SE 318 – SOFTWARE VERIFICATION AND VALIDATION

*Nuka Cola*

*Arda Zeytın - Alı Sınan Çoban - Ataberk Uzkal*

UNIT TEST Document

Version *3.0*

*05/12/2017*

VERSION HISTORY

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Version #** | **Implemented**  **By** | **Revision**  **Date** | **Approved**  **By** | **Approval**  **Date** | **Reason** |
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# Introduction

## Purpose of The Test Case Document

The Test Case document documents the functional requirements of the Vending Machine test case. The intended audience is the project manager, project team, and testing team. Some portions of this document may on occasion be shared with the client/user and other stakeholder whose input/approval into the testing process is needed.

## CONSTRAINTS

* Development Environment: Windows PC
* Software Environment: Visual Studio 2017, C# 7.0, .NET 4.6.1
* End-User Environment: Embedded Windows PC

# 2 UNIT TEsT FRamework: *VISUAL sTUDIO uNIT TESTING fRAMEWORK*

# The Visual Studio Unit Testing Framework describes Microsoft's suite of unit testing tools as integrated into Visual Studio 2005 and later. The unit testing framework is defined in Microsoft.VisualStudio.QualityTools.UnitTestFramework.dll. Unit tests created with the unit testing framework can be executed in Visual Studio or, using MSTest.exe, from a command line.

### Test class

Test classes are declared as such by decorating a class with the TestClass attribute. The attribute is used to identify classes that contain test methods. Best practices state that test classes should contain only unit test code.

### Test method

Test methods are declared as such by decorating a unit test method with the TestMethod attribute. The attribute is used to identify methods that contain unit test code. Best practices state that unit test methods should contain only unit test code.

### Assertions

An assertion is a piece of code that is run to test a condition or behavior against an expected result. Assertions in Visual Studio unit testing are executed by calling methods in the Assert class.

### Initialization and cleanup methods

Initialization and cleanup methods are used to prepare unit tests before running and cleaning up after unit tests have been executed. Initialization methods are declared as such by decorating an initialization method with the TestInitialize attribute, while cleanup methods are declared as such by decorating a cleanup method with the TestCleanup attribute.

# TEST CASES

|  |  |
| --- | --- |
| **Test Case 1** | |
| **Test Definition** | |
| **Add coin test** | |
| **Input Value** | |
| **20** | |
| **Expected Value** | **Actual Value** |
| **20** | **20** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 2** | |
| **Test Definition** | |
| **Cart Curt Nuka Cola get name and get price test** | |
| **Input Value** | |
|  | |
| **Expected Value** | **Actual Value** |
| **“Cart Curt Nuka Cola”, 50** | **“Cart Curt Nuka Cola”, 50** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 3** | |
| **Test Definition** | |
| **Cart Curt Nuka Cola get instance of type test** | |
| **Input Value** | |
|  | |
| **Expected Value** | **Actual Value** |
| **NukaCola** | **NukaCola** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 4** | |
| **Test Definition** | |
| **Get total coin at start test** | |
| **Input Value** | |
|  | |
| **Expected Value** | **Actual Value** |
| **0** | **0** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 5** | |
| **Test Definition** | |
| **Get total coin after user add 50 coin test** | |
| **Input Value** | |
|  | |
| **Expected Value** | **Actual Value** |
| **50** | **50** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 6** | |
| **Test Definition** | |
| **Get total coin after user add 100 coin test** | |
| **Input Value** | |
|  | |
| **Expected Value** | **Actual Value** |
| **100** | **100** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 7** | |
| **Test Definition** | |
| **Ice Nuka Cola get name and get price test** | |
| **Input Value** | |
|  | |
| **Expected Value** | **Actual Value** |
| **“Ice Nuka Cola”, 200** | **“Ice Nuka Cola”, 200** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 8** | |
| **Test Definition** | |
| **Ice Nuka Cola get instance of type test** | |
| **Input Value** | |
|  | |
| **Expected Value** | **Actual Value** |
| **NukaCola** | **NukaCola** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 9** | |
| **Test Definition** | |
| **Quantum Nuka Cola get name and get price test** | |
| **Input Value** | |
|  | |
| **Expected Value** | **Actual Value** |
| **“Quantum Nuka Cola”, 300** | **“Quantum Nuka Cola”, 300** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 10** | |
| **Test Definition** | |
| **Quantum Nuka Cola instance of type test** | |
| **Input Value** | |
|  | |
| **Expected Value** | **Actual Value** |
| **NukaCola** | **NukaCola** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 11** | |
| **Test Definition** | |
| **Vending Machine get instance of type test** | |
| **Input Value** | |
|  | |
| **Expected Value** | **Actual Value** |
| **VendingMachine** | **VendingMachine** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 12** | |
| **Test Definition** | |
| **Make Discount To Cart Curt Nuka Cola (%25)** | |
| **Input Value** | |
| **200** | |
| **Expected Value** | **Actual Value** |
| **150** | **150** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 13** | |
| **Test Definition** | |
| **Make Discount To Ice Nuka Cola (%25)** | |
| **Input Value** | |
| **300** | |
| **Expected Value** | **Actual Value** |
| **225** | **225** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 14** | |
| **Test Definition** | |
| **Make Discount To Quantum Nuka Cola (%25)** | |
| **Input Value** | |
| **50** | |
| **Expected Value** | **Actual Value** |
| **37** | **37** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 15** | |
| **Test Definition** | |
| **Discount Calculation method test (%25)** | |
| **Input Value** | |
| **100** | |
| **Expected Value** | **Actual Value** |
| **75** | **75** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 16** | |
| **Test Definition** | |
| **IsNumeric function test (takes int, returns bool)** | |
| **Input Value** | |
| **44** | |
| **Expected Value** | **Actual Value** |
| **True** | **True** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 17** | |
| **Test Definition** | |
| **IsNumeric funcition test (takes int, returns bool)** | |
| **Input Value** | |
| **Coban** | |
| **Expected Value** | **Actual Value** |
| **False** | **False** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 18** | |
| **Test Definition** | |
| **NukaCola without ice test (takes bool, returns string)** | |
| **Input Value** | |
| **false** | |
| **Expected Value** | **Actual Value** |
| **“ ”** | **“ ”** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 19** | |
| **Test Definition** | |
| **NukaCola with ice test (takes bool, returns string)** | |
| **Input Value** | |
| **True** | |
| **Expected Value** | **Actual Value** |
| **"Watch out for the ice. Your brain will freeze..."** | **"Watch out for the ice. Your brain will freeze..."** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 20** | |
| **Test Definition** | |
| **Red Nuka Cola get price test** | |
| **Input Value** | |
|  | |
| **Expected Value** | **Actual Value** |
| **500** | **500** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 21** | |
| **Test Definition** | |
| **Red Nuka Cola get instance of type test** | |
| **Input Value** | |
|  | |
| **Expected Value** | **Actual Value** |
| **NukaCola** | **NukaCola** |
| **Result of Test Case** | **successful** |

|  |  |
| --- | --- |
| **Test Case 22** | |
| **Test Definition** | |
| **Make Discount To Red Nuka Cola (%25)** | |
| **Input Value** | |
| **500** | |
| **Expected Value** | **Actual Value** |
| **375** | **375** |
| **Result of Test Case** | **successful** |

**4 CONCLUSION**

All of test cases are successful for this version. The testing team agrees and gives a Green signal for this version of Nuka Cola Vending Machine application. User acceptance testing should be performed before next release.