
QUIZCRAFT

— Capstone Project —

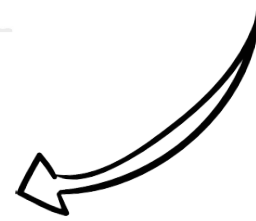
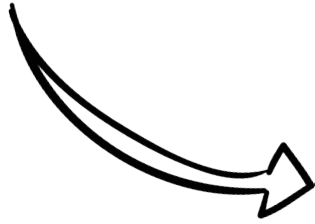
Team - QuizCraft

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



Problem

Lack of relevant and 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

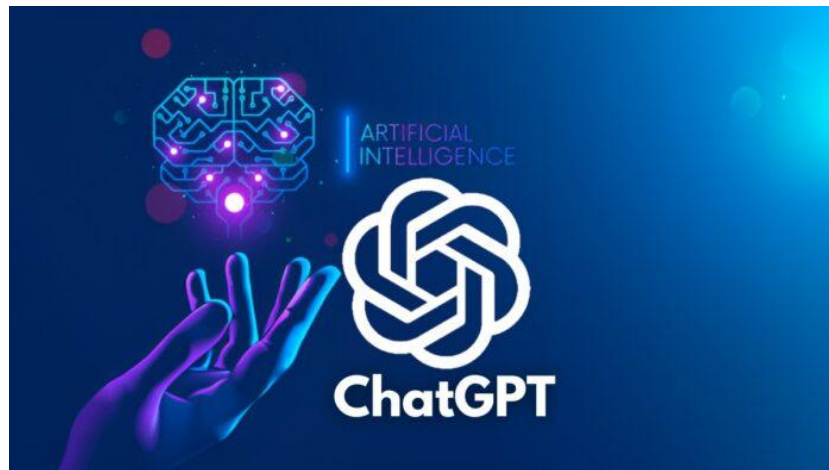


Naive approach

- Use ChatGPT to compose a simple test

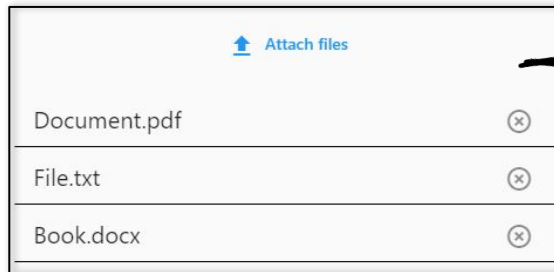
Limitations:

- **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 and **check** your results



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

Imagine

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

Result:

- **Gain** new knowledge



Explore

Top Views

Einstein's theory of r...

This quiz is about the special principle of relativity and its meaning. It tests the reader's understanding of the principle and its implications. The quiz is suitable for individuals who are interested in physics and h...

[View with answers](#)

[Solve](#)

Ancient Rome history

This quiz is about the geography and history of Italy. It covers topics such as the forerunners of Rome, the physical characteristics of Italy, the mountain ranges in Italy, the size of Italy, the promontories that form the ...

[View with answers](#)

[Solve](#)

Newest

Latin Alphabet

This quiz is about the origin and characteristics of different alphabets, specifically focusing on the Latin alphabet, Spanish, German, Icelandic, Danish, and Norwegian. It tests knowledge on topics such ...

[View with answers](#)

[Solve](#)

Hawking's history of...

This quiz is about the history and concepts of physics, specifically focusing on the theories of motion, gravity, and relativity. It covers the contributions of Aristotle, Galileo, Newton, Rømer, Michelson, Morley, and Eins...

[View with answers](#)

[Solve](#)

Search

Results for query: Programming

Computer architecture. Vector architecture

This quiz is about vector architectures in computer systems. It covers topics such as the purpose of vector architectures, the names of vector i...

[View with answers](#)

[Solve](#)

Explore and search for AI generated quizzes

QuizCraft

Machine Learning



- Hugging face
- **Transformers**
- LangChain
- Models - Llama, Falcon, and Alpaca
- **ChatGPT** comparison

Thanks to Daniil Arapov (@daniillarapov)

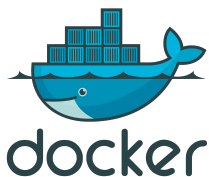
Challenges

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

After the lecture of Moofiy: **stick to ChatGPT**

Backend - server

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



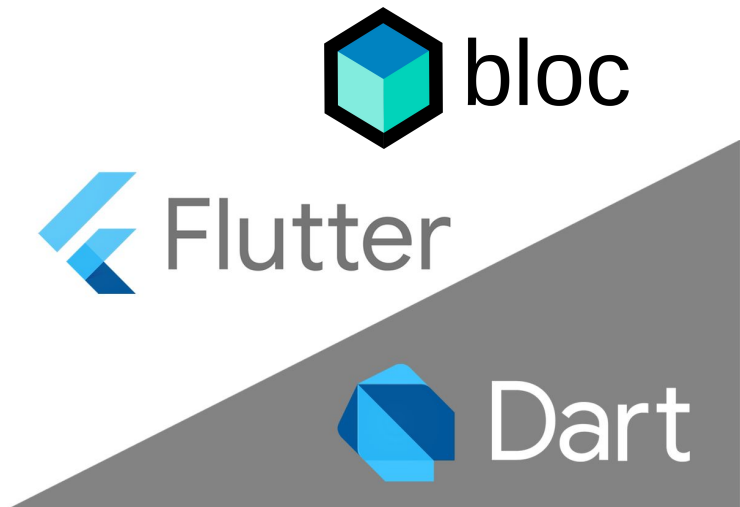
Challenges

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

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

Frontend - web interface

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



Challenges

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

Frontend - MVP

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

Generation Form

Crafter

Quiz Settings

Title

Description (optional)

Questions [1, 45] Public

Input data

Input text

Login form

Login

Username

Password

[Don't have an account? Register](#)

[Login](#)

Buttons to check a quiz

[View with answers](#)
[Solve](#)

Buttons to find something new

[Explore](#) Search

QuizCraft MVP

Keep things simple and focus
on getting them done

Done is better than perfect

© Sheryl Sandberg

Thank you.