QUIZCRAFT

Capstone Project

Team - QuizCraft

Arsen Mutalapov	Team leader.
Nagim Isyanbaev	ML engineer. Information retrieval
Viktor Kovalev	Frontend developer
Kirill Korolev	Backend developer.
Gleb Kirillov	Backend developer
Kirill Batyshchev	ML engineer.

A spark in mind

Knowledge assessment

A desire to improve educational process

Problems

Lack of accessible knowledge assessment

Especially, for self-learners.

Studying courses do not always include short tests on the educational material

"Simplicity is the ultimate sophistication."

Leonardo da Vinci

Solution - Quizzes

- Simple

- Easy to take

- Not time-consuming

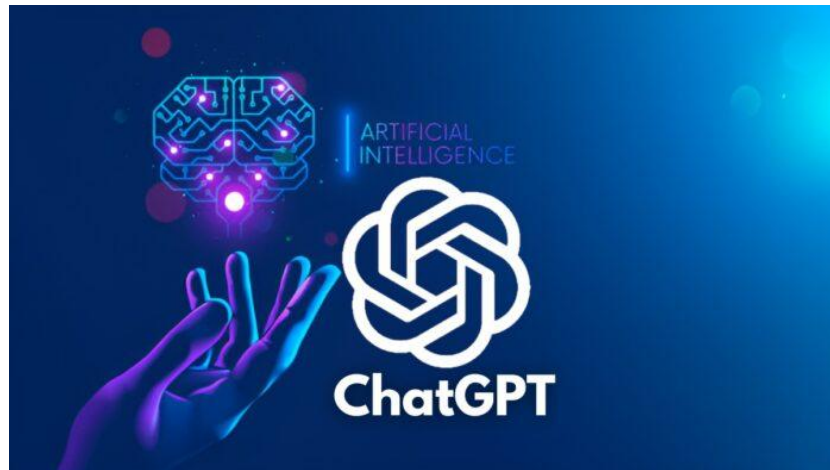- Effective knowledge assessment

Naive approach

- Use chatGPT to compose a simple test

Limitations:

- Prompting over and over again
- Doesn't support large context
- What to do when it is generating? What's else?

Automation with AI

- Provide the studying material

- System will generate a quiz for you

- Take it check your results

Attach files

Document.pdf	⊗
File.txt	⊗
Book.docx	⊗

Q1. What are the two main functions of operating systems?

A. providing abstractions to user programs and managing the computer's resources
B. issuing system calls and using assembly code
C. dealing with vague generalities and specific systems
D. creating, writing, reading, and deleting files

Monkeys

Your total score is 3 out of 10

Your answer is correct. Score: 1 out of 1
Q1. What distinguishes monkeys from apes?
A. Other features of the skeleton
B. Presence of a tail
C. Narrow-chested bodies

You made a mistake. Score: 0 out of 1
Q2. Where do most monkeys live?
A. Deserts
B. Mountains
C. Grasslands
D. Tropical forests

What if a user doesn't have much material or any material at all?
Should they be left without the opportunity to benefit from our platform?

Our team

Definitely NOT

Let's explore the Treasury

"LeetCode" approach

- **Solve** programming tasks
- Hands-on **practical** experience
- **Wide range** of tasks on specific topics

Result:

- **5 million** users
- **20 million** visits per month

Imagine

- Select a desired topic
- Explore community quizzes
- Question your knowledge
- Read explanations to answers
- Obtain awards

Result:

- Gain new knowledge

Explore and search for AI generated quizzes

QuizCraft

Machine Learning

- Hugging face
- Transformers
- LangChain
- Llama, Falcon, and Alpaca
- ChatGPT comparison
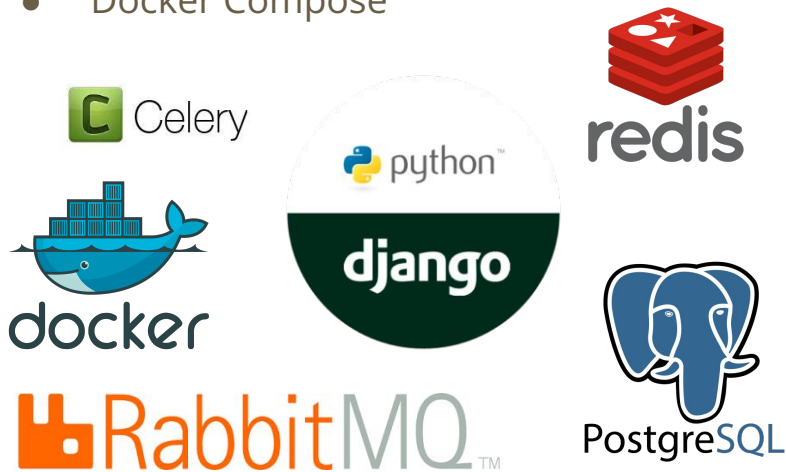
Thanks to Daniil Arapov (@daniillarapov)

Challenges

- Large models do not fit into memory
- Proper dataset is required
- Training takes a lot of time
- The result is not significantly better than ChatGPT can

After the lecture of Moofiy: stick to ChatGPT

Backend - server

- Python Django REST API
- Postgres Database
- RabbitMQ - asynchronous quiz creation
- Celery
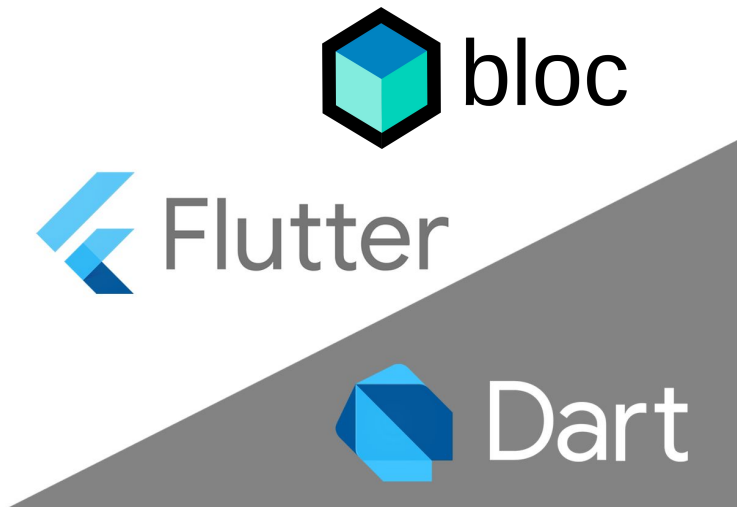- Reddis
- Docker Compose

Challenges

- Think of type of questions (**MCQ**, True/False, Open-ended)
- Format of each type of question and
- Format of answers

Advice by Rustam Lukmanov: narrow down the scope and stay focused on goals.

Frontend – web interface

- Dart with Flatter is more familiar than JavaScript
- Bloc library
- Very perspective for future development
- Cross-platform

Challenges

- ChatGPT can't help much
- Lack of expertise
- State management
- A lot of work for MVP

- ❏ Create a **form** to attach files and generate a quiz
- ❏ **Display** user quizzes (including login and registration).
- ❏ Enable users to **view and attempt** a single quiz.
- ❏ Facilitate the **search and exploration** of community quizzes.

QuizCraft MVP

Keep things simple and focus on getting things done

Done is better than perfect

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Thank you.