

SUCCESS TRACK: Website for New Students with Personalized Skill Development

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Abstract

The research is designed to help new students entering campus by offering them skill development opportunities right from the start of their academic journey. The research provides a platform where students can choose a specific skill domain to improve upon. It also offers a personalized learning paths for them, packed with various resources. Additionally, a continuous assessment through tests, AI chat bot support, personalized student logins, and faculty admin access for efficient management is also offered. The goal of the research is to support students in enhancing their skills and succeeding academically.

Keywords: Personalized IT Learning Platform, Curated Pathways, Progress Tracking Dashboard, AI Chatbot Assistance

1. Introduction

The research is designed to support new college students as they begin their academic journey. The research offers personalized assistance tailored to each student's learning goals from day one. Through tests, an AI chatbot, and user-friendly tools, the research ensures that students have the resources they need to succeed [1]. The platform makes it easy for students to access helpful resources and prevents them from falling behind by providing regular assessments and support from the chatbot. With personalized logins, students can pick up right where they left off, and teachers have access to tools that help them manage their classes effectively. Overall, the research goal is to help new students thrive academically right from the start [2-5].

We provide students with a range of helpful resources to support their learning journey, including tests and an AI chatbot to offer assistance. Our system is designed to be user-friendly, with personalized logins that allow students to easily resume their studies. Additionally, we offer tools for teachers to help them maintain smooth operations in their classes. By focusing on providing support from day one, we aim to ensure that new students are equipped to excel in their studies and feel confident in their academic pursuits [6-9].

1.1 Problem Statement and Significance

Starting college can be overwhelming, especially for new students who may feel unsure about their skills and abilities. Many students struggle to find the right resources and support to enhance their skills and succeed academically. Without proper guidance and assistance, they may face challenges in keeping up with their coursework and achieving their academic goals.

Our project aims to address these challenges by providing new students with skill development opportunities right from the beginning of their academic journey. By offering a platform where students can choose specific skill domains to improve upon, personalized learning paths, and continuous assessment through tests, AI chat bot support, and personalized logins, we aim to empower students to enhance their skills and succeed academically. This initiative not only helps students feel more confident and prepared as they enter college but also sets them up for success in their future academic and professional endeavours.

2. Back Ground Work

The project offers online learning by integrating features from platforms like Khan Academy, LinkedIn Learning, and Pluralsight. Drawing inspiration from these renowned platforms, it seeks to provide users with a comprehensive learning experience. Similar to its counterparts, the project offers a diverse array of learning materials and tools for tracking progress.

However, it goes beyond imitation by incorporating insights from personalized learning and chatbot technology. By tailoring content to individual needs and providing interactive support through chatbots, the project strives to create a more engaging and effective learning environment. Ultimately, its goal is to empower users to learn at their own pace, focusing on areas of interest while receiving personalized guidance and support. Through this innovative approach, the project seeks to enhance the online learning experience and make education more accessible and enjoyable for all [10-15].

We're building a personalized IT learning platform inspired by popular sites like Coursera, Udemy, and LinkedIn Learning, offering various courses and modify learning paths to help you advance your IT skills at your own pace.

Table 1. Comparison of Existing Methods

Feature	Usability	Review	Features	Performance
Personalized IT Learning Platform	Customized learning pathways, intuitive interface, AI chatbot assistance	Tests after each checkpoint, progress tracking dashboard	AI chatbot assistance, personalized learning journey	Responsive, scalable, fast loading times
Coursera	User-friendly interface, easy navigation	Course reviews, ratings, peer assessments	Discussion forums, community interaction	Responsive, scalable, fast loading times

Udemy	User-friendly interface, easy navigation	Course reviews, ratings	Q&A sections, discussion forums	Responsive, scalable, fast loading times
LinkedIn Learning	User-friendly interface, easy navigation	Course reviews, ratings	Q&A sections, discussion forums	Responsive, scalable, fast loading times

3. Proposed Work

We propose to develop a comprehensive IT learning platform featuring personalized pathways curated with resources from YouTube, Udemy, and Coursera. Our system will include tests after each checkpoint to evaluate knowledge, with results seamlessly integrated into a dashboard for progress tracking. An AI chatbot will provide real-time assistance to students, enhancing their learning experience. Individual logins for students will enable personalized learning journeys, while faculty members will have access to an admin login for oversight and management. Our aim is to create an intuitive, efficient, and engaging platform that fosters continuous learning and skill development in the field of IT.

