

Requirements Document
Application Title: Stationery Shop

Course: Diploma in Infocomm & Security
Module: Principles of Computing

Submission: Week 16

1. Purpose:

This Window application allows user to purchase items (one or more) from a Stationery Shop (You are free to design the name, logo of the store). It carries all kinds of products. You must identify at least **4** products/items.

The user of the application is the **Sales staff** of the Stationery Shop. The Sales staff is able to do the following functions:

- Enter purchase record for customer
- Generate reports of daily sales record and total sales from a text file or database.

2. Program Procedures:

There are 2 tabs* - **Purchase** and **Report** (see Annex A).
(*Tabs will be explained in class*)

Your application must use these Windows Form objects – label, text box, check box, radio button, rich text box, picture box (for pictures), tab control and other relevant ones. In addition, the application must have some security features (eg. login with password, data encryption etc..).

In the Purchase tab:

The user selects PRODUCTS items for purchase. User enters the following data for every item to be purchased:

- Type of item. (You may use Check box with interesting picture)
- Quantity (eg. 2 – you may use drop down list or text box)
- Prices of item (eg. \$500 – read only)

Calculate the GST which is 7% of the total Gross price (eg. if gross total is \$100, then GST will be \$7)

Application will calculate the Net total cost of purchase and display it. (Net total cost = Gross total + GST. Following example above, the net total cost is \$100+\$7 = \$107)

Your tutor may amend the application features if necessary.

In the Report tab:

The user selects the type of reports. The application will generate the report and store them in a text file. An example of sale report is in Figure 1.

Description	Unit Price \$	Qty	Gross Total	Nett Total
Files	3.50	2	7.00	7.49
Pens	5.00	1	5.00	5.35

Figure 1

It is an **individual** project. You can discuss with your classmates but each student must do all the coding. In week 16, there is a **Project Test** where you are required to develop a similar system in class from scratch.

You are tasked to do the following:

- Pick a name, design the logo for the company.
- Design the use case and GUI for the application (Must be user-friendly and easy to use).
- Integrate the company logo into the application form.
- Develop the window application in VS (Visual Studio) using C#.
- Test and package it into EXE file.

3. Data Validation:

- If the user enters invalid data (eg wrong input format or out of range), the program must check and feedback to user, and allow user to make changes to continue.
- If the user leaves the input area blank, the user should be advised and asked for a valid entry.

4. Bonus Marks ** (optional)

- Store sales date and time in log file.
- Add (append) sale records into text file.
- Apart from saving the records into a text file, can save it to a database.
- The stored data must be ENCRYPTED (need research on this).
- Retrieve the item's fixed data (eg. item's price) from a text file or database before starting the application
- Apply Catch All technique (Ref: Topic 3C).
- Any feature/report that is useful and is not listed above eg. capture the name and contact of customer.
- Advance Windows Form objects such as Date Picker etc..

Timeline and Deliverables

VS = Visual Studio; BB = Blackboard; GUI = Graphical User Interface; IPO = Input Processing Output;

Week	Milestones	Marking Criteria	Deliverables
2 - 5	<p>Release Project and Phase 1</p> <p><i>Tutor: Walkthrough the process of creating one item. Review student's work in week 4 in class.</i></p> <p>Phase 1 items</p> <ul style="list-style-type: none"> ○ IPO table, Use Case Definition ○ Create GUI form design using VS (screen capture the GUI page for submission). Tutor shall edit your form design if necessary. ○ Ref: Topic 1B, No coding need in phase 1 	<p>Total 5%</p> <ul style="list-style-type: none"> - Completeness of IPO, Use case definition (2%) - Usability design of GUI (2%) - Submission format and timeliness (1%) 	<p>Submit your work in a MS WORD document via BB.</p> <p>Deadline: Week 6</p>
6-12	<p>Phase 2 Project Coding in VS</p> <p><i>Tutor: Walkthrough the code for data inputting of one item with validation and calculate total cost.</i></p> <p>Phase 2 items</p> <ul style="list-style-type: none"> ○ Code the user data inputting for all fields ○ Data validation (error checking) ○ Compute Total cost ○ Present Project Source in Class ○ Individual Q and A for testing your understanding in C# code 	<p>Total 10%</p> <ul style="list-style-type: none"> - Project source presentation and understand of code (5%) - Completeness of coding for user data inputting (2%) - Data validation (2%) - Computation (1%) 	<p>Submit Phase 2 - Zip VS source folder and submit via BB.</p> <p>Deadline: Week12</p>
13-16	<p>Project Final Phase</p> <p><i>Tutor: Walkthrough the code for generate report of one item store in a text file. Review student's work in week 15.</i></p> <p>Project Final items:</p> <ul style="list-style-type: none"> ○ Complete the Report tab features ○ Store data in Text File ○ Any other Bonus features and enhancement <p>Project Test :</p> <ul style="list-style-type: none"> - To test your understand of the project work and your C# coding ability - Individual Test - Tutor will provide the GUI design and Test specifications - You will code the application on the spot. 	<p>Total 10%</p> <ul style="list-style-type: none"> - Completeness of Project Final items (3%) - Correctness and Running of project (4%) - Apply Method (3%) <p>Project Test 20%</p> <ul style="list-style-type: none"> - 1.5 hour - Project Test using lab PC - Open: Your Project Source and BB notes 	<p>Submit completed work source folder Zip via BB</p> <p>Take Project Test in week 16. (If you miss the test, you will get 0 mark out of 20 marks)</p>

5. IMPORTANT NOTES

- The project is an **INDIVIDUAL** project.
 - Project application MUST be working with NO syntax error
 - Project application MUST be executable (If the project is not in working condition, 50% of the mark will be deducted)
 - You **MUST apply** the following C# constructors that you have learnt in IT1753:
 - Local Variables and global Variables
 - Methods
 - IF / ELSE
 - IO processing (Write to Text File)
 - Bonus marks (Max 3 marks) will be awarded to students who have:
 - Implemented BONUS features successfully
 - Completed application with good usability and has a friendly user interface. Example: range checking and display of useful error messages
 - Designed with good and appealing GUI and structured code
 - Added program documentation in code (Internal document) and indentation
 - Security features implemented.
 - 50% of Marks will be deducted for late submission of project
 - There is a **Project test** in week 16 to assess your understanding of the code. The test is COMPULSORY
 - The **Project test** is a formal test. Students who submit similar project codes may face disciplinary actions.
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- **Project completion and taking the Project test is one of the pass criteria for IT1753 Principle Of Computing**

Annex A

Below are some sample GUIs. You must improve on them and add more features. Add pictures whenever possible. Your tutor shall edit your form design if necessary.

Sales Reports

Koka Stationery Shop

				
<input type="checkbox"/> Files	<input type="checkbox"/> Pens	<input type="checkbox"/> Stapler		
Price:	\$3.50	\$5.00		
Quantity	<input type="text"/>	<input type="text"/>		
PURCHASE				
Gross Total Price:	GST: _____			
Member?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Discount: _____				
Nett Total Price: _____				
Payment type: <input checked="" type="radio"/> Cash <input type="radio"/> Credit Card <input type="radio"/> NETS				
Item	Quantity	Nett Total Price	Member	Payment Type
PRINT RECEIPT				

Form1

Sales Reports

<input type="button" value="List all orders"/>	Order No. <input type="text"/>	<input type="button" value="Find Order"/>

Some additional features / reports:

- Membership, discounts, capture sales date
- List sales by product; Find bestselling product; Rank products by sales
- List sales by date / customer etc..
- Print bill, confirm order etc..