LECTURES CHECK

TEAM-G53

1.Dakshata

2.Bhavya

3.Durga

4.Kukum

5.Harshu

6.Sirisha

Problem Statement

Dune State University has implemented a lecture recording system to make course content more accessible for students. Professors can record their lectures and upload them to the university's Learning Management System, along with supporting materials. The system validates the video, matches it to accompanying PDFs, and analyzes lecture topic coverage.

University's Lecture Recording Requirement

- **Dune State University** would like all their Professors to record the lectures and upload them to their Learning Management System so that the lectures are available for students to watch anytime.

- With each video, a **PDF file** too is uploaded. The system needs to **validate the video for topic wise coverage**. It also needs to **match the video content and PDF** and show its analysis.

Objective

Develop and Implement LLM System

Develop and implement a comprehensive system within Dune State University's Learning Management System (LMS) using a large language model (LLM).

Ensure Seamless Accessibility

Ensure seamless accessibility for students, as well as alignment and analysis of video content with accompanying PDF materials.

Tech Framework

MERN Stack

Together, MongoDB, Express.js, React.js, and Node.js form the MERN stack, which provides a full-stack solution for building modern web applications. This stack is popular among developers because it offers a seamless development experience - a single technology stack.

Large Language Models

Large Language Models represent a transformative leap in the realm of artificial intelligence, unlocking new possibilities for human-machine interaction, information processing, and creative expression.

Main Components and Communication

Components

The main components of the solution include:

- Lecture Recording Application
- Video and PDF Validation Module
- Content Matching and Analysis Engine
- Learning Management System (LMS) Integration

Communication

These components communicate with each other as follows:

1. The Lecture Recording Application captures the video and PDF files and uploads them to the LMS.
2. The Video and PDF Validation Module checks the uploaded files for completeness and accuracy.
3. The Content Matching and Analysis Engine compares the video and PDF content, ensuring they cover the same topics.
4. The LMS Integration module seamlessly integrates the validated and analyzed content into the university's learning platform.

Data Structures

The key data structures used in the app include:

- Video Metadata: Title, duration, topic tags, etc.
- PDF Metadata: Title, page count, topic tags, etc.
- Content Mapping: Linking video segments to PDF pages based on topic coverage.
- Validation Logs: Records of successful/failed validations and content matching.

Interfaces and Workflows

1 — **Lecture Recording**

Professors use the Lecture Recording Application to capture their lectures and upload the video and accompanying PDF files to the LMS. The application guides them through the process, ensuring all required metadata is captured.

2 — **Validation and Analysis**

The Video and PDF Validation Module automatically checks the uploaded files for completeness and accuracy. The Content Matching and Analysis Engine then compares the video and PDF content, ensuring they cover the same topics.

3 — **LMS Integration**

Once the content is validated and analyzed, the LMS Integration module seamlessly adds the lecture materials to the university's learning platform. Students can then access the videos and PDFs at their convenience.

Home Page

Lecture Login

Access the lecture recordings by logging in to the system.

Upload PDF

Upload your lecture materials in PDF format for easy access.

Upload Video

Upload your lecture videos to the system for students to view.

System Features

01 UploadVideo

The system will provide a comprehensive set of features to meet the university's lecture recording requirements.

02 UploadPdf

The system will allow for easy and efficient upload of lecture videos.

03 Validate

The system will also provide the ability to upload related PDF materials to accompany the lecture videos.

ADMIN DASHBOARD

The system will include an admin dashboard to manage all uploaded content and user access.

Logic and Data Processing

Topic Coverage Validation

Content Matching

Usage Analytics

Accessibility Features

Thank You