

**Assignment Cover Sheet**

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| **Qualification** | | **Module Number and Title** | |
| HND in Computing/ HND in Software Engineering | | SED52010 Windows Application Development | |  |
| **Student Name & No.** | | **Assessor** | |
| Widana Gamage Avindi Premaratne – ST/HNDCOM/19/15 | | Aruna Indika | |
| **Hand out date** | | | **Submission Date** |
| //2016 | | | //2016 |
| **Assessment type**  Coursework | **Duration/Length of**  **Assessment Type**  Practical project/report | | **Weighting of Assessment**  **100%** |

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| **Learner declaration** | |
| I certify that the work submitted for this assignment is my own and research sources are fully acknowledged. | |
| |  |  |  |  | | --- | --- | --- | --- | | **Marks Awarded** | | | | | First assessor | |  | | | IV marks | |  | | | Agreed grade | |  | | | Signature of the assessor |  | Date |  | |

**Feedback Form**

**International College of Business & Technology**

**Module:** Windows Application Development

**Student: Widana Gamage Avindi Premaratne**

**Assessor:**

**Assignment:**

**Strong features of your work:**

**Areas for improvement:**

**Marks Awarded:**

**Learning outcomes covered**

* Critically evaluate and select appropriate windows platform and development tools
* Design and develop Windows applications
* Critically test and deploy Windows applications

**Scenario and the Task**

**“Total Fitness”** is the largest and very busy pharmacy in Matara. They are the sole agent for the Cipla product in the region.

They have number of suppliers to supply verity of medicine and some types of milk powders. Some of them are cash and some of them are credit. For the credit suppliers you have to pay your total bill within 3 weeks. As well that must notify when the particular date comes closer. As well they can terminate any supplier at any time.

As **“Total Fitness”** is the sole agent for the Cipla, they have separate transport division to distribute Cipla products to all over the region. When they deliver particular products to distance pharmacy they will keep following records. Pharmacy name, contact person, contact number (mobile/fix) product(s), quantity, price and any other required details. Normally end of the year they will awarding pharmacies that are having bestselling performance for Cipla products and that should automatically calculate and display by the system.

Also **“Total Fitness”** having two types of customers they are register and non-register. Register customers always get 2% discount for their every bill when they buy more than LKR 750.00. To register; every customer has to pay LKR 2500.00 per year. If someone unable to update their registration automatically they will remove form the registered customers group. As well register customers are allowed to buy products for a 1 week credits, but it only for below LKR 1500.00 bills. Customers cannot buy anything without paying previous credit bills. As well registered customers can check their purchase history.

All purchasing order invoices, purchasing bills, customer bills have to maintain and in any case **“Total Fitness”** wants to find that particular record by all possible ways…

Finally, **Total Fitness** wants to keep all medicines, Cipla product’s, Milk powder product’s inventory up to date…

**Tasks**

1. Critically compare different windows or other platforms and select the suitable platform for different user groups? (Word count 500 [+- 50] ) (10 marks)
2. Critically compare and select development tools and technologies for the above mention application? (Word count 500 [+- 50]) (10 marks)
3. Design a solution for above mention requirements. (30 marks) Provide
   1. System architecture diagram
   2. UML diagrams (Class, Use case, sequence etc...)
   3. Data model design (ER diagram)
   4. Sample UI designs (Wireframe will be fine)
4. Develop suitable application based on the design. Should be able to demonstrate and provide all source codes. Need use proper coding standards and must focus on reusability and maintainability of the application. (30 marks)
5. Select appropriate test technique(s). Test and provide proper test cases and critically evaluate the test result. (10 marks)
6. Explain deployment techniques that are selected and critically evaluate suitability of the selection. ( 10 marks)

**Submission Guidelines**

* Submission format Report
* Paper Size: A4
* Words: 3000 words
* Printing Margins: LHS; RHS: 1 Inch
* Binding Margin: ½ Inch
* Header and Footer: 1 Inch
* Basic Font Size: 12
* Line Spacing: 1.5
* Font Style: Times New Roman
* **Referencing should be done strictly using Harvard system**

