MADBOX

HOME ASSIGNMENT

Senior Performance Automation Engineer

Objective

The objective of this test is to evaluate your skills on integrating a 3rd party API along with your capacity to build and architecture a fullstack project.

Description

A player opens your app and starts a game. The application displays a word in French and the player needs to find the English translation of it. To guide the player, the application also provides 2 additional information : the first letter of the translated word and the numbers of letters in the word. It will be up to you to display these information in a player-friendly way.

The player starts with 10 points. When he makes a mistake, he loses a point and when he finds the word he gets a point.

If the player reaches 0 points, he loses. If he reaches 20 points, he wins.

You will have to use the verbs.txt file that is provided with this test to populate your words database with 500 french verbs.
During the game :
- Your client side should call the backend to request a french word.
- The backend selects a word in the database
- The backend calls an free API to get the translation of that word in English "on the fly"
- The backend sends both information to the client

Additional Challenge

To make it a bit more difficult (as this is a Senior position), choose **one** of the following features and add it to your project :
- Add a difficulty to each word. The game will pick an easy word when we're losing and a difficult word when winning.
- Save the games history and provide a leaderboard.
- Add analytics to dynamically identify which are the most complicated words (which could, in practice, feed the first feature).
- Make it a race between 2 players connected to the same room in realtime.

Tech

You can use any tech that you want on the frontend but using React will be preferred. The backend should be built using Node.js / express.js. Using Typescript will be preferred. It's up to you to choose a relevant database and relevant data models.

Miscellaneous

In order for us to evaluate your programming skills, you should use some git tool for the version control and share the GitHub / Bitbucket repository with us.

In your repository you should include a README.md file containing :
- Instructions to install & setup your project
- Instructions to start the application
- Explanations on the technical choices you've made
- Details on points you believe should be improved, and how.
- How long it took for you to build this application.

While reviewing your project, we will pay attention to the UX of your application but you're not expected to build a sophisticated and polished UI, including art and other graphical design. A player that never read the instructions of this test should easily understand the game and be able to play it.