Coding Challenge – Farm Simulator

During this selection process, we require each candidate to complete a task in order to make sure you have the skills needed for this position.

This is a test used to assess the candidates for the Node.js Back-End Developer position.

Disclaimer: The only purpose of this task is to assess candidate skills. Everything sent as a result of the task will not be used for commercial purposes.

Delivery

The deadline is 3 days from the day when the task was sent.

It is mandatory to send the task as the Git URL Repo with committed all changes while working on the project to katarina.stojkovic@fatcatcareers.com
If you have any questions about the task, feel free to ask.

Additional Rules

You must use **Express.js** for the Back-end with **Sequelize** and **Postgres** as a database.

Provide a Docker file for the Back-end and run instructions.

Linter
You must use ESLint. (chose a configuration you find fit but argument why)

Using a Typescript is bonus

If the rules above are not met, the task will be automatically rejected.

Good luck and have fun! 🍀

Description

The goal of this task is to build a farm building management application. The system consists of a Back-end REST API.

The application will create farm buildings with farm units, and feed those farm units.

Routes + Back-end

(The proposed list of REST API routes. A candidate is free to change this)

Create a farm building
- The route should accept
    - Building name, farm unit name.
        - Farm feeding intervals are 60 seconds.
    - The Farm unit will have random health between 50 and 100 health points and each farm unit feeding interval is 10 seconds.

List farm building
- Return a list of available buildings, with their name, farm unity type, and number of farm units

Add a farm unit to the farm building
- This API route should add an existing farm unit type to the farm building id.

List farm building farm unit
- For a farm building id, return all farm units with information about their health and if they are alive/dead.

Feed farm unit
- API route to feed a specific farm unit id. Feed will always add one health to the farm unit. Farm units can not be fed more than once every 5 seconds.

Farm unit feeding behavior

When a farm unit is added to the farm building, its feeding countdown starts. Every time its feeding countdown is reached, it will lose 1 health point. If the farm unit reaches 0 health, it is dead.

When a farm unit is fed by a farm building, it will always recharge half of the health lost in the previous farm feeding interval (in this case 60 seconds)

Every time a farm unit is fed, its feeding countdown will reset.

Note: Only way to fully heal a farm unit is to feed it manually.

NOTES:

- **All intervals and health can be changed through the config. Provided values are default values.**