**Source code, database backup and installation packages should be submitted in a single zip file.**

**Assessment Criteria**

**Task 1 contains 10 marks**

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| **Criteria** | **Marks** | **Marks obtained by the student for the answer provided** |
| **Out of 10** |
| **Excellent**  Excellent level of understanding of platforms, critical comparison technically and also focusing other environment factors, Higher level of depth and breadth of study with extensive reading and integration of information from a wide range of sources. | **7-10** |  |
| **Good**  Reasonable level of understanding of platforms and critical comparison technically, Good level of depth and breadth of study, | **6-7** |  |
| **Satisfactory**  Reasonable level of understanding of platforms and comparison, satisfactory level of depth and breadth of study | **4-6** |  |
| **Poor**  Limited understanding of platforms and poor comparison. Limited reading, lack of depth and breadth of study | **0-4** |  |

**Task 2 contains 10 marks**

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| **Criteria** | **Marks** | **Marks obtained by the student for the answer provided** |
| **Out of 10** |
| **Excellent**  Excellent level of understanding of platforms, critical comparison and proper justification for the selections, Higher level of depth and breadth of study with extensive reading and integration of information from a wide range of sources. | **7-10** |  |
| **Good**  Reasonable level of understanding of platforms and critical comparison technically, Good level of depth and breadth of study, | **6-7** |  |
| **Satisfactory**  Reasonable level of understanding of related tools and comparison with correct selection, satisfactory level of depth and breadth of study | **4-6** |  |
| **Poor**  Limited understanding of related tools and poor comparison. Limited reading, lack of depth and breadth of study | **0-4** |  |

**Task 3 contains 30 marks**

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| **Criteria** | **Marks** | **Marks obtained by the student for the answer provided** |
| **Out of 30** |
| **Excellent**  Excellent level work shown on design, Complete set of UI designs focus on easy navigation and proper structure , Exceptional solution focus on reuse, maintainability, use of proper architecture, and error free, correctness and completeness of the UML diagrams. | **21-30** |  |
| **Good**  Good set of diagram with proper separation of layers and communication, Correct notations and evidence of effort to design user friendly design. Detail diagrams. | **18-21** |  |
| **Satisfactory**  Reasonable level of diagrams, has identified basic data requirements and evidence of basic UML diagrams. | **12-18** |  |
| **Poor**  Limited or no of evidence given for design, incorrect use of notations and diagrams are incomplete. No proper architecture | **0-12** |  |

**Task 4 contains 30 marks**

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| **Criteria** | **Marks** | **Marks obtained by the student for the answer provided** |
| **Out of 30** |
| **Excellent**  Exceptional solution focus on reuse, maintainability, use of proper architecture, error free and innovative features, demonstration with proper planning, proper flow and good presentation skills with clear explanations. | **21-30** |  |
| **Good**  Good solution complete application satisfying all user requirements, Proper error handling, Proper demonstration planed and well structured | **18-21** |  |
| **Satisfactory**  Basic application that can run without any build errors, fulfil the basic requirements. Presentation and demonstration is reasonable but flawed in structure or in some other way | **12-18** |  |
| **Poor**  Develop solution run with build errors, lack of error handling and validation, the presentation and demonstration is incoherent, incomplete or seriously weak in other ways | **0-12** |  |

**Task 5 contains 10 marks**

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| **Criteria** | **Marks** | **Marks obtained by the student for the answer provided** |
| **Out of 10** |
| **Excellent**  Excellent justification for the selected test techniques. Proper set of test cases to conduct a comprehensive test for the develop solution with proper test data. Selection of appropriate test data. Conduct test and critically analysis test results. | **7-10** |  |
| **Good**  Good justification for the selected test technique. Test cases to cover testing of entire application with meaningful data. Conduct test and a critically analysis test results. | **6-7** |  |
| **Satisfactory**  Reasonable justification of test techniques and test cases to test the basic functionalities successfully. Analysis of test results. | **4-6** |  |
| **Poor**  Limited justification for test technique selection and incomplete set of test cases, improper set of test data. Poor analysis of test result. | **0-4** |  |

**Task 6 contains 10 marks**

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| **Criteria** | **Marks** | **Marks obtained by the student for the answer provided** |
| **Out of 10** |
| **Excellent**  Excellent justification for the selected deployment techniques, by critically comparing with other available deployment options. Excellent explanation on selected technique. | **7-10** |  |
| **Good**  Good justification for the selected deployment techniques, by critically comparing with other available deployment options. Proper explanation on selected technique. | **6-7** |  |
| **Satisfactory**  Reasonable justification for the selected deployment techniques, by comparing with other available deployment options. Satisfactory explanation on selected technique. | **4-6** |  |
| **Poor**  Limited justification, limited comparison with poor explanation | **0-4** |  |

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| **Total Marks** | **Out of 100** |  |

# Acknowledgement

First of all, I would like to express my deep gratitude to my parents who advised me to enroll to the Dual HND in Software Engineering + Computing and Systems Development, offered by the ICBT Southern Campus Matara. They were always guiding me to the correct path to achieve my goals.

