



American International University- Bangladesh

CSC 1205: Object Oriented Programming 1 (JAVA)

CO4 Evaluation Project Concluding Report Spring 19-20

Group ID: M09

Project Title: Market Management Application

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Market Management Application

Introduction:

Why you are doing this project? (No more than 60 words)

We are doing this project as our final term project of Object-Oriented Programming 1 (JAVA) course. This project basically represents what we have learned throughout the course. It includes all of the four principles of object-oriented programming. This project helped us understand the concepts and implementation of object-oriented programming in real life situations.

Problem Analysis:

What kind of problem is being solved with this project? Who will use this application? (No more than 60 words)

This project mainly focuses on solving market management problems. Market Management Application can be used by the management body of the markets to store the necessary details to help them organize their management system in a much easier way.

UI Design Analysis:

How will the users interact with this application? How can it be improved? (No more than 60 words)

Since Market Management Application is a console-based application, users will be prompted to choose from the given options according to their own will through the console. This application could be improved using Graphical User Interface by putting more features such as, graphical icons, audio indicator, typed command labels or text navigation etc.

Logical Analysis:

How much logic has been applied in this application? Are the applied logics working properly? Is there any logical limitations? (No more than 100 words)

In this application, many logical approaches have been made to ensure the quality and accuracy. This application has the ability to check whether the data entered by the user is valid or not. It will also notify the user if there is any shop or product based on the details the user gave. Although many successful logical techniques have been used throughout this project, there is an impediment, which is, the user entering an alphabetic character on a location where a numeric value was supposed to be inserted, will cause the application to terminate and the user has to reopen the application.

OOP Concept Analysis:

What are the OOP1 principles used in this project? How have been they applied? Explain the OOP concepts used in this application (No more than 3 sentences per concept)? (No more than 160 words)

There are four basic principles of OOP. They are Encapsulation, Data Abstraction, Polymorphism and Inheritance.

Encapsulation is the mechanism of hiding the attributes and methods from other classes using access modifiers. Each & every attributes of the normal classes have been kept private. In Product class, attributes are kept protected since two more classes are inherited from it. All of the methods of normal classes, abstract classes & interfaces have been kept public to be able to accessed by all other classes.



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Data abstraction is a process of hiding the implementation details from the user. Abstract class requires another class that is inherited from that class to implement the methods of that class as abstract classes don't have a body. In the project, Product class is an abstract class and it also has a method namely showInfo declared as abstract which was implemented in ImportedProduct class and LocalProduct class. All the methods of interfaces are also abstract which were given a body in the inherited classes.

Polymorphism is the ability of an object, method or constructor to take on many forms. It allows us to perform a single action in different ways. In the project, method overriding has been used in case of showInfo method which is a part of polymorphism. All the methods of interfaces have also been overridden in the inherited classes.

Finally, **inheritance** is a mechanism in which one object acquires all the properties and behaviors of a parent object. All of the interfaces inherit normal classes on this project, making the classes able to override the methods. There is also an abstract class namely Product which inherits two more classes namely ImportedProduct and LocalProduct respectively.

Impact of this Project:

What impact this project will have on the society and economy? How will people be benefitted from your project?
(Maximum 80 words)

This project will have a huge influence on the society and economy by driving growth in the market analysis. This application lets the management body get access to the data they want any time they want, instead of, searching thousands of documents. This application also increases the precision of the management system which allows to risen productivity and thus, save money.

Limitations and Possible Future Improvements:

(Maximum 80 word)

One of the considerable limitations of this application is not being able to store the data once it is closed. The user has to enter the previous data repeatedly. So once the application is closed, the data will be completely wiped out unless its already been written somewhere physically. Possible future improvements could be adding more options such as, product delivery timings and transports. Adding an online database to this application can also be a major improvement to store the data.

