seamless and intuitive user experience, ensuring that learners can focus on their educational journey without any technical distractions. The platform's architecture not only supports the efficient delivery of content but also provides a solid foundation for future expansions, including the introduction of new courses and features.

In summary, TechEduVerse is more than just a project; it is a vision to empower individuals through education. By harnessing the power of technology and the internet, we aim to create a world where knowledge is freely shared and accessible to all. Our project is a testament to the possibilities that arise when innovation meets altruism, and we are excited to embark on this journey of learning and growth together.

## 2. Project scope

- ✓ **Minimizing Distractions and Enhancing Focus**  
In the digital realm, distractions are ubiquitous, posing significant challenges to online learners. Recognizing this, TechEduVerse plans to implement features like focus timers, customizable learning environments, and distraction-free modes. These tools are crafted to help learners forge a personalized study sanctuary, free from external distractions, allowing them to immerse fully in their learning activities.
- ✓ **Incorporating Adaptive Learning Technologies**  
TechEduVerse seeks to harness the potential of AI and ML to tailor the learning experience to each user's unique needs. By analyzing individual learning patterns, preferences, and performance, the platform can dynamically adjust course content, suggest personalized learning paths, and modify difficulty levels. This adaptive approach promises to optimize the learning experience, ensuring that it meets the specific requirements of each student.
- ✓ **Utilizing Data Analytics for Continuous Improvement**  
A commitment to continuous enhancement underpins the TechEduVerse ethos. Leveraging big data analytics, the platform aims to collect insights on user engagement, course effectiveness, and learning outcomes. This data-driven strategy enables ongoing refinement of course content and user experience, positioning TechEduVerse at the forefront of educational innovation.
- ✓ **Ensuring Responsive and Accessible Design**  
TechEduVerse prioritizes the development of a responsive web design that ensures seamless accessibility across a myriad of devices. Adhering to WCAG, the platform aims to be inclusive for learners with disabilities, ensuring wide accessibility and catering to a diverse user base.
- ✓ **Incorporating Cloud Computing for Scalability**  
Cloud computing stands at the core of TechEduVerse's scalability strategy. Utilizing cloud services for data storage, CDNs for content delivery, and scalable computing resources, the platform is engineered to handle an ever-growing user base and course catalog without compromising performance.

## 3. Features

- ✓ **User Authentication and Profiles**
  - Explain the system's user registration and login processes, highlighting any unique aspects (e.g., social media login options, two-factor authentication).
  - Describe the user profile features, including profile creation, editing, and the types of information stored.
- ✓ **Course Management**
  - Course creation, update, and deletion by authorized users (e.g., instructors or admins)
  - Course categorization and the ability to assign courses to specific categories.
  - The process of enrolling in courses and tracking user progress
  - Features for adding, updating, and managing lessons within courses, including video content, text materials, and images.
- ✓ **Lesson and Exercise Interactions**
  - Navigation through course materials and lessons.
  - Completing exercises and the mechanism for marking lessons as completed.
  - User progress tracking, showcasing how users can see their progress within a course.
- ✓ **Dashboards and Administrative Features**
  - An overview of courses, lessons, and user progress for instructors and students.
  - Completing exercises and the mechanism for marking lessons as completed.

## 4. Problem in Existing System

### ✓ Influence of External Platforms and Distractions

Dependency on External Content Platforms: TechEduVerse integrates various external resources to enrich its educational content. However, platforms like YouTube, while invaluable for their vast repository of educational videos, also pose a significant distraction risk. YouTube's algorithm is designed to maximize user engagement and time spent on the platform, often recommending content that, although entertaining, distracts learners from their educational goals.

### ✓ Challenges with Content Recommendations

Algorithmically Driven Distractions: The personalized recommendation algorithms of external platforms are highly effective at capturing and retaining user attention by suggesting content tailored to the user's past interactions, including non-educational, entertainment-focused videos. This can lead to prolonged periods of procrastination and distract learners from their study sessions on TechEduVerse, undermining the platform's educational objectives.

## 5. Proposed System

- ✓ TechEduVerse focuses on enhancing learning by integrating curated YouTube content and improving course management. It features a distraction-free YouTube player to minimize off-topic recommendations and pop-ups, ensuring learners stay focused. Instructors will benefit from a streamlined course creation interface, allowing easy embedding of YouTube videos alongside quizzes and projects. The platform will also support personalized learning pathways, adapting course recommendations based on individual progress. Moreover, instructors will get analytics on learner engagement with course materials, enabling content optimization. This approach enhances educational quality while maintaining a distraction-free environment, leveraging YouTube's resources effectively to meet educational goals.



