Coding Challenge

To dive deeper into your skills and understand the way that how you approach a problem and come to a solution, we lined up a coding challenge for you. You are requested to send GitHub repository of your code/solution in reply of this email.

After submitting your assessment you'll have a follow up interview to demonstrate your results.

Requirements

***Total Time*:** 5 Hours

Language: English

Environment: Visual studio, WPF, MVVM, Entity framework, MSSQL Server.

You should not take longer than 5 hours to complete this coding challenge.

Background Info

Efficient coordination and monitoring of military training exercises are critical for ensuring preparedness and effectiveness in friendly countries armed forces. However, existing system have necessary features for registering participating countries, soldiers, and ranks for comprehensive training. To verify the functional operations of training we need an independent simulation module that will show real-time actions performed by the soldiers in the training.

Problem Statement

Developing a system that provides evaluators with real-time updates on soldier movements based on sensors data. This system should dynamically update soldier positions on a map based on GPS coordinates as user move from one location to another and save them to database. Additionally, user should be able to click on markers to access supplementary details about soldiers, including their current position (latitude, longitude), rank, country, and training information. Emphasis should be placed on optimizing performance, particularly when handling a substantial volume of markers or frequent updates to marker.

Tasks

- Draw architecture and ERD diagrams of the solution.
- Implement application structure and write function to show current position of soldiers on map based on sensor data. You can use any map service to show data on map and show interaction.
- Write function that show movement of soldiers using marker with animation effect on movement of markers.
- Write unit tests in your preferred framework for your code.
- Write end-to-end integration test for the movement of soldier.

Appendix

Completeness

Focus on the parts of your solution you feel confident in. Remember, you don't have to deliver a finished solution, but show us how you approach a problem and how to develop a solution.

Data Format

Soldier data can be used from a sample JSON object.