Restful API for Scrabble Game

The assignment is to build a proof of concept Restful API that can be used to play the famous board game Scrabble.

Game rules

- Game supports only 2 players
- Each player should have 7 letters when starting a new turn.
- After each turn -the player that made the move- draws random letters(tiles) from the bag. For e.g: If player 1 made a move with 3 letters, she picks 3 random letters.
- Letter list and amount of letters in the bag are defined in the **letters.json** file.
- All words on the board considered to be valid (No dictionary is available)
- The words are at least 2 tiles/letters long.
- A player can only place a word vertically or horizontally.
- A player can only place words as adjacent(in connection) to the tiles on the board.
- A player **can not** place a word without neighbouring another letter that's already placed. (Of course the first move is exceptional.)
- A player **can not** place a letter(tile) to a coordinate that's already used.
- The board dimensions are 15 x 15 tiles.
- There are **no** letter or word multipliers on the board.
- Once all tiles are gone from the bag and a single player has placed all of their tiles, the game will end and the player with the highest score wins.

Technical requirements

The API requires multiple endpoints to be implemented to fulfill the requirements.
- Implement an endpoint that would accept a word, coordinates of the word on the board and the player that made the move.
- Implement an endpoint to show the current game status. Below you can find the information to be returned from the endpoint.
    - Score for each player according to the current state of the game board.
    - How many tiles are left in the bag?
    - How many tiles do each player have in their deck?
    - This endpoint can be used to see who the winner is when all tiles are used.
- Most probably you will need a persistence layer, you can use an RDBMS (SQLite works too), a document database or even a json storage, it is totally up to you.
- Use Python, PHP, Java, Golang or .NET Core as a programming language.

- You don't need to worry about authorization and authentication.
- Use a private github/gitlab repository to push your commits.
- If you have system design sketches place them in the Readme file
- Consider how to test your application.
- If you can dockerize your application that's great for us.

Other important points to consider

- Don't consider letter or word multipliers on the game board.
- Players can only do one type of move which is placing a word on the board. They can not skip or change their tiles.
- You don't need to worry about whose turn it is. In the PoC we expect each player will respect their turn.
- This is a proof of concept focus on how you structure your code and data, most probably other developers will pick up your work in the future.
- Do not spend more than 8 hours in total.
- If you have any questions please contact us and we will be happy to help!

- We hope you enjoy the challenge and we wish you good luck! 🍀