



# American International University- Bangladesh

## CSC 1205: Object Oriented Programming 1 (JAVA)

### CO4 Evaluation Project Concluding Report Spring 19-20

**Project Title: Market Management Application**

Student Name	Student Id
MD. BAKHTIAR AZIM NILOY	19-41011-2

**Introduction:**

# Market Management Application

This Market Management Application is designed to store and maintain a great volume of information for market management that includes employee's information, shop's information, product information, and many more. This Application is built for the market to replace their manual paper-based system and provide a service that is effective and helps the work to be more accurate and efficient.

## Problem Analysis:

The application will help the user to solve the problem of storing essential information for managing the market in a fast, accurate, and systematic way. The use of this application will ensure less system failure. It can search for specific data within seconds. It is specially designed for people who handle market management tasks.

## UI Design Analysis:

The application interacts with the user using the Command Line Interface. The user gives specific input from selective options, given by the application. The user inputs are commands which represent different operations for the application. The application runs different operations according to the input. However, it would have been much better if we use the Graphical User Interface for our Application.

## Logical Analysis:

There are many implementations of code to set different logics which helps the application to work correctly. For adding any new quantity, this program checks if the amount is greater than zero or not. Because if it does, then instead of adding a new quantity it will subtract from the previously available quantity. For selling quantity, the program checks if the selling amount is greater than zero and smaller than the available quantity or not. But there are some logical limitations too. The application doesn't check whether there are any duplicate values in a shop's ID, product ID, or employee's ID.

## OOP Concept Analysis:

There are four main principles in object-oriented programming. They are encapsulation, polymorphism, inheritance, abstraction. In this application, all of these principles were applied.

### Encapsulation:

Encapsulation is the mechanism of binding one attribute with one method. It is done so that we do not need to access the attribute of a class directly.

To build this application we used several setter and getter methods to achieve encapsulation.

### Inheritance:

It is the mechanism of creating a new class from an existing class.

In our application, there are many classes that have inheritance between them.



# Market Management Application

## Polymorphism:

It means Different Forms of the Same Thing. In Programming, the polymorphic behavior might be with methods, Constructors and Objects.

In our code, we had to override many methods. That is a part of Polymorphism.

## Abstraction:

This concept of hiding the details is known as abstraction. We can hide the details of a class or a method. In our code we have both abstract classes and methods.

## Impact of this Project:

The use of this application will open up opportunities for markets to develop their services. The whole management system will be fast-forwarded. Thus more customers will be interested to go to markets. The risk of losing important data will be less. This business will be more profitable. More people will be interested in this industry. Computer-based technology will be involved in this industry. It will have a positive impact on the economy. Thus society will be economically strong.

## Limitations and Possible Future Improvements:

There is some limitation in this application. The interacting medium between a user and this application is Command Line Interface. It is not the most user-friendly interface. If the user gives any wrong input, chances are there that it will close the whole application. In the future, we want to add more features to this application. We will give this application a Graphical User Interface. We will add the database to store data in an effective manner.

