PERSONALIZED LEARNING WITH GENERATIVE AI AND LMS INTEGRATION

PROECT DOCUMENTATION

Title : Personalized learning with generative ai and lms integration

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PROJECT OVERVIEW:

Integrating generative AI and Learning management system (LMS) revolutionize the learning experience by providing personalized, adaptive and interactive content . Here's an overview of the project

FEATURES:

- *Automated Content Creation*: Generative AI automates the creation of learning materials, saving time and resources for instructional designers and educators.

- *Personalized Learning Paths*: AI powered systems analyze learner data and preferences to generate tailored content, improving engagement, motivation, and knowledge retention.

- *Real time Feedback and Support*: Chatbots and virtual assistants provide instant feedback and support, enhancing learner engagement and understanding.

- *Adaptive Learning*: AI-driven systems adjust the difficulty level and content based on learner performance, ensuring an optimal learning experience.

BENIFITS:

- *Enhanced Learner Experience*: Personalized learning paths and interactive content increase learner engagement and motivation.

- *Increased Efficiency*: Automated content creation and grading reduce administrative burdens on educators.

- *Improved Learning Outcomes*: Targeted interventions and real-time feedback help learners overcome knowledge gaps and achieve better results.

TECHNICAL REQUIREMENTS:

- *Generative AI Model*: Integrate a generative AI model that can analyze learner data and generate personalized content.

- *LMS Integration*: Seamlessly integrate the AI powered system with existing LMS platforms.

- *Data Analytics*: Leverage data analytics to track learner progress and adjust the AI-powered system accordingly.

POTENTIAL APPLICATIONS:

- *Education*: Personalized learning platforms for students, enhancing engagement and academic performance.

- *Corporate Training*: AI-powered LMS for employee development, improving knowledge retention and job performance.

CONVERSATIONAL INTERFACE :

key points : Natural language processing

POLICY SUMMARIZATION:

Policy summarization involves condensing complex policies into concise, easily digestible summaries, highlighting key points, benefits, and implications.

APPLICATION:

1. *Government Policies*: Summarizing policies for citizens, stakeholders, and policymakers.

2. *Corporate Policies*: Communicating policies to employees, customers, and partners.

3. *Regulatory Compliance*: Summarizing regulatory requirements for organizations.

TECHNIQUES:

1. *Natural Language Processing (NLP)*: Analyzing and summarizing policy documents using NLP techniques.

2. *Machine Learning*: Training models to identify key policy aspects and generate summaries.

3. *Human Expertise*: Leveraging expert knowledge to create accurate and informative summaries.

TOOLS

1. *Policy Summarization Software*: Utilizing software to automate policy summarization.