## 6. Modules Description

### ✓ User Authentication and Profile Management:

- **Registration and Login:** Facilitates user registration and authentication, capturing essential credentials.
- **Profile Management:** Enables profile editing and automatic creation upon registration.

### ✓ Course Content Management:

- **Course Creation and Update:** Allows for the addition and modification of course details by admins.
- **Lesson and Exercise Management:** Admins can manage lessons and exercises, including content and solutions.

### ✓ Course Interaction and Progress Tracking:

- **Course and Lesson Access:** Users can explore and view detailed information on courses and lessons.
- **Progress Tracking:** Features for marking lesson completion and tracking user progress are available.

### ✓ User Dashboard and Content Discovery:

- **Dashboard Overview:** Displays user-specific information, progress, and statistics.
- **Search and Filtering:** Users can search for courses and filter them by categories for easier discovery.

### ✓ Administrative Content Management:

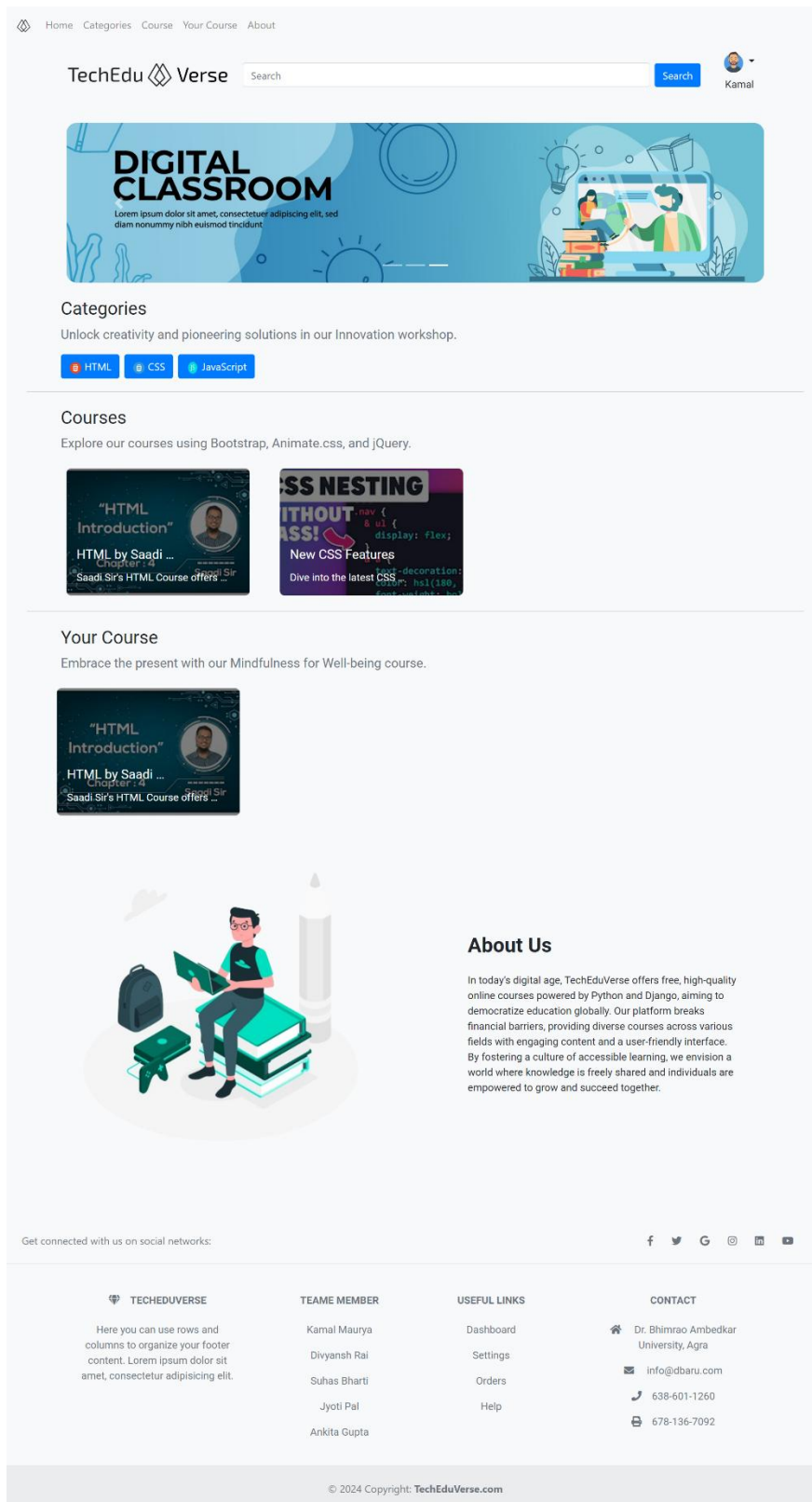
- **Category Management:** Provides tools for adding and updating course categories.
- **Dynamic Content Addition:** Offers flexibility in managing and adding new content through the dashboard.

