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ijirset@gmail.com

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Survey on NaviMentor- Your Personalized Learning Guide

¹.Prof.Mayuri Vengurlekar, ²Bhavin Oswal, ³.Mohit Pathak, ⁴.Rajeev Kumar, ⁵. Tushar Borkar

Department of Computer Engineering K.J. College of Engineering and Management Research, Pune,
Maharashtra, India

ABSTRACT: The personalized learning platform is a dynamic educational tool that tailors learning experiences to individual learners' needs, preferences, and progress. Leveraging adaptive algorithms and comprehensive user profiles, it optimizes content delivery, pacing, and assessments. This abstract delves into the platform's core components, highlighting its potential to revolutionize education by fostering self-directed learning, addressing diverse learning styles, and ultimately enhancing educational outcomes for each user.

This innovative personalized learning platform harnesses artificial intelligence and data analytics to create a responsive and engaging educational environment. By continuously analyzing user interactions, it adapts content delivery, recommends targeted resources, and adjusts difficulty levels in real-time. The abstract emphasizes the platform's potential to empower learners, foster a deeper understanding of subject matter, and revolutionize traditional educational paradigms, ultimately contributing to a more effective and personalized learning journey for individuals across diverse educational settings.

I. INTRODUCTION

NaviMentor: Your Personalized Learning Guide, an innovative educational paradigm designed to revolutionize the traditional learning experience. In today's diverse educational landscape, recognizing and catering to the individualized needs of students are crucial elements for fostering meaningful and impactful learning outcomes. NaviMentor represents a pioneering initiative that leverages state-of-the-art technology to create a sophisticated system capable of assessing students at an individual level. Unlike conventional, one-size-fits-all approaches, NaviMentor is dedicated to tailoring dynamic and personalized learning paths, optimizing engagement and knowledge retention for each learner.

Personalization for Optimal Learning:

At the heart of NaviMentor's mission is the recognition that students possess distinct learning styles and preferences. This project is not merely a technological tool but a transformative companion that understands and adapts to how each student best absorbs information. Whether a student leans towards visual, auditory, kinaesthetic, or a combination of learning styles, NaviMentor ensures that the educational journey is finely tuned to resonate with their cognitive preferences. This groundbreaking approach transcends traditional constraints, providing a truly adaptive and personalized educational experience that goes beyond the limitations of standardized methods.

Dynamic Resource Curation and Continuous Improvement:

NaviMentor goes beyond the initial assessment, incorporating continuous evaluation to identify subject-specific strengths and weaknesses. It then curates a tailored selection of resources, encompassing textbooks, videos, articles, and interactive simulations, ensuring a comprehensive understanding of the subject matter. The system's adaptive learning activities, including quizzes and problem-solving exercises, further align with the student's learning style and comprehension level. What sets NaviMentor apart is its commitment to an iterative refinement process guided by user feedback, ensuring that the system continuously evolves and adapts to the ever-changing needs of the learners. Through this ongoing enhancement, NaviMentor becomes not just a learning tool but a dynamic partner in the educational journey, fostering a deeper and more personalized connection to knowledge acquisition.

Redefining Education for the Future:

In conclusion, NaviMentor stands as a beacon of educational innovation, representing a seismic shift in the way we approach learning. By embracing personalization, this project aims to empower students with a unique and enriching educational journey that maximizes their potential. With its emphasis on engagement, retention, and a holistic

understanding of subjects, NaviMentor is not just a guide but a catalyst for redefining education for the digital age, ensuring that each student receives a personalized and effective learning experience tailored to their individual needs. Welcome to a new era of education—welcome to NaviMentor.

II. LITERATURE SURVEY

IEEE Article Summary: "Personalized Adaptive Learning Technologies Based on Machine Learning Techniques to Identify Learning Styles"

Article Overview: The IEEE article explores the implementation of a Personalized Adaptive Learning (PAL) system that leverages Machine Learning (ML) techniques to identify and cater to individual learning styles (LS) within educational institutions. By focusing on areas where learners require the most assistance, the system aims to optimize time efficiency, facilitating accelerated progress.

IEEE Article Summary: "A Blended Learning Model Based on Smart Learning Environment to Improve College Students' Information Literacy"

Article Overview: This IEEE article delves into a blended learning model centered around a Smart Learning Environment designed to enhance college students' information literacy. Blended learning, as defined in the context of this study, involves a combination of face-to-face synchronous teaching, online technology-enhanced methods, and distance learning.

IEEE Article Summary: "AI-Based Learning Style Prediction in Online Learning for Primary Education"

Article Overview: This IEEE article focuses on the application of Artificial Intelligence (AI) in predicting learning styles in online learning for primary education. It discusses existing systems like WELSA (Web-based Educational system with Learning Style Adaptation) and TSAL (Two-Source Adaptive Learning system) and highlights considerations such as data privacy, security, and the importance of user feedback.

IEEE Article Summary: "Designing Technology for Content-Independent Collaborative Mobile Learning"

Article Overview: This IEEE article explores the design and implementation of technology to facilitate content-independent collaborative mobile learning. It emphasizes usability testing, personalized learning paths, and the potential challenge of overwhelming learners with abundant resources.

IEEE Article Summary: "Online Students' Learning Behaviors and Academic Success: An Analysis of LMS Log Data from Flipped Classrooms via Regularization"

Article Overview: This IEEE article delves into the analysis of Learning Management System (LMS) log data from flipped classrooms to understand online students' learning behaviors and their impact on academic success. The article discusses the potential of leveraging LMS data to tailor content, creating a more customized learning experience, while also acknowledging limitations related to contextual patterns.

IEEE Article Summary: "Analysis of Learning Behaviors Characteristics and Prediction of Learning Effect for Improving College Students' Information Literacy Based on Machine Learning"

Article Overview: This IEEE article focuses on analyzing learning behavior characteristics and predicting learning outcomes to enhance college students' information literacy. Machine Learning (ML) algorithms, including the Apriori algorithm, are employed in this study. The article emphasizes the practical implications for educators in making informed decisions and the importance of regular updates for maintaining model accuracy.

Open Issues:

Education Gap: Current education systems often overlook practical life skills.

Age-Specific Knowledge: Lack of tailored information in crucial domains like finance, careers, and life skills.

Real-World Readiness: Individuals graduate without essential practical knowledge for various life stages.

Software Solution Need: Requirement for an advanced software system to deliver targeted knowledge.

III. CONCLUSION

In the realm of education, NaviMentor emerges as more than just a project—it is a guiding light toward a personalized and effective learning experience. By prioritizing the understanding and fulfillment of each student's unique needs, NaviMentor stands as Your Personalized Learning Guide in the digital age. NaviMentor's innovative

approach signifies a departure from traditional educational norms, embracing a tailored methodology that adapts to individual learning styles, strengths, and weaknesses. Beyond its technological sophistication, the project's significance lies in its potential to enhance engagement, improve retention, and foster a comprehensive understanding of subjects. Through a diverse repository of resources and dynamically generated adaptive learning activities, NaviMentor embodies the essence of a learning guide that evolves in tandem with the learner's journey.

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