AI-BASED AUTOMATIC EVALUATION OF DESCRIPTIVE ANSWERS IN LMS

Using LM Studio (Qwen 3.5-2B), .NET Core API, Angular Frontend, MSSQL

Presented by:
Tony Fernandas P

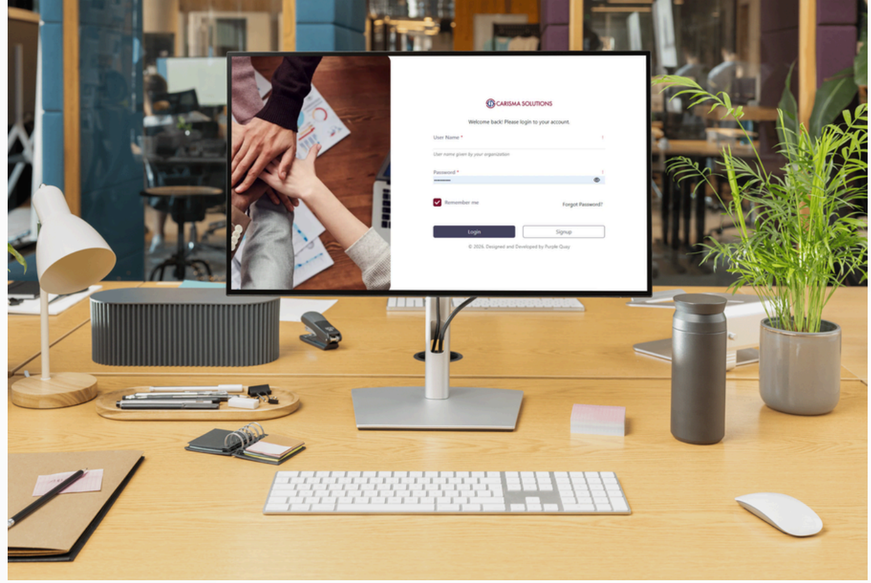
Problem Statement



The Evaluation Challenge in LMS

LMS contains both MCQs and descriptive questions
MCQs: easy to auto-mark; descriptive: manual, time-consuming
Different users write varied but equally correct answers
Need for a smart, scalable evaluation solution

Proposed Solution



AI-Based Auto-Evaluation Using LM Studio

Leverage Qwen 3.5-2B model via LM Studio for intelligent evaluation. Learning heads trigger "Auto Evaluate" button to initiate the process. Inputs include question, expected answer, and student responses. Outputs deliver marks, optional feedback, and JSON structured data.

Workflow



AI Evaluation Process Flow

Learning Head clicks Auto Evaluate button
Angular frontend sends request to .NET Core API
API prepares chunked data, sends to LM Studio
LM evaluates answers, API updates MSSQL DB

Why Chunking is Used



Managing Token Limits in LM Processing

Descriptive answers can be large, exceeding token limits of LMs. Chunking divides answers into manageable parts, improving accuracy and avoiding API timeouts. Benefits: Faster response times, scalable to many answers, reduced memory and processing load.

Tech Stack



Technologies Powering the Solution

Frontend: Angular
Backend: .NET Core Web API
Database: MSSQL Server
AI Model: Qwen 3.5-2B (via LM Studio)

Benefits



Key Advantages of AI Evaluation

Saves manual evaluation time significantly
Ensures consistent, objective marking
Scalable for large student populations
Flexibly handles varied correct answers

Challenges & Solutions



Overcoming AI Evaluation Hurdles

Challenge: Different correct answers → Solution: Semantic evaluation via LM understands meaning, not just keywords.
Challenge: Large input size → Solution: Chunking strategy divides data into manageable parts.
Challenge: Accuracy concerns → Solution: Prompt tuning ensures consistent results.



THANK YOU

Questions and Feedback Welcome