Home Assignment: AI-Powered Exercise Generator

Contact:

For every question you might have or if you need any clarification, don't hesitate to contact Dewis BIBAS, our CTO, on whatsapp (+33619372909).
We truly appreciate the time and effort you will invest in completing this home assignment. We know it is a complex task and we thank you for sharing your skills with us.

Objective:

Build a web-based Exercise Generator that allows users to input any topic and receive three auto-generated exercises with 10 multiple-choice questions (MCQs) each and allow the user to answer them interactively.

One exercise for beginner level, one for intermediate level and one for expert level.

Feel free to suggest ideas on how to improve the product and implement the solution.

Details:

1) Topic Input

An input field for users to enter any topic (e.g., "Machine Learning", "World War II") and subtopic (e.g., "Supervised Learning", "Battle of Stalingrad").

2) Exercise Generation

On submit, use OpenAI's API to generate 3 exercises (Beginner, Intermediate, Expert), each containing:
- 10 MCQs per level
- Each question must include:
    - The question
    - 4 answer choices (A–D)
    - 1 correct answer

3) Exercise Interaction

Allow users to:
- Select answers for each question
- Submit the entire exercise
- View their score and which questions were correct/incorrect

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Tech Stack Requirements:

Frontend: React
Backend: Express
API Integration: OpenAI (GPT-4o or GPT-3.5)
Styling: Tailwind

Bonus:

The website should be in english but the user can switch everything to hebrew
Allow users to regenerate exercises at any level
Track previous scores or answers in local storage
Show detailed explanations for each correct answer
Add progress indicators while answering questions

Deliverables:

A zip folder containing:
- Source code
- Instructions to run locally (in `README`)
- Explanation of architecture or decisions
- Notes on any limitations or trade-offs

Scoring:

UX/UI: 25%
LLM: 25%
Code quality: 25%
Objectives and Bonuses: 25%