

Day-1 Task Report – AI Question Generation Module

Name: Arya

Task: Review LLM Prompt Structure for Question Generation

Status: Completed

LLM Used

Gemini 3 Pro – Google AI Studio

Work Summary

- Designed prompt structure for generating MCQs from transcript text
 - Defined JSON output format
 - Tested prompt using Gemini 3 Pro with sample transcript
 - Successfully generated questions, options, correct answer & explanation
-

Prompt Used

You are an educational content expert specializing in assessment design.

Your task is to generate high-quality Multiple-Choice Questions (MCQs) from the provided transcript.

Requirements:

1. All questions must be concept-based, not memory-based.
 2. Include four unique options.
 3. Provide correct answer and explanation.
 4. Align questions with the transcript meaning.
-

Output format (JSON):

```
[  
{  
  "question": "",  
  "options": ["", "", "", ""],  
  "correct_answer": "",  
  "explanation": ""  
}]
```

Sample Transcript

Artificial Intelligence is a field of computer science that aims to build systems capable of performing tasks requiring human intelligence, such as reasoning, learning, and understanding language. Machine Learning is a subset of AI that uses data to improve performance automatically.

Generated Output

```
[  
{  
  "question": "Based on the relationship described in the text, which statement accurately illustrates the connection between Artificial Intelligence (AI) and Machine Learning (ML)?",  
  "options": [  
    "ML is the broad field that encompasses AI as a smaller component.",  
    "AI and ML are distinct fields with no overlapping characteristics.",  
    "ML is a specific category contained within the broader scope of AI.",  
    "AI focuses on data processing, while ML focuses exclusively on human reasoning."  
],  
  "correct_answer": "ML is a specific category contained within the broader scope of AI.",  
  "explanation": "The transcript defines Machine Learning as a 'subset' of AI. Conceptually, this means AI is the overarching field dealing with human-like intelligence, and ML is a specialized part of that field."  
},  
{  

```

],

"correct_answer": "The system is using Machine Learning to improve performance automatically using data.",

"explanation": "The text states that Machine Learning 'uses data to improve performance automatically.' The app using historical data (preferred routes) to improve its suggestions exemplifies this concept."

}

]

User Question Screenshot

The screenshot shows the Google AI Studio interface. On the left, there's a sidebar with navigation links: Home, Playground (which is selected and highlighted in grey), Build, Dashboard, and Documentation. A note at the bottom of the sidebar says: "Google AI models may make mistakes, so double-check outputs." The main workspace has a title bar "AI and ML MCQ Generation" with a token count of "529 tokens". Below the title, there's a "User" section with instructions: "You are an educational content expert specializing in assessment design. Your task is to generate high-quality Multiple-Choice Questions (MCQs) from the provided transcript." There's also a "Requirements:" section listing four points: 1. All questions must be concept-based, not memory-based. 2. Include four unique options. 3. Provide correct answer and explanation. 4. Align questions with the transcript meaning. Under "Output format (JSON):", there's a code snippet:

```
[  
  {  
    "question": "",  
    "options": ["", "", "", ""],  
    "correct_answer": "",  
    "explanation": ""  
  }  
]
```

At the bottom, there's a "Transcript:" section containing the text: "Artificial Intelligence is a field of computer science that aims to build systems capable of performing tasks requiring human intelligence, such as reasoning, learning, and understanding language. Machine Learning is a subset of AI that uses data to improve performance automatically."

Generated Output Screenshot

```
<> JSON
```

```
[  
 {  
   "question": "Based on the relationship described in the text, which statement accurately illustrates the connection between Artificial Intelligence (AI) and Machine Learning (ML)?",  
   "options": [  
     "ML is the broad field that encompasses AI as a smaller component.",  
     "AI and ML are distinct fields with no overlapping characteristics.",  
     "ML is a specific category contained within the broader scope of AI.",  
     "AI focuses on data processing, while ML focuses exclusively on human reasoning."  
   ],  
   "correct_answer": "ML is a specific category contained within the broader scope of AI.",  
   "explanation": "The transcript defines Machine Learning as a 'subset' of AI. Conceptually, this means AI is the overarching field dealing with human-like intelligence, and ML is a specialized part of that field."  
 },  
 {  
   "question": "A navigation app observes a driver's preferred routes over time and begins suggesting better paths based on that history. Which concept from the text best explains this capability?",  
   "options": [  
     "The system is using Machine Learning to improve performance automatically using data.",  
     "The system is performing a basic calculation unrelated to Computer Science.",  
     "The system is demonstrating human emotion rather than intelligence.",  
     "The system is operating outside the field of Artificial Intelligence."  
   ],  
   "correct_answer": "The system is using Machine Learning to improve performance automatically using data.",  
   "explanation": "The text states that Machine Learning 'uses data to improve performance automatically.' The app using historical data (preferred routes) to improve its suggestions exemplifies this concept."  
 }  
 ]
```

Conclusion:

Completed prompt testing using Gemini 3 Pro.

Submitted by:

Arya