Also, I would thank to our Windows Application Development lecturer, Mr. Aruna Indika, for giving me guidance to prepare this assignment. His lecturers have been educative and very interesting. The production of this assignment has helped me to expand the knowledge on Object Oriented Programming. As well as improve my skills in research, designing and communication. It would not have been possible for me to produce this assignment in the professional way in which I have done it without his guidance and advice.

In addition, I thank to the ICBT Campus for offering this course in Matara in the first place, which has enabled me as well as many others living in the Southern Province to join it.

I acknowledge with thanks all the authors, experts and other professionals from whose publications I have used for referencing information for this assignment.

# Executive Summary

# Table of Contents

[Acknowledgement i](#_Toc471713829)

[Executive Summary ii](#_Toc471713830)

[Table of Contents iii](#_Toc471713831)

[List of Figures iv](#_Toc471713832)

[List of Tables v](#_Toc471713833)

[Introduction 1](#_Toc471713834)

[1. Task 01 2](#_Toc471713835)

[1.1. Comparing different windows or other platforms and select the suitable platform for different user groups. 2](#_Toc471713836)

[References 3](#_Toc471713837)

# List of Figures

# List of Tables

# Introduction

C#.net is an Object Oriented Programming Language developed by the Microsoft Corporation within its .Net framework. It’s a hybrid of C and C++ languages. This language was developed to beat Java language.Net is a software development framework developed by Microsoft Corporation to run applications which are having .Net installed. It provides a controlled programming environment where software can be developed. Programming languages in Visual Studio.net always based on this framework like C#.net.

So, in here we have to build up a system for the “**Total Fitness**” the largest and very busy pharmacy in Matara, to store records of their daily business activities with the customers and suppliers. They are the sole agent for the Cipla product in the region.

# Task 01

## Comparing different windows or other platforms and select the suitable platform for different user groups.

In this task we are going to compare different windows or other platforms and select the suitable platform for different user groups for the **Total Fitness** system. A computing platform is a hardware or software needed to start an application. It consists of hardware or operating system. In this case we have to compare Microsoft Windows with other operating systems.

**Types of Operating Systems**

* Microsoft Windows
* Mac OS – Macintosh Operating System
* Linux
* Ubuntu
* Google Chrome OS

**Mobile**

* **Android**
* **iOS**
* **Windows Phone**
* **Bada**
* **Blackberry OS**

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| **Microsoft Windows** | **MacOS** | **Linux** |
| Proprietary Operating System | Proprietary Operating System | Open Source Operating System |
| Developed by Microsoft Corporation | Developed by Apple Inc. | Linux was first developed by Linus Torvalds. |
| Should be purchased | Offered free when you buy a Mac PC | Offered freely and downloaded freely |
| Can be used on any PC, laptops and even on phones and tablets. | Can be used on Mac devices | Linux can be installed on a wide variety of computer hardware, mobile phones, tablet computers and video game consoles, mainframes and supercomputers. |
| Programmed in Assembly, C, C++ languages. | Programmed in C, C++, Objective-C languages | Programmed in C and assembly language. |
| Supports FAT, FAT32, NTFS, exFAT file systems. | Supports FAT, FAT32, HFS, HFS+, exFAT file systems |  |
|  | Has fewer viruses and security issues |  |
| Windows has more software available than any other platform |  |  |

# References

Webopedia (no date) *What is C# programming language? Webopedia definition*. Available at: http://www.webopedia.com/TERM/C/C\_sharp.html (Accessed: 8 January 2017).

Diffen (no date) *Mac OS X vs. Windows*. Available at: http://www.diffen.com/diffehttp://www.diffen.com/difference/Mac\_OS\_X\_vs\_Windowsrence/Mac\_OS\_X\_vs\_Windows (Accessed: 28 January 2017).

Dachis, A. (2013) *Mac vs. Windows: Your best arguments*. Available at: http://lifehacker.com/mac-vs-windows-your-best-arguments-486125257 (Accessed: 28 January 2017).