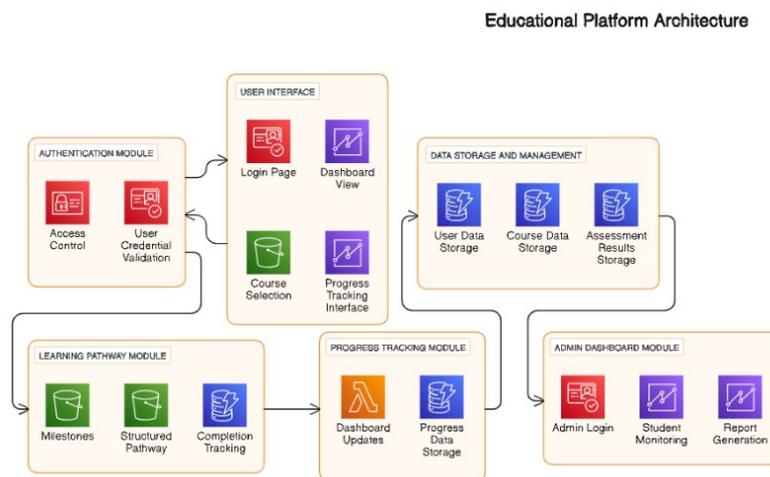


Figure 1. Architecture Diagram

User Interface (UI): The website looks really easy to use and interesting for students. You can easily find your way around to start your learning journey. It's simple to find courses, materials, and talk to the chatbot. Plus, there are visual cues showing how far you've come, which can keep you motivated to keep going and stay involved in your IT learning adventure. Learning pathway module makes learning feel really personal and customized for each student. It figures out what you want to achieve, what you're interested in, and how good you are at different things. Then, it suggests the best courses, videos, and stuff from YouTube, Udemy, and Coursera that match what you need. It's like having your own personalized roadmap for learning. So, you get exactly what you need to succeed and learn the most. Authentication Module makes sure that when you log in, it's really you. It checks your username and password to make sure they're right. Then, it decides what you can do on the website based on if you're a student or a teacher. And it keeps everything safe by turning important information into secret codes so nobody else can see it. Basically, it makes sure your personal stuff stays private and the website stays safe for everyone to use. Data storage and management handles the storage and organization of user data, including login credentials, progress tracking metrics, assessment results, and learning materials. Utilizes a robust database system to efficiently store and retrieve data, ensuring reliability, scalability, and data integrity throughout the platform's operation. Progress tracking module tracks and records user progress throughout their learning journey, capturing completed courses, quiz scores, and overall performance metrics. It provides real-time feedback to users on their learning achievements and areas for improvement, fostering a sense of accomplishment and motivation to continue learning. Admin dashboard Module offers faculty members a centralized interface for overseeing and managing the learning platform. It provides tools for monitoring student progress, learning analytics, managing course content, and administering assessments. The admin dashboard empowers faculty members to make data-driven decisions to enhance the effectiveness of the educational experience.

- **Front End:** The front end of this system refers to the part of the platform that users directly interact with. This includes the User Interface (UI) where students access skill development opportunities, select learning pathways, and view their progress. It also encompasses any interfaces or screens for authentication, login, and navigation through

the platform's features and resources. Essentially, the front end is what users see and interact with when using the platform.

