NEURONOTE : AI BASED SMART NOTES GENERATOR

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ABSTRACT: The usages of video-based learning platforms has expanded due to the rapid growth of digital education ,yet students frequently struggle to generates notes, extract important concepts and gain immediate clarification of their problems. This project introduces a smart learning platform powered by AI that uses intelligent interaction and automation to improve the learning process. It allows users to submit or views links to instructional video and automatically creates notes that are condensed from the material.

Students can ask questions about the subject and get embedded chatbot. In order to guarantee organized material distribution, monitoring and administration, the platform additionally offers distinct panels for administrators, teachers and students. Additionally student panels include features quiz module for student's better understanding and both student and teacher panels provide a sharing feature, enabling easy distribution of notes and learning materials. NEURONOTE serves as examples of how intelligent system can be used to improve the efficiency, interactivity and user-centricity of traditional digital education. The Neuronote represents a step toward smarter and more interactive digital education.

KEYWORDS: Smart Learning Platform, Artificial Intelligence, Video Summarization, Quiz Module, AI Chatbot, Role-Based Panels, Content Sharing.

1. INTRODUCTION:

Digital education is developing so quickly, students are depending more and more on online videos and multimedia materials to learn. It might be time consuming and ineffective to comprehend long video content, take notes and evaluate comprehension. Neuronote support for material summarization, query resolution and fostering interactive learning is frequently absent from traditional platforms. A Neuronote AI-powered smart learning platform that improves the whole educational experience through automation and engagement is proposed in this project as a solution to these issues. It allows users to submit instructional videos and automatically creates notes that are condensed from the material. Student can ask questions about a subject and get immediate help using an integrated chatbot. Both teacher and students panels offer content sharing tools to promote cooperation and resource sharing and the student panel also has quiz module to assess comprehension. Separate panels for administrators, teacher and students guarantee organized administration and oversight of educational activities.

2. METHODOLOGY

The Neuronote system is an AI-driven smart learning platform that is designed and implemented using systematic methodology. To guarantee effective functionality and user interaction, the development process consists of requirements analysis, system design, implementation and testing. In order to determine user needs, such as video processing, automated notes generation, chatbot support, quiz evaluation and content sharing, requirements were first gathered. The Flutter was used in the frontend development process to produce a responsive and interactive user interface that support admin, teacher and students panels. Python was used to implement the backend which controls application logic such as quiz management, chatbot responses and authentication. API requests facilitate communication between the frontend and backend guarantee seamless data exchanges. System logs, generated notes, learning materials and user data are all kept in the database.

1. MATERIALS AND METHODS

- Database System: SQLite used for storing user information
- Video Input: Teacher or student uploaded instructional videos or content for processing
- User Devices: Computers, laptops, and mobile devices for accessing Neuronote

Methods:

The development of Neuronote follows these main steps:

1. User Login: Users log in or create an account.
2. Role Selection and Panel access: Based on the user type (Student, Teacher or Admin) system provides access to system.
3. Content upload: Teachers or students upload the educational videos.
4. Video Processing: The backend processes the video content and generates notes automatically
5. Chatbot Interaction: Students enter queries related the topics and AI chatbot provides responses.
6. Quiz Attempt: Students takes quizzes based on learning materials to evaluate their understanding.
7. Content Sharing: Students and teachers share notes or resources through sharing feature.
8. Data Storage: All user data quiz results and generates notes are stored in SQLite database.
9. Admin Monitoring: Admin panels manage users, monitors activity and overall system operation.

Module Name	Input	Output	Processing Method &Technology Used	Real-Time Support
User Authentication Module	User credentials(Email Id, Password)	Login/Registration status	Python backend authentication	Yes
Video Processing Module	Video	Accessible video content	Streaming support	Yes
Automated Notes Generation	Video content	Structured notes	Gemini API for transcription & summarization	Yes
AI Chatbot Module	Student queries	Answers & guidance	AI chatbot (Chat GPT integration)	Yes
Quiz Module	Student responses	Scores	Quiz logic processing	Yes
Content Sharing Module	Notes	Shared materials available to users	Data transfer through APIs, stored in SQLite	Yes

Material Type	Tools / Components	Purpose
Software	JavaScript, Flutter	Development
Libraries	Gemini API, Dialog flow	Summarization& AI chat bot
Database	SQLite	storage of notes
Hardware	Microphones, Computers, Mobile devices	Testing and access