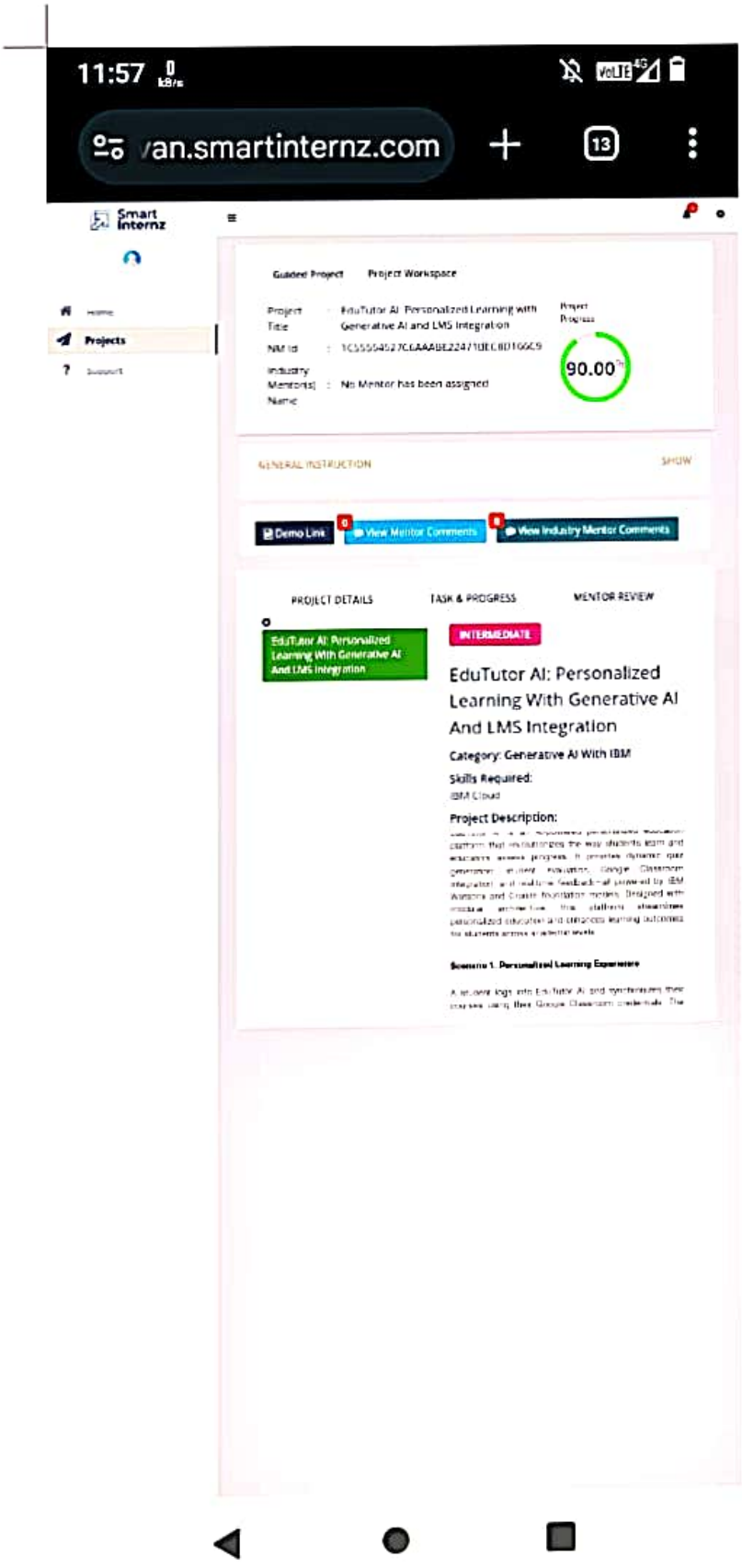
2. *AI-powered Tools*: Leveraging AI-powered tools to analyze and summarize policies.

CHALLENGES:

1. *Complexity*: Policies can be complex and nuanced, making summarization challenging.

2. *Accuracy*: Ensuring summaries accurately reflect policy details and implications.

3. *Context*: Considering context and stakeholder needs when creating summaries.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Projects
Guided Project
Project Workspace
Project Title : EduTutor AI: Personalized Learning with Generative AI and LMS Integration
NM Id :
Industry Mentor(s) Name : No Mentor has been assigned
Project Progress
90.00%
GENERAL INSTRUCTION
SHOW
Demo Link
View Mentor Comments
View Industry Mentor Comments
PROJECT DETAILS
TASK & PROGRESS
MENTOR REVIEW
EduTutor AI: Personalized Learning With Generative AI And LMS Integration
INTERMEDIATE
EduTutor AI: Personalized Learning With Generative AI And LMS Integration
Category: Generative AI With IBM
Skills Required:
IBM Cloud
Project Description:

KEY DETAILS

- *Project Title*: EduTutor AI: Personalized Learning with Generative AI and LMS Integration

- *Project Progress*: 90%

- *Category*: Generative AI with IBM

- *Skills Required*: IBM Cloud

- *Project Description*: EduTutor AI is a platform that customizes learning paths for students using generative AI, providing dynamic quizzes, hints, and real-time feedback powered by IBM Watson and Granite foundation models.

PROJECT ASPECTS:

