

One-Stop Portal: A Comprehensive Platform for Student Engagement and Assessment

This presentation introduces the "One-Stop Portal," a B.Tech final year project designed to revolutionize academic solutions. Developed by our team and guided by our esteemed advisor, this platform addresses critical needs in modern education.

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Introduction: Addressing Traditional Academic Issues

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Accessibility Gaps

Many students face barriers to learning resources.

2

Engagement Decline

Global student engagement stands at only 40%.

3

Lack of Personalization

Traditional methods often lack tailored learning paths.

4

Outcome Improvement

Personalized learning can improve outcomes by 30%.

Traditional education struggles with access, engagement, and personalization. Our portal seeks to bridge these gaps using technology, enhancing learning for all enhancing learning for all students.

Project Overview: One-Stop Portal

Objective	Category	Scope	Addressing Needs
A centralized platform for resources, activities, and monitoring.	An innovative Educational Technology (EdTech) solution.	Comprehensive academic support, from learning to assessment.	Targets 7 key areas of traditional academic support.

The One-Stop Portal aims to be a singular hub for all academic needs. It's a comprehensive EdTech solution, encompassing a wide range of wide range of academic support functionalities.

Key Feature: Quiz and Contest Management



Automated Quizzes

Generates quizzes with diverse question types automatically.



Contest Modules

Integrates real-time competition features.



Adaptive Testing

Adjusts difficulty based on student performance.



Automated Grading

Saves 60% of instructor's valuable time.

Our platform automates quiz generation and integrates real-time contest modules. Adaptive testing and automated grading ensure efficiency and personalized learning.

Sign Up

Name

E-mail

Password

Course

College ID

University Roll No

Department

year

Create Account

Already have a account? Sign In

Key Feature: Real-Time Coding Environment

Multi-Language Support

Supports Python, Java, and C++ for diverse coding needs.

Immediate Feedback

Provides instant results on code execution.

Collaborative Coding

Enables real-time teamwork on projects.

Integrated Debugger

Reduces coding errors by an impressive 45%.

Our coding environment supports multiple languages and provides instant feedback. Real-time collaboration and an integrated debugger enhance the learning experience.

Key Feature: Performance Monitoring and Analytics

- Progress Tracking**
Monitors individual student progress and identifies weak areas.
- Detailed Reports**
Generates comprehensive performance reports for insights.
- Predictive Analytics**
Forecasts student success based on performance data.
- Early Intervention**
System for providing timely support to struggling students.

The portal tracks student progress and generates detailed reports. Predictive analytics and analytics and early intervention systems ensure timely support for all students.



Key Feature: Security and Data Privacy

Secure Authentication

Robust protocols for user login and access.

Data Encryption

AES-256 encryption for data at rest and in transit.



Data Compliance

Adheres to GDPR and CCPA privacy standards.

Regular Audits

Frequent security and vulnerability assessments.

Our platform ensures secure authentication and data privacy. We comply with GDPR and CCPA, conduct regular security audits, and use AES-256 audits, and use AES-256 data encryption.

How One-Stop Portal Drives Sustainable Development Development Goals 4 & 9 (SDGs)

SDG 4: Quality Education

The portal advances inclusive education by offering accessible online resources tailored to diverse learning needs. Leveraging AI, it creates personalized learning paths that adapt to student progress, ensuring effective skill acquisition. Its digital literacy programs specifically target underserved communities, helping bridge educational gaps.

For example, in 2023, students using the portal's adaptive tools experienced a remarkable 30% boost in test scores, highlighting how technology can transform education outcomes and promote equitable access worldwide.

SDG 9: Industry, Innovation & Infrastructure

The portal drives industry innovation through a robust, scalable cloud infrastructure that supports rapid growth and secure data management. It fosters a vibrant ecosystem by integrating open-source platforms that encourage collaboration and agile development.

Between 2022 and 2024, the portal empowered over 500 startups, creating more than 2,000 technology jobs and attracting upwards of \$50 million in seed funding. This demonstrates its critical role in building resilient infrastructure and advancing technological capacity globally.

Technology Stack: MERN Architecture



MongoDB

NoSQL database for flexible data storage.



Express.js

Backend framework for robust API development.



React.js

Frontend library for interactive user interfaces.



Node.js

JavaScript runtime for server-side execution.

The One-Stop Portal is built on the MERN stack. This includes MongoDB for data, Express.js for the backend, React.js for the frontend, and Node.js for server-side operations.



Third-Party APIs: RapidAPI

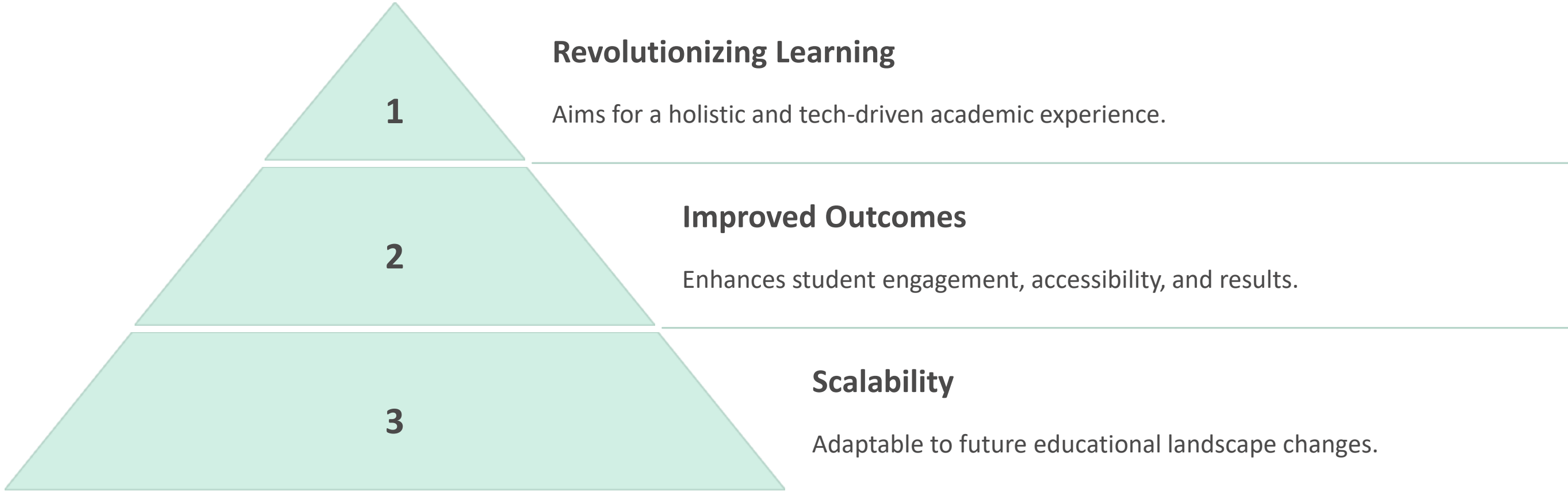
Integration

API Usage	RapidAPI for external educational resources.
Integrations	15+ APIs including Merriam-Webster, Wikipedia.
Resources	Access to over 10,000 learning resources.
Development Time	Reduces development time by 20%. 20%.

We leverage RapidAPI to access a vast array of external educational resources. This integration provides access to over 10,000 learning materials, significantly reducing development time.



Conclusion: Transforming Education



The One-Stop Portal offers holistic academic assistance. It aims to improve student outcomes, engagement, and accessibility. Scalable and Scalable and adaptable, it's poised to revolutionize learning and teaching.