- **Back End:** The back end of the system comprises the underlying infrastructure and functionality that powers the platform's features and processes. This includes the learning pathway module, authentication module, data storage and management, progress tracking module and the admin dashboard module.

3.1 Development and Testing

Step 1: Front-End Development: The front-end of the user interface (UI) is developed using HTML, CSS, and JavaScript. It includes implementing interactive features for students to select specific domains and navigate through the platform, as well as integrating personalized student logins and admin access functionalities.

Step 2: Back-End Development: The back-end functionality of the platform is developed using server-side programming languages such as Python, Node.js, or PHP. Modules for generating personalized learning pathways and managing user data are implemented. Additionally, continuous assessment features, including tests and AI chatbot support, are integrated.

Step 3: Database Implementation: The database management systems is configured using MySQL.

3.2 Use Case Diagram

This diagram illustrates the use cases mentioned in your scenario, including how the IT learning platform caters to individual needs, offers curated pathways, conducts assessments, stores results, provides AI chatbot support, and is overseen by faculty.

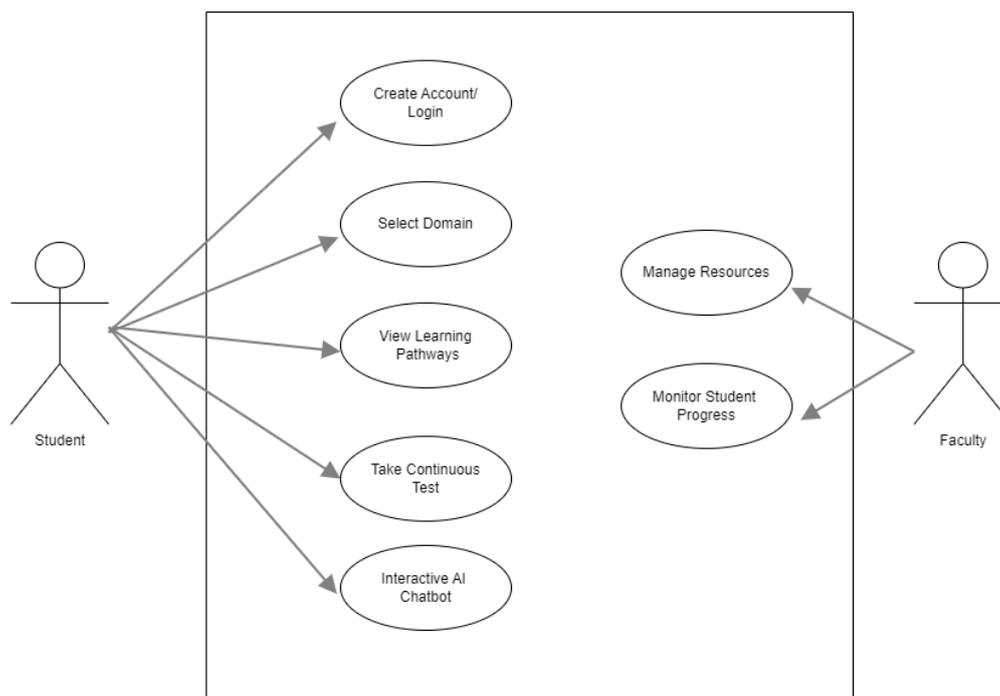


Figure 2. Use Case Diagram

4. Results and Discussion

The user interface developed helps new students entering college by giving them chances to learn skills right from the start. It is all online and focuses on information technology (IT) so students can pick what they want to learn. We make sure they get content that matches what they're interested in, which helps them learn better.

We have created personalized learning paths for students, so they can figure out what they need to learn and how to do it. We mix different kinds of resources like tutorials and articles to give them a complete learning experience.

The application also includes tests to check how well students are doing. This helps them see what they have mastered and where they need more help. We've even added a chatbot that can answer questions in real-time, making learning easier.

