



Software Design Assignment #4

Perna Makasare — 1900422

Nahush Naik — 1892553

Govind Rander — 1896374

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Problem 1

Only provide screenshots of your unit test code output showing tests pass/fail?

Answer-

[Github Link](#)

Please find the .doc file for the Test Cases separately in the zip file.

Problem 2

Why testing your code is so important? What tools did you use for unit testing?

Answer-

Testing our code is important because:

- i. Software testing can point out the bugs in the software as it is in being developed. It is very expensive if the bugs in the software are found out after the software is deployed as we may need to perform the designing, implementation and testing of the software again. Software testing can save a lot of money if the software bugs are found out in the early phases of development.
- ii. Software testing also includes testing the software for security flaws. Testing the software for security flaws prevents the system from being exploited after deployment.
- iii. Software testing ensures that the quality of the developed software is up to the standards set by the industry.
- iv. Software testing ensures that the software performs according to requirements of the user. This leads to an overall increase in customer satisfaction.

We used the Unit Test Project (.NET Framework) in Visual Studio to perform the unit testing of the project. This project contains MSTest unit tests which perform unit testing of different modules in the project.

Problem 3

Discuss if your design and development methodology has changed since last assignment and why?

Answer-

For our application we have used agile methodology, even though our development methodology has not changed since the last assignment, we may do some changes in the user interface as we continue to develop this web application to make it more user friendly. We are using ASP.Net MVC application framework, which implements the model-view-controller pattern. For object-relational mapping we are using the Entity Framework. It is an open source object-relational mapping framework for ADO.NET and is part of .NET Framework.

Problem 4

Did backend require any changes to frontend? If so, what and why?

Answer-

Yes, the frontend did require changes because of the backend. In the backend the FuelPriceHistory module is not implemented. Right now we are using hard coded values which are being used to populate the front end FuelQuoteHistory table. Also, the suggested price field on the FuelQuoteForm module has a hardcoded value. Once the pricing module is implemented in the backend, we will calculate the actual suggested price according to the client history. The front end GUI was also changed to make the application more user friendly.