## 7. Software Requirement for Development

User Interface	HTML, CSS, JavaScript, Bootstrap
Programming Language	Python with Django Framework
Database	SQLite3
IDE	VS Code

## 8. Screenshots of the Project

### ✓ Home




## Search By Categories

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## Search Description

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### Lessons List



**Introduction HTML**

Saadi Sir's HTML Course offers an immersive dive into the ...

[View Details](#)



**Use of List tag**

Saadi Sir's HTML Course offers an immersive dive into the ...


[View Details](#)

### HTML by Saadi Sir

Level: Beginner Language: Hindi, Urdu  
Created At: March 19, 2023  
Last Updated: March 19, 2024 22:08

**Description:** Saadi Sir's HTML Course offers an immersive dive into the world of web development. Starting from the basics, students will learn to craft intricate web pages using HTML5. Through hands-on projects and practical examples, the course covers structure, forms, links, and multimedia integration. Ideal for beginners eager to master web development, this course lays a solid foundation in HTML, empowering students to build stunning, responsive websites.

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#### Introduction HTML

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[View Details](#)



#### Use of List tag

Saadi Sir's HTML Course offers an immersive dive into the ...


[View Details](#)

#### HTML by Saadi Sir


Level: Beginner Language: Hindi, Urdu  
Created At: March 10, 2024  
Last Updated: March 10, 2024 22:09

**Description:** Saadi Sir's HTML Course offers an immersive dive into the world of web development. Starting from the basics, students will learn to craft intricate web pages using HTML5. Through hands-on projects and practical examples, the course covers structure, forms, links, and multimedia integration. Ideal for beginners eager to master web development, this course lays a solid foundation in HTML, empowering students to build stunning, responsive websites.

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# TechEdu Verse

## Dashboard Home

Home Categories Course Your Course About

Dashboard Add Course Add Category Add Lesson Add Exercise Edit Profile Log Out

Welcome Kamal Maurya

Dashboard Overview

- Categories: 3
- Lessons: 3
- Courses: 2
- Exercises: 10
- Your Progress: 2

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## Dashboard Add Course

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Welcome Kamal Maurya

Add New Course

Image: Choose File No file chosen

Title:

Description:

Category: HTML-10

Level: Beginner

Language:

Submit

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Weclome Kamal Maurya

Image:

Choose File

No file chosen

Name:

Description:

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Weclome Kamal Maurya

Image:

Choose File

No file chosen

Course

HTML by Saadi Sir

Title

Content

Order

Video URL

https://

Submit

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Add Lesson

Add Exercise

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Add Exercise

Lesson

Introduction HTML

Description

Solution

Submit

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## Edit Profile

Home

Categories

Course

Your Course

About

Edit Profile

First name:

Kamal

Last name:

Maurya

Email address:

kamal123@gmail.com

Bio:

Hello From BIO

Birth date:

08/23/2001

Save changes

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Email

First Name

Last Name

Password

Password Confirmation

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Username

kamal123

Password

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New User

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## 9. Future Scope

- ✓ **Automated Content Curation and Generation:** Use machine learning to curate and generate new educational content, ensuring the platform stays up-to-date with the latest knowledge and learning methodologies.
- ✓ **Offline Learning Capabilities:** Enhance the mobile app with offline learning capabilities, allowing users to download content and access it without an internet connection.
- ✓ **Full-Featured Mobile Application:** Develop a comprehensive mobile app that mirrors the web platform's functionalities, providing learners.
- ✓ **Virtual Labs and Workshops:** Develop virtual labs and workshops where learners can practice and experiment in a safe, controlled virtual space.