Connex Telecommunications Angular / Java Project

Thank you for your interest in the Senior Full Stack Developer position. As part of our recruitment process, we request that you develop an Angular application with a Java backend. Please deploy the application on a cloud platform and share the URLs to your hosted application and GitHub repository via email.

The assignment is to create a live webpage which can provide vehicle insurance quotes. This project will consist of two main components. The first component is a frontend webpage built in Angular that allows users to input their details and receive a quote. The second component is a Spring Boot application for calculating insurance premiums. This application should be deployed on a cloud platform of your choice.

While completing this assignment, you are encouraged to add extra features or explore something you're passionate about. However, this is not required, and we evaluate all submissions accordingly. We understand that everyone has different amounts of time to put into an assignment like this.

Please include a README file with instructions and final notes. We will review your coding style, reasoning, and depth of knowledge regarding your code and product design. This includes evaluating code quality and system design.

The Project

Build a web application to provide a vehicle insurance quote with two main components: a frontend webpage built in Angular for user input and a backend webservice for premium calculation.

Frontend webpage

1. Allow user to enter driver's information such as age, driving experience, etc.
2. Allow user to provide vehicle information. A list of car models can be obtained from https://storage.googleapis.com/connex-th/insurance_assignment/car_model.json if needed.
3. Display the annual and monthly quote for the car insurance, along with a reference #.

Backend service

As part of the development process, define a request and response schema for your API. This schema should be based on the details obtained from the frontend, along with any additional details you may feel required for future improvements. We have included an example below for your reference.

Sample Request and Response	
Request Method	Post

Sample Request, please design your own data schema to have better structure if needed.

```
{
  "age": 32,
  "driving_experience": 7,
  "driver_record": 1,
  "claims": 0,
  "car_value": 50000,
  "annual_mileage": 25000,
  "insurance_history": 3
}
```

Sample Response

```
{
  "success": true,
  "premium": 1500.00,
  "quote_reference": "Q123456789"
}
```

Insurance premiums are calculated based on multiple factors. Below are the sets of factors that should be used to calculate the insurance premium for that driver. Calculate the final insurance premium by multiplying the base premium rate with all the applicable factors. You can retrieve the current base premium from https://storage.googleapis.com/connex-th/insurance_assignment/base_premium.json

If any of the factors are unknown (???), or if the driver is going to use the car for commercial or business purposes, the API will return an 'unknown premium' which indicates that the driver will need to contact our insurance specialist for a custom quote.

1. Calculate the age factor based on the driver's age:

Age	**Factor**
< 25	1.3
>=25 and <40	1
>=40 and <70	0.9
>=70	???

2. Calculate the driving experience factor based on the number of years of driving experience:

Driving Experience	**Factor**
<2	1.5
>=2 and <5	1.3
>=5 and <10	1
>=10	0.9

3. Calculate the driver record factor based on the driver's record in last 5 years:

At fault traffic violations or accidents in last 5 years	**Factor**
0	1
1	1.1
2-3	1.3
>3	???

4. Calculate the claims factor based on the number of claims in last 5 years:

Number of Claims	**Factor**
0	0.9
1	1.2
2-3	1.5
>3	???

5. Calculate the car value factor based on the purchase price and age, using a 15% annual depreciation rate for first 3 years and 10% thereafter:

Car current value	**Factor**
<$30,000	0.8
>=$30,000 and <$60,000	1
>=$60,000 and <$100,000	1.2
>=$100,000 and <$150,000	1.5
>=$150,000 and <$200,000	2
>=$200,000	???

6. Calculate the mileage factor based on annual driving distance:

Annual driving factor	**Factor**
<20,000 km	0.9
>=20,000km<30,000km	1
>=30,000km<50,000km	1.1
>=50,000km	1.3

7. Calculate the insurance history factor based on insurance history:

Insurance history	**Factor**
No insurance before	1.2
<=2 years	1.1
>2 years	1

Final Notes

Please include instructions on how to run your application in the README, along with any relevant details. Additionally, provide a brief description of the project, any challenges you faced, and how you overcame them. If there is a specific feature or component that showcases your skillset, please highlight it.

Thank you for your effort and participation in the process, we look forward to reviewing your project.