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Our model only processes qualifying text in the form of long-form writing. Long-form writing means individual sentences contained in paragraphs that make up a longer piece of written work, such as an essay, a dissertation, or an article, etc. Qualifying text that has been determined to be likely AI-generated will be highlighted in cyan in the submission, and likely AI-generated and then likely AI-paraphrased will be highlighted purple.

Non-qualifying text, such as bullet points, annotated bibliographies, etc., will not be processed and can create disparity between the submission highlights and the percentage shown.



Exploring Personalized Learning Systems

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Personalized Learning System (PLS) is a new innovative curriculum reform system ready to integrate AI into the teaching-learning processes for engaging educational content. Traditional teaching-learning processes tend not to accommodate diverse learning techniques varying in pace and preferences; hence students tend to suffer from lethargy and poor retention. PLS resolves these challenges by changing learning material, giving real-time feedback, and providing intelligent assessment mechanisms. This paper will explore the methodologies and technologies behind the personalized learning system. The study also looks into a comparative assessment of personalized learning with traditional methods, which proves to be better in student engagement, retention, and student course completion rates. One way of centering the educational process around the learner could, probably, change the face of education in our world; hence, making it far more effective, accessible, and engaging for learners everywhere.

Keywords —accommodate, effective, innovative, methodologies retention,

INTRODUCTION

The rising demands for personalized education have exposed the cracks of conventional teaching methods in providing for the diverse needs of students. Personalized Learning Systems (PLS) provide a very adaptive approach whereby educational content is individually tailored to each student according to needs, engagement level, and performance metrics. Such systems harness the capabilities of AI and ML to automate content modification and improve the personalization and interactivity of the learning experience.

PLS contains certain features, including real-time quiz, interaction content suggestions, and progress tracking, enabling students to learn at their own pace. The backend utilizes Django and PostgreSQL to manage the course content efficiently, while the recommendation system powered by AI integrates a customization process in a learner's journey. PLS is unlike other traditional learning environments because it is open and inclusive. Together with this, PLS allows teachers to track their students' progress in terms of the classroom, which allows a teacher to adjust a lesson based on data within seconds.

LITERATURE REVIEW

Machine Learning in Personalized Learning Website by Mohammed Chatti:

Using machine learning algorithms can help evaluate student's data and overall progress and actually edit the course structure for each student depending on their individual performance. These algorithms can actually predict a student's success and if not do positive reinforcement so that the student keeps studying.

Gamification by Falsk Raza:

To get students to actually being excited and enthusiastic to study there is a need to innovate something new and this is where the gamification step comes is. Every person is competitive in a game and if we gamify some options on the website that encourages more effective and less time-consuming studying. Features such as points, scoreboard, badges boost more attention and improves student's engagement level as well as motivates them to keep studying so that they get better.

Cloud Based Studying by P.K Paul:

Cloud computing is one of the most important factors in making online education more accessible, easy to use by everyone and bringing scalability in the education field. With the cloud tools, students and teachers can effectively share all types of work, any type of knowledge more easily and efficiently. All the personalized learning software's use cloud computing to store user data.

Language processing Cristina Tabacuru:

Chatbots and virtual assistance software's will really help the student by giving her/him real time information about their progress. It will also allow the students to talk and interact with the chatbot through text inputs so that the chatbot answer their own question giving a more personalized feel to the software. Also, Ai generated summaries and facts will help make it simpler for the student to understand as well as giving them more understanding on the topic.

AI Problems in Education:

There are some problems with Ai being implemented in education mostly it being focused on data privacy since a lot of data gets leaked and educational data is one of the biggest markets that companies require. If we want ethical Ai model being used in website transparency is a must as well as more knowledge on the Ai's decision making etc.

Blockchain:

Blockchain is used to mostly authenticate and validate details and this will be implemented in student's login credentials as well as teacher's credentials. This stores all date about the student certificates and achievements and can also help validate that. It is very important as it ensures security of student and academic records.

I. METHODOLOGY/EXPERIMENTAL

System Architecture

Frontend: HTML, CSS (User Interface)

Backend: Django (Content Management)

Database: PostgreSQL (User Progress Tracking)

AI Algorithm: Python-based Machine Learning

Personalization Algorithm

Content-Based Filtering: Adapts recommendations based on user preferences and engagement.

Collaborative Filtering: Recommend content based on other students with similar learning patterns.

Adaptive Assessments: Dynamically adapts quizzes according to student performance.

Real-time Feedback Mechanism: AI-based feedback to enable students to know their strengths and weaknesses.

Predictive Analytic: Utilizes historical learning behaviors to recommend best learning paths for students.

System Workflow

User Registration & Profile Creation - Student register and enter their preferences.

Content Delivery - AI suggests learning materials based on interactions.

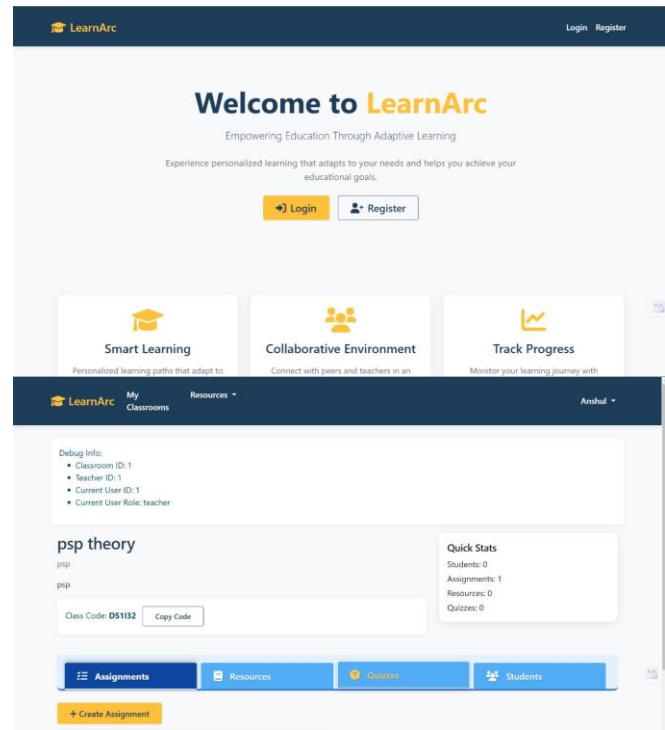
Adaptive Tests - The platform creates quizzes to test progress.

Performance Insights & Feedback - Real-time tracking of student engagement and understanding.

Optimization of Continuous Learning - The algorithm optimises content delivery for a better experience.

Educator Dashboard - Offers insights on student progress and learning efficiency.

II. RESULTS AND DISCUSSIONS



III. CONCLUSION

The emergence of PLS is a proof of how AI can assist in making the education sector better by offering custom learning alternatives to achieve best interaction and retention. PLS does not follow a generic education framework as most programs do, but instead PLS evolves and becomes better at every learner based on how they grow and interact. With the use of AI based personalization techniques like content filtering, collaborative filtering, and adaptive testing, the system guarantees that every student is given material customized to their needs.

However, issues that are associated with the system, like any technology, do exist like security and bias concerns, scaling issues, and the staggering cost of development. With the promise of enhanced blockchain aided security for academic record falsification, and continued investments in AI adaptive learning models, blockchain technologies do have hope of helping solve such issues. Building the future of PLS will also see further work on Natural Language Processing, cloud infrastructure, and videos to build an even more interactive learning experience.

Briefly, the Personalized Learning System integrates learning with technology to bridge the existing knowledge gaps by providing the learners with an intelligent, efficient, and adaptable learning framework.

ACKNOWLEDGMENT

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