Project Description

Project Title:
CoderGym

Project Goal:
Create a code testing platform for online code-teaching companies to evaluate the practical coding skills of the students.

Introduction:
In most cases, code-teaching companies are providing their skill evaluation with multiple-choice quizzes and assignments(the laters require extended, often non-formulaic answers). These 2 techniques are complementing each other but they also have disadvantages impossible to cover in the case of a large number of students:

1. Quizzes at their best can check the theoretical knowledge about the material. After the quiz, the platforms give the student one more chance to relaunch the quiz, and with deducting wrong options which were chosen earlier, choose the correct one. This technique fails to evaluate the practical coding skills of the student and the result of the quiz can even have an impermissible level of inaccuracy of showing the student's real theoretical knowledge.
2. Assignments technique is partially solving this issue giving the student an interface to introduce his(her) knowledge about the topic in a broader manner, but, as mentioned above, some answers can be non-formulaic and require manual checking, thus the method is losing the component of automated evaluating, which for big amounts of students can be a problem.

Suggested Solution:
The suggested coding platform is combining the two major advantages of the above-mentioned approaches(automation and interface for extended answer). It is giving the teaching side the interface to apply the tasks and their answers for the corresponding topics. On the other hand, the students are not constrained to choose from a set of options. Instead, they are showing their own approach and getting evaluated just by the final required result. The evaluation is automated (unlike the common assignment evaluation).

Similar Market Offers:
The same solution for similar issues has been given by Hackerrank and CodeSignal:

CodeSignal is providing a free platform for the coders mostly with predefined exercises for each programming language to improve their abilities, whereas Hackerrank is offering software companies to import their own tasks and conduct exams for hiring new employees.

Necessary Tools For Implementation:
- Node.js   - Cross-platform, JavaScript runtime environment
- React   - JavaScript library for building user interfaces or UI components
- Express   - Web application framework for Node.js
- MongoDB - NoSQL database program