Global Payments Elevator

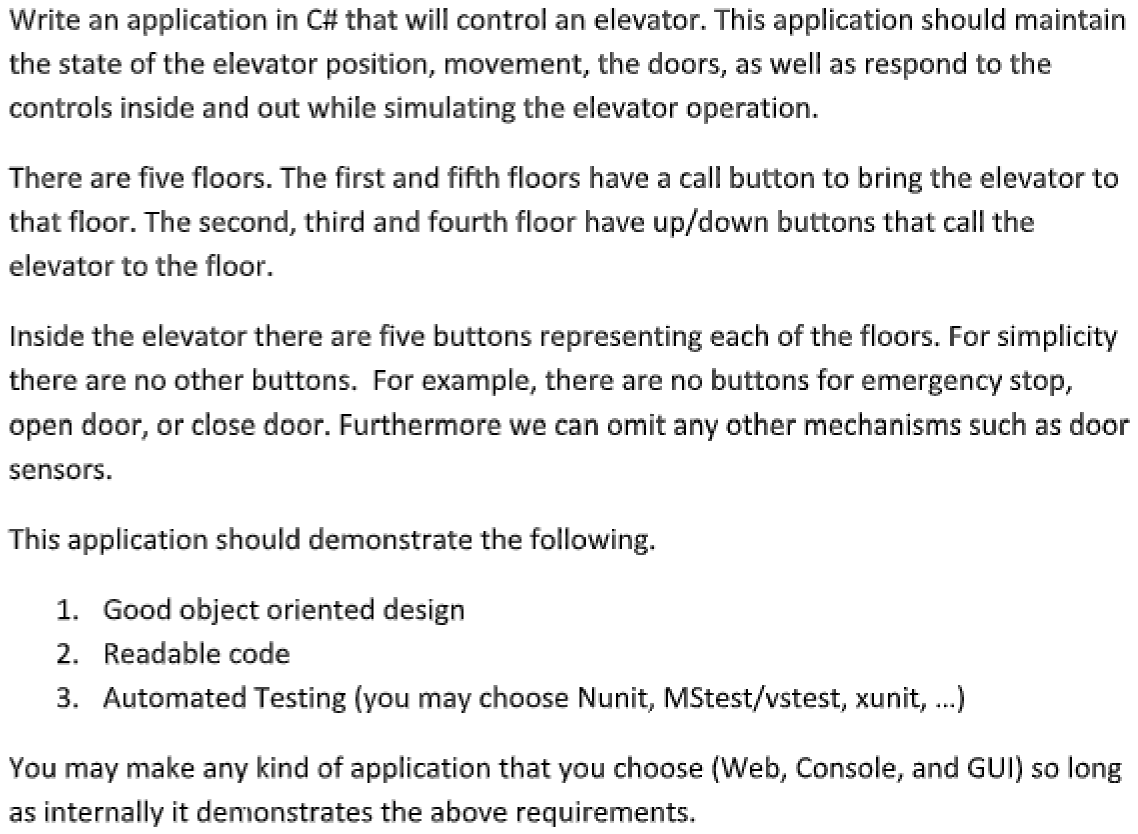
(Documentation)

Content

URL Repository

https://github.com/F3l1xHN/GP_Elevator

User Requirements



Write an application in C# that will control an elevator. This application should maintain the state of the elevator position, movement, the doors, as well as respond to the controls inside and out while simulating the elevator operation.

There are five floors. The first and fifth floors have a call button to bring the elevator to that floor. The second, third and fourth floor have up/down buttons that call the elevator to the floor.

Inside the elevator there are five buttons representing each of the floors. For simplicity there are no other buttons. For example, there are no buttons for emergency stop, open door, or close door. Furthermore we can omit any other mechanisms such as door sensors.

This application should demonstrate the following.