How the system works

System Workflow of the NEURONOTE Smart Notes Generator
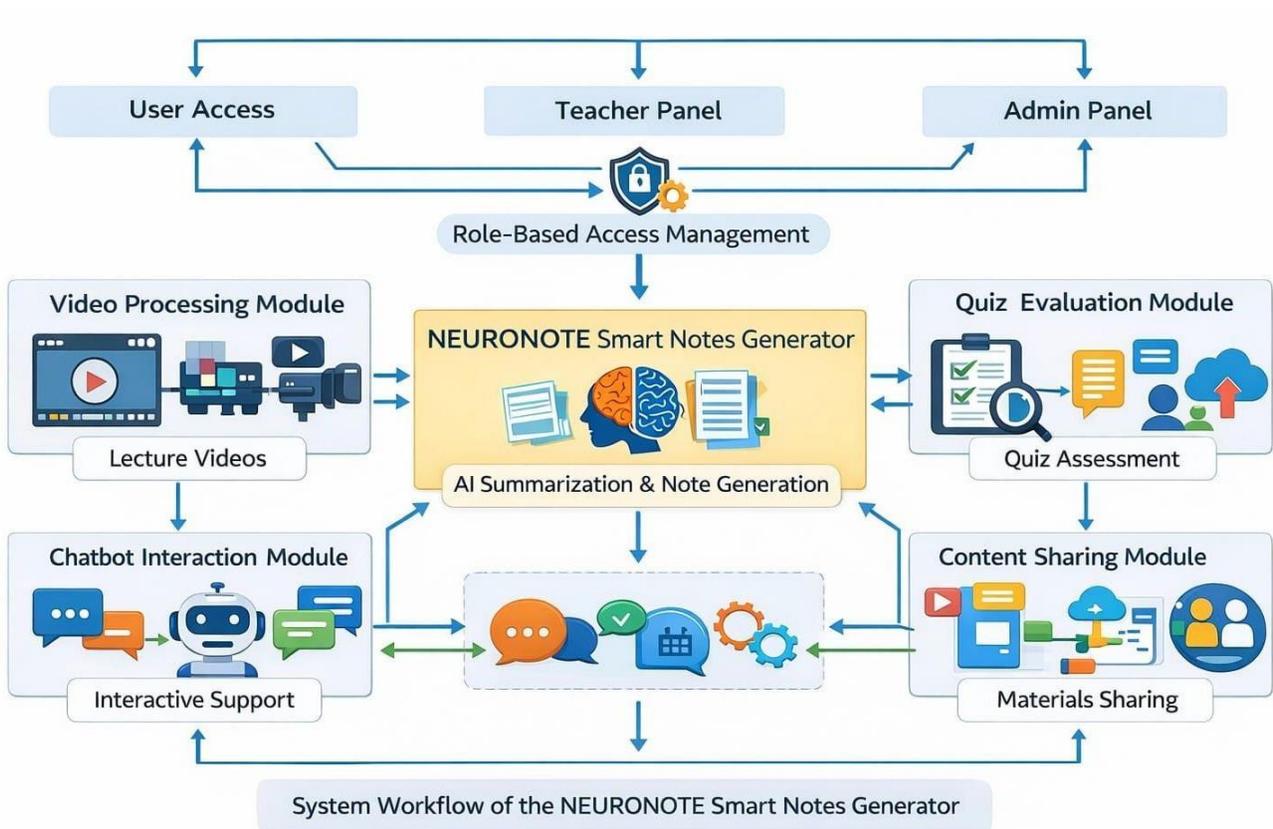
5. RESULT:

In this section, we explain what we found in our project and what it means. The result shows the outcomes of our work what actually happened when we tested or ran the system. This can include numbers, tables, charts, or examples that make it easy to see the results .The discussion explains why the results came out the way they did. We look at patterns, compare them to what we expected and talk about what they tell us about the system or problem we studied. We also mention any improvements or advantages our approach has over other methods.

6. CONCLUSION:

NEURONOTE is a smart learning platform. All modules including user authentication, video access, automated notes generation, chatbot interaction, quiz evaluation and content sharing functioned correctly during testing. The system showed smooth communication between frontend and backend, efficient data storage and a user-friendly interface. Overall the project achieved its goal of providing an interactive and intelligent learning environment.

7. REFERENCE

[1] A. Sharma and R. Kumar, "Artificial Intelligence in Education: Applications and Challenges," *International Journal of Computer Applications*, vol. 182, no. 15, pp. 1–6, 2023.

[2] S.N.Shrama and R.Kumar, "Deep Learning-Based Video Summarization",International Journal of Advanced Science and Engineering Information Technology,vol.10,no.6,pp.2423-2430,2020.

[3] S. Patel and M. Verma, "E-Learning Platforms and Their Impact on Student Performance," *International Journal of Advanced Research in Computer Science*, vol. 12, no. 4, pp. 45–50, 2021.

[4] R. Singh and P. Mehta, "Automated Note Generation Using Natural Language Processing," *International Journal of Artificial Intelligence and Applications*, vol. 9, no. 2, pp. 23–30, 2022.

[5] T. Anderson, "Online Learning and Interactive Technologies," *Educational Technology Research and Development*, vol. 69, pp. 1–12, 2021.