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Work on grading service for Textbook/Learning platform

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Problem

- As reach of Qiskit is getting wider everyday, lots of content creators, university professors wants to automate their course exercises via Qiskit dashboard
- Many universities are following qiskit textbook as their syllabus and wants to conduct tests and exercises on the platform itself
- But now, Qiskit backend team has to manually onboard questions for each exercise

Scenario: Andrew from FlyHigh University wants to set an assignment on the Qubit topic for his course on Quantum Computing. Steps he needs to follow:

- Provide JSON formatted input to the Qiskit development backend team.
- Then it has to be stored under proper file structure for grading and showing purpose
- All these steps has to be done manually without a single typo
- UI has to render the assignment based on the complex user formatted JSON
- All assignments/exam information is getting stored in the github repository

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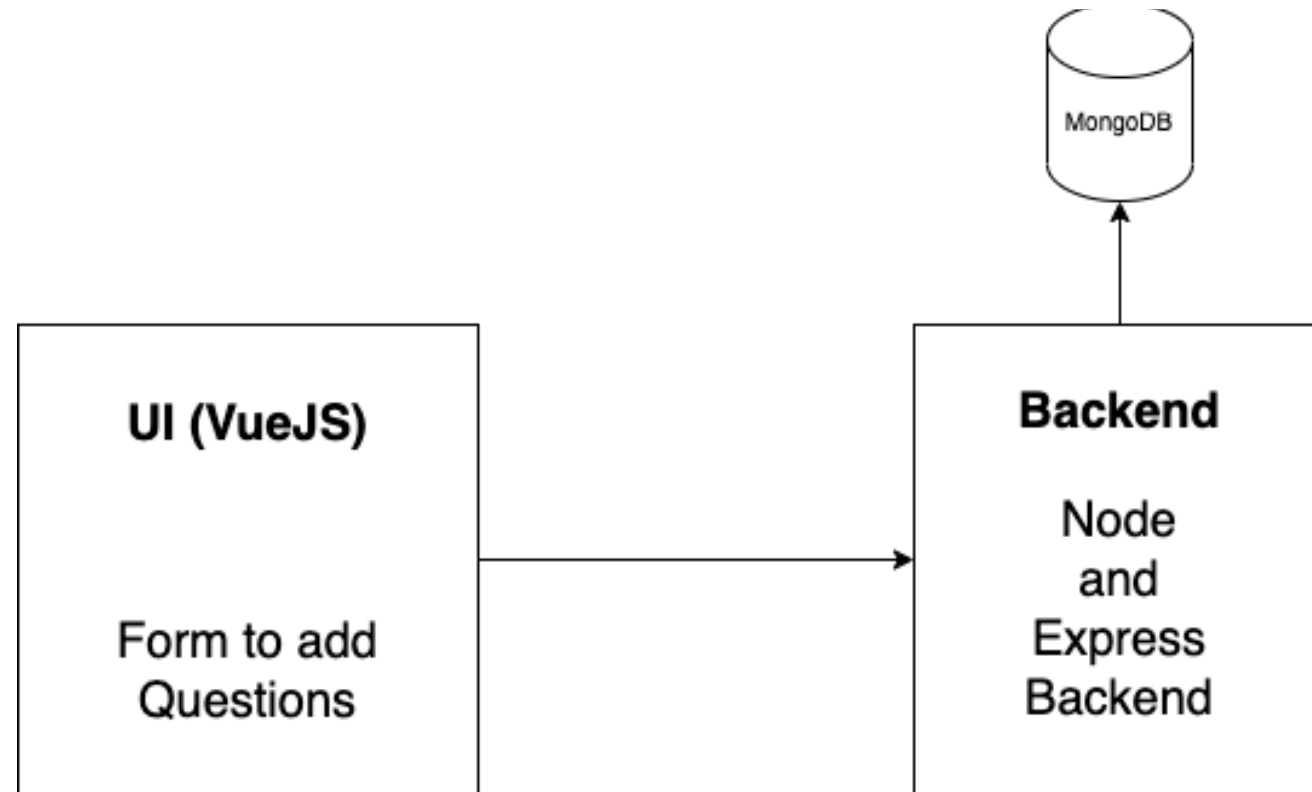
Solution

- We, QAMP team introduced a way to tackle this and scale this unique problem Introduced a simple way to add new questions under an assignment via API request or UI
- All unique questions will get stored in the MongoDB
- CRUD operations-based APIs will be able to handle addition, updation, deletion and listing of questions on large scale
- Following is an example of question addition

```
1  {
2  "text": "QC is great or not?",
3  "type": "code",
4  "code": {
5    "metadata": {
6      "id": "ps1-quiz-2",
7      "grader_answer": "qc",
8      "grader_id": "textbook_practice_exam/problem2a"
9    },
10   "source": "from qiskit import *\n# Start your work here.\n# We've provided the circuit\n    that is shown above\n# Your circuit MUST be named qc\nqc = QuantumCircuit(2)\nqc.draw\n    ()"
11 }
12 }
```

The screenshot shows the 'Code based Question Creation' interface on the Qiskit website. The page title is 'Code based Question Creation' and the subtitle is 'Create a customizable questions and share it with your students.' Below the title, there is a section 'Create a questions' with a form containing several input fields: 'Questions name *', 'Course ID *', 'Goal ID *', 'Grader ID *', 'Grader Answer *', 'Validator Code', and 'Source Code *'. Each field has a small icon indicating a validation rule. At the bottom of the form, there are two buttons: 'Cancel' and 'Add new question'.

Architecture



Demo

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Questions?

Email me for more information: ashwin.kulkarni128@gmail.com

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