1. Good object oriented design
2. Readable code
3. Automated Testing (you may choose Nunit, MStest/vstest, xunit, ...)

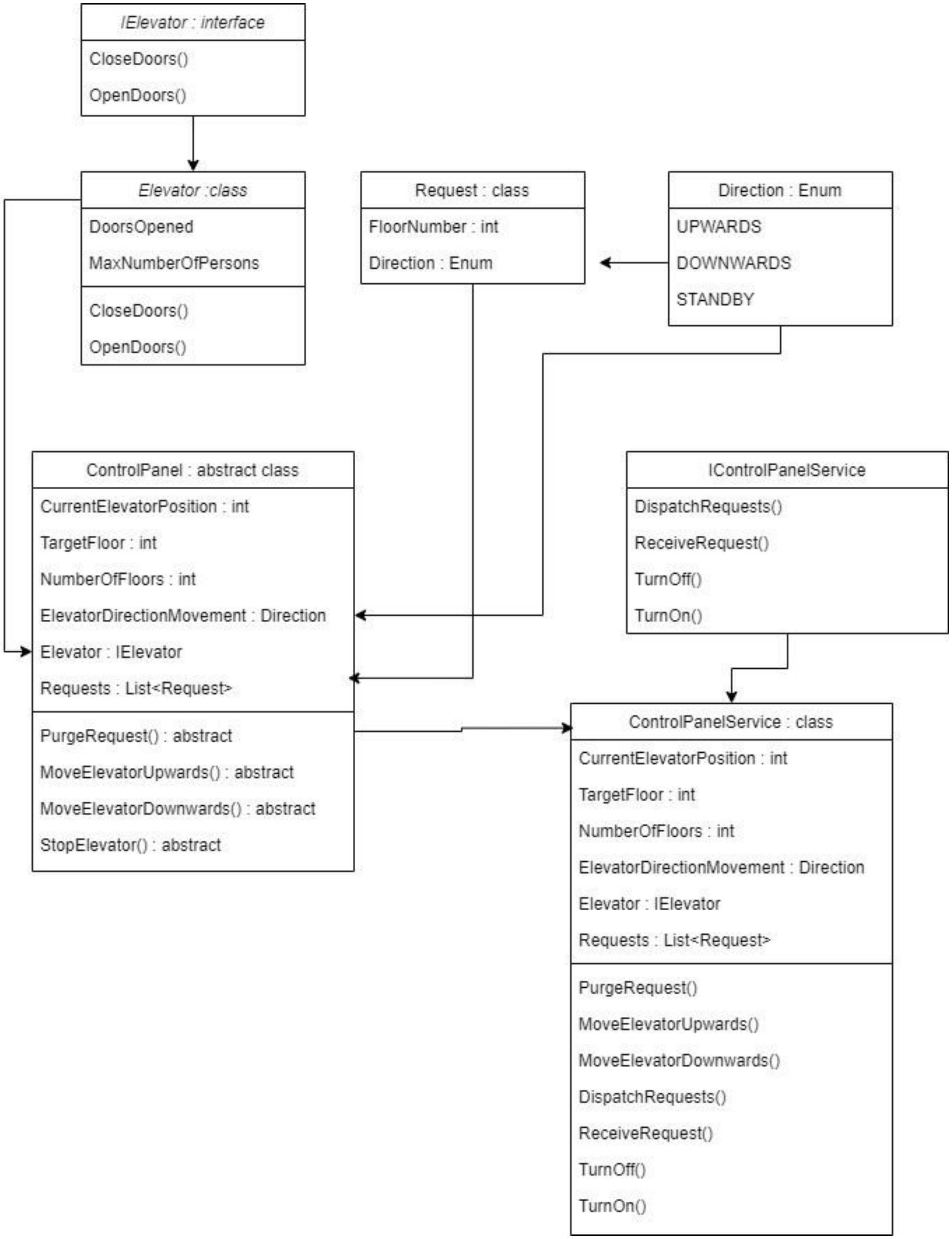
You may make any kind of application that you choose (Web, Console, and GUI) so long as internally it demonstrates the above requirements.