Each student gets their own login, which lets them access personalized content and track their progress. This makes them feel more in control of their learning. And for teachers, there is a special login to manage students and offer support. This application is great for new

students, especially those interested in IT. It focuses on personalized learning, regular assessments, and easy management to help students succeed.

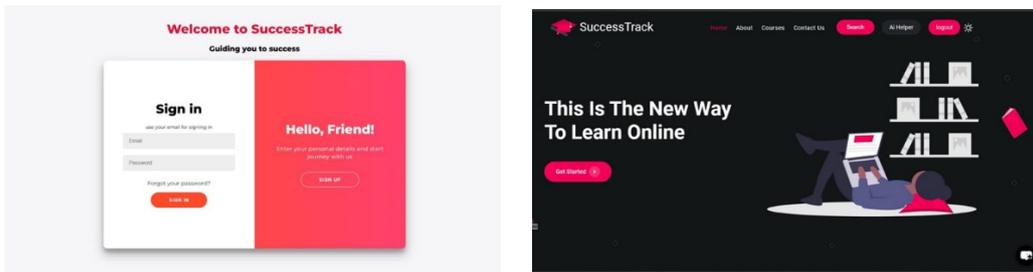


Figure 3. Scenario 1

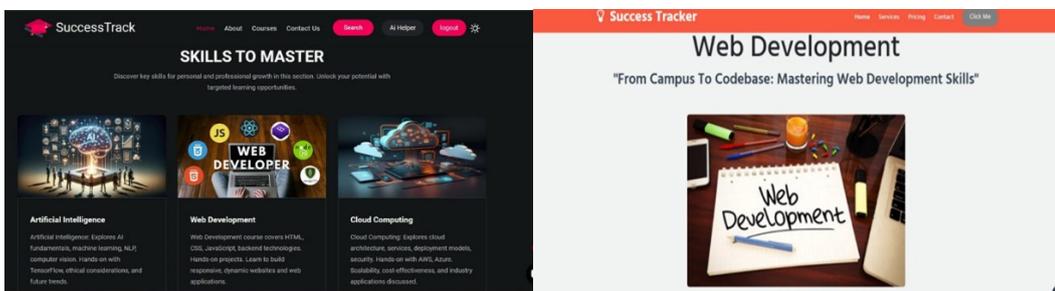


Figure 4. Scenario 2

Scenario 1: when the user enter into a website user will meet a login section if user enters login details the web page take user into home page.

Scenario 2: From the home page user can select a course according to his interest. Also form the home page the student can ask help for AI chat-bot if he is confused of selecting the course. If the student have any confusion on the platform or anything there is a group to clear all the doubts.