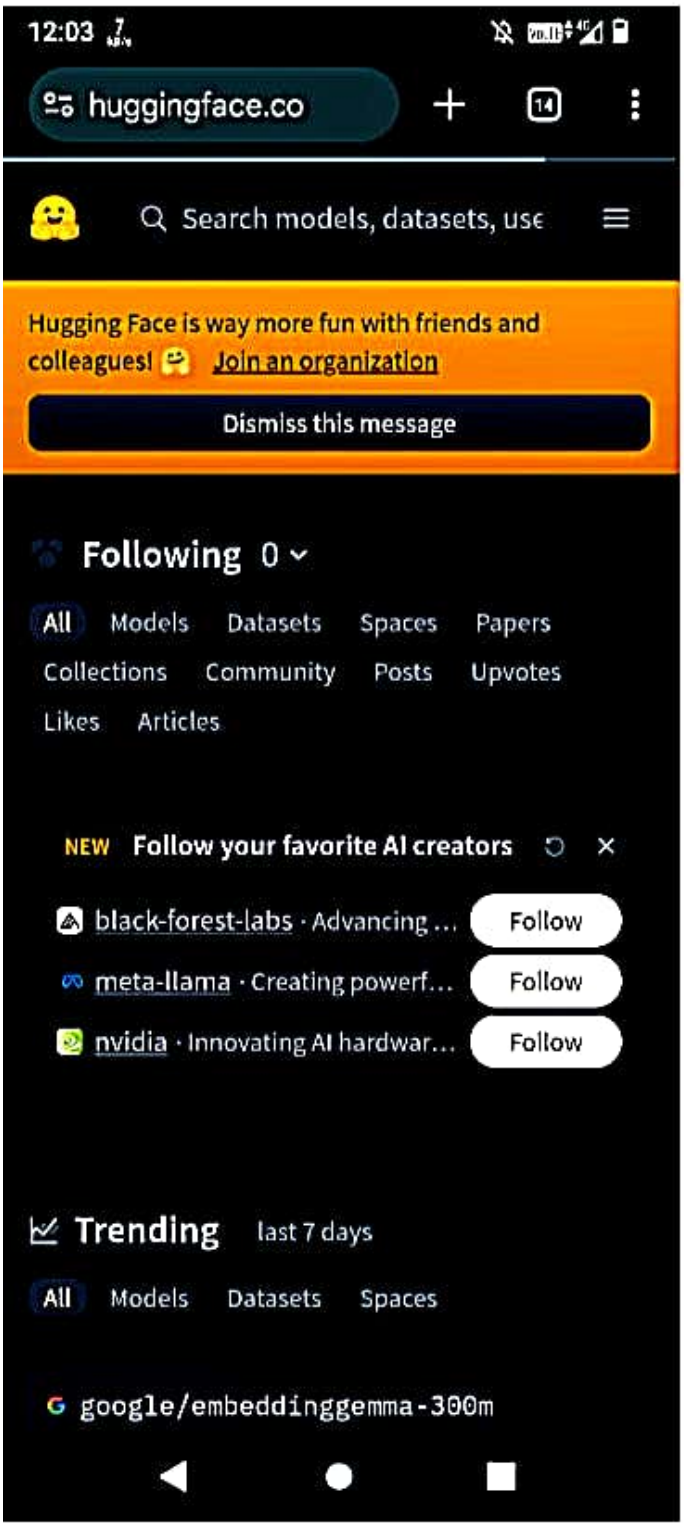
- *Personalized Education*: Enhances learning outcomes for students across various academic levels.

- *Scenario 1*: Personalized Learning Experience - students log in using Google Classroom credentials.

PLATFORM FEATURE:

- *Guided Project*: Part of Smart Internz's guided projects.

- *Project Workspace*: Accessible with details on tasks and progress.



'And create a hugging face and access token and search a IBM granite 3.2-2b instruct using Google colab

Model and Tokenizer Loading*

The code loads the `ibm.granite/granite-3.2-2b-instruct` model and tokenizer using the Hugging Face

Transformers library. It also sets the `pad_token` to `eos_token` if it's not already set.

Response Generation

The `generate_response` function takes a prompt and generates a response using the model. It uses the `tokenizer` to encode the prompt, passes it through the model, and then decodes the output. The response is then stripped of the original prompt and any special tokens.

Concept Explanation and Quiz Generation

The `concept_explanation` and `quiz_generator` functions use the `generate_response` function to generate explanations and quizzes based on user input. The prompts are crafted to elicit specific responses from the model.

Gradio Interface

The code creates a Gradio interface with two tabs: "Concept Explanation" and "Quiz Generator". Each tab has a text input field, a button to generate the response, and a text output field to display the result. When the button is clicked, the corresponding function is called, and the response is displayed in the output field.

Launch

Finally, the app is launched with `share=True`, which allows others to access the app via a shared link.

Overall, this code provides a solid foundation for an educational AI assistant that can explain concepts and generate quizzes. With some fine-tuning and customization, it could be a valuable tool for students and educators alike!