Technical Debts

Requirement Debt

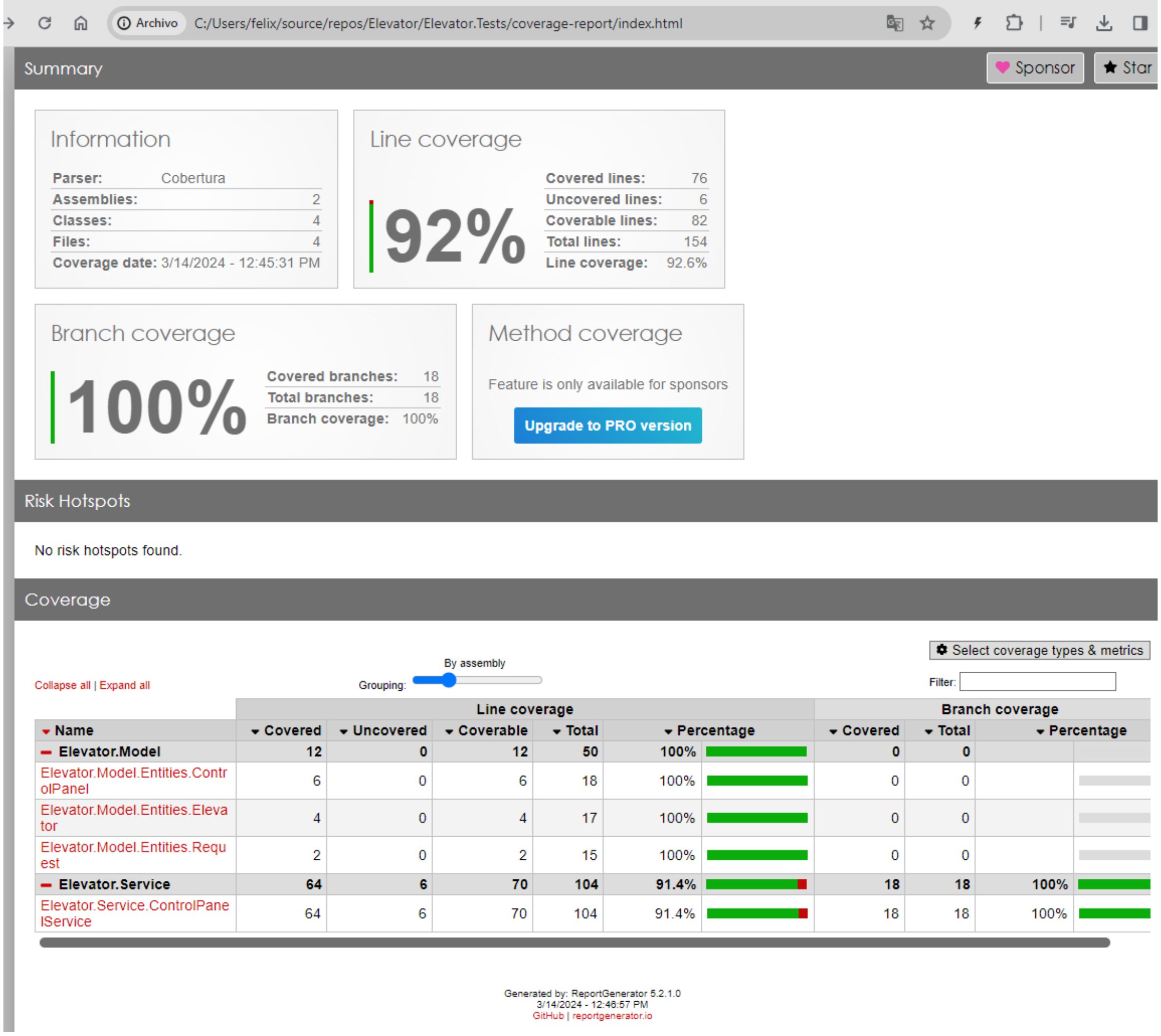
- The application does not include any UI app. I started working on the bases and unit testing before trying to build a UI. If I had had the time I would have choose a WPF application to see only the graphic representation of the functionality.
- The application does not apply the persistence, the state of the elevator is not store in the case that the application be stopped (simulating a TurnOff/TurnOn of the Elevator). I was planning to just serialize the service object into a file so the current position of the Elevator be stored and skip using a Database Manager.

Diagram of Class



Unit Testing Coverage Report

We can se the coverage of the unit testing. To check the details you can open the file *Elevator.Test\coverage-report\index.html* located in the repository.



Archivo
C:/Users/felix/source/repos/Elevator/Elevator.Tests/coverage-report/index.html
Sponsor
Star

Summary

Information

Parser:	Cobertura
Assemblies:	2
Classes:	4
Files:	4
Coverage date:	3/14/2024 - 12:45:31 PM

Line coverage

92%

Covered lines:	76
Uncovered lines:	6
Coverable lines:	82
Total lines:	154
Line coverage:	92.6%

Branch coverage

100%

Covered branches:	18
Total branches:	18
Branch coverage:	100%

Method coverage

Feature is only available for sponsors

Risk Hotspots

No risk hotspots found.

Coverage

	Line coverage					Branch coverage		
Name	Covered	Uncovered	Coverable	Total	Percentage	Covered	Total	Percentage
Elevator.Model	**12**	**0**	**12**	**50**	**100%**	**0**	**0**	
Elevator.Model.Entities.ControlPanel	6	0	6	18	100%	0	0	
Elevator.Model.Entities.Elevator	4	0	4	17	100%	0	0	
Elevator.Model.Entities.Request	2	0	2	15	100%	0	0	
Elevator.Service	**64**	**6**	**70**	**104**	**91.4%**	**18**	**18**	**100%**
Elevator.Service.ControlPanelService	64	6	70	104	91.4%	18	18	100%

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