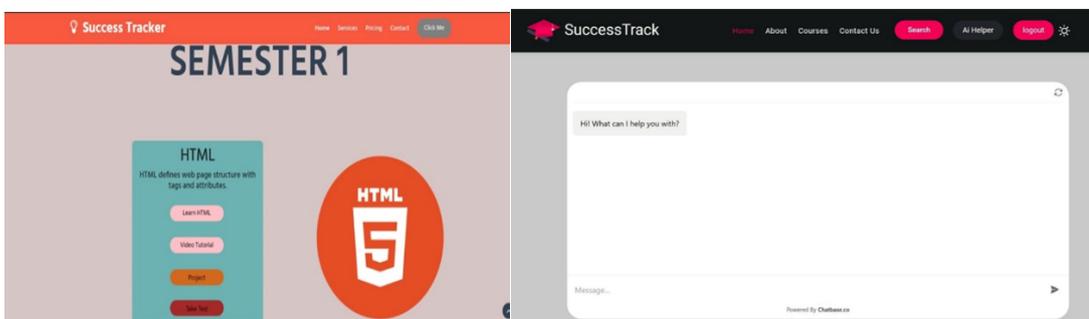


Figure 5. Scenario 3

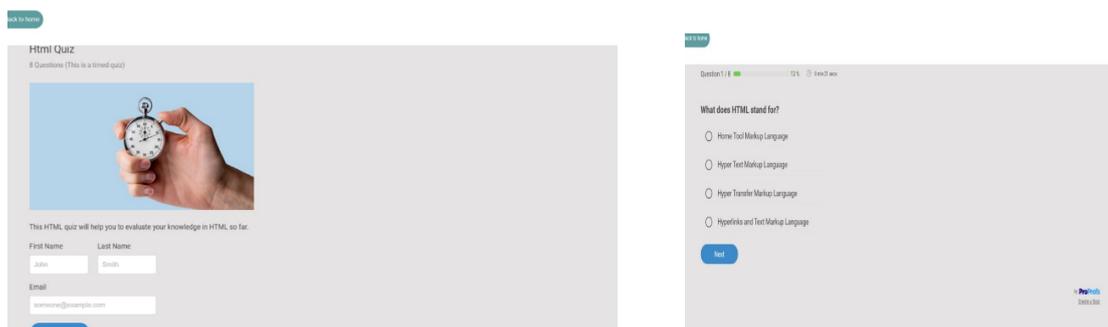


Figure 6. Scenario 4

Scenario 3: By selecting the skill form home page student is carried into another page where student can engage in the skill related activity. The course is structured in a manner like where student can achieve the skill in academic period. In this page there are material like video tutorial, reference material, project to do and test on what they learn.

Scenario 4: User can go through the activities based on skill. After that student will get their progress details from admin.

In comparison to others, it offers personalized skill development paths in IT, continuous assessment, AI chatbot help, and faculty admin access, aiming to empower new students from the start of their academic journey.

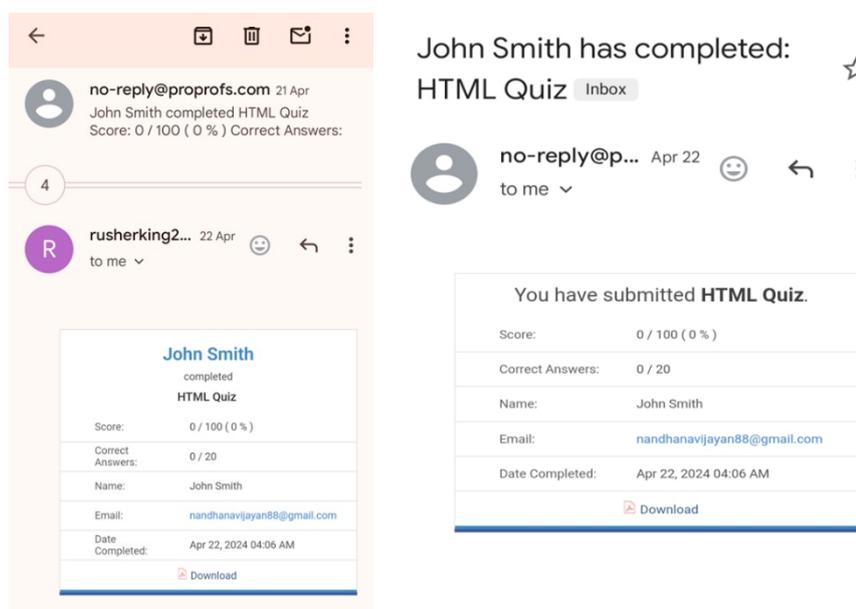


Figure 7. Student's Progress

5. Conclusion

The website developed is here to help college students, especially those studying IT. We have made a website where they can choose what skills they want to get better at right from the start. It's easy to use because we give them a personalized path to follow and lots of different things to learn from. We also give them tests along the way to see how well they're doing. And if they need help, there's a chatbot they can talk to anytime. Each student gets their own login to make sure they're learning what they need to, and we can check on their progress too. Also, there is a community group for students where they can clear any doubts. By using our platform, students can develop skills during their academic journey, helping them to build successful careers. It's all about making learning easier and more personalized for everyone.

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