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| **Module Code:** | ADipIT01 |
| **Module Title:** | Software Engineering |
| **Module Leader:** | Nirmal Thapa |
| **Coursework Type:** | Individual |
| **Coursework Weight:** | This coursework accounts for 50% of your total module grades. |
| **Submission Date:** | Week 12 |
| **Submission Instructions:** | Submit the following to iAcademy’s and your institute’s RTE department before the due date:   * Soft copy of the coursework and presentation slides * Hardcopy of the Research folder along with meeting log sheets |

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* Falsifying coursework data and results
* Plagiarism of another person’s work and presenting it as your own
* Collusion to present work jointly completed as your solely own
* Assisting in any of the above activities

*Remember, copying someone else’s work is an offence without acknowledgement, whether it is text or diagrams, from paper or from electronic sources.*

Title: Valley Mart – Analysis, Design and Testing

1. **Introduction**

This assignment contributes 50% to the overall mark for this module and involves group work. You are required to form **groups of FOUR students (only).**

1. **Objectives**

1. To demonstrate practical knowledge of ‘**Object Oriented Software Engineering’.**
2. To demonstrate practical knowledge of testing techniques
3. To work successfully in a small group to a given time scale
4. **Specification**

**Valley Mart Departmental Store** is a one stop destination for shoppers throughout Kathmandu valley looking for every-day commodity products. Valley Mart is quite popular in the valley as it is favorably located, large, and has dedicated customer support. The store has wide range of items on sale, and has recently set up a clothing store as well, a recent addition to its quality service. The store recently decided to computerize its **stock management and billing process**, an upgrade to an obsolete desktop-based system currently in place.

While computerizing the process, following detailed specification are to be considered and digitized.

**3.1. Detailed Specification**

A computerized system is required to provide following functions/services: -

1. Entry of Items for stock management. At least following information must be stored.
   1. Item Name
   2. Item Category
   3. Quantity
   4. Expiry Date
   5. Status (Damaged/Expired/Ok)
   6. Buying Price
   7. MRP
   8. Minimum Order Quantity
2. Manage Occasional Packages.
   1. Add items to the Packages
   2. Set Price for the package
   3. Expiry Date
3. Generate Bills for each sale.
   1. Search Item/Package
   2. Get Price
   3. Generate Total Amount
   4. Deduct Discount (if any)
   5. Add VAT (13%)
   6. Print Bill.
   7. Deduct the amount in the Items’ stock.
4. Generate Report of all the sales as per:
   1. Daily Sales
   2. Monthly Sales
   3. Sales of particular Item.
5. List Items with the status Expired.
6. List Items to be re-ordered (whose minimum order level is exceeded).
7. List Items with maximum sales
8. List Items with minimum sales.

Only the staff in the counter is able to make use of the system. Reports are generally used by the Manager of the store.

**4.1 Detailed Specification of Your Tasks**

As a group you are required to produce a number of analysis and design specifications/work products. They are listed as follows:

**4.1.1. Requirement Engineering (Resulting in SRS Document)**

* Functional Requirements
* Non-functional Requirements
* Usability Requirements

**4.1.2. System Modeling**

* Context Model (Use Case Diagram)
* Data Modeling (Conceptual ERD, Detailed ERD, Data Dictionary)
* Structural Modeling (Class Diagram)
* Process Modeling
* UI Modeling (Wireframe)

**4.1.3. Testing Specification**

* White Box Testing
* Black Box Testing
* Design Black Box Test Cases. The specifications for tests should include the testing tables for the presentation of the results. Equivalence classes should be identified.

**4.4.4. Maintenance Plan**

**4.1.5. Continuous Assessment**

There will be weekly task starting from week 4 which the group member must complete by that week. Weekly task consists of the above detailed specification. Each week, after the completion of task, your tutor/lecturer will give you the feedback regarding the task you have completed. Based on the feedback, you need to improve your work. Each week after the completion of work and as per the team participation, your group will be awarded with continuous marks which will be worth 10% of this total coursework.