CRITERION A

Defining the Problem:

SPVC International. is a company that specializes in the retail of industrial plastics. The products that the company offers range in types, such as pipes, or sheets.[1] Currently, the company sells its products through 3 channels: online, storefront, and telephone.[2]

When a customer makes a purchase, an employee records the details by writing an entry in a physical record book.[2] The information recorded includes the buyer's name, date of purchase, products, prices, and the channel of purchase.[3] Depending on the channel of purchase, other parameters may also need to be recorded, such as contact numbers for telephone orders, or delivery dates for online orders.[3] As the company has been receiving an influx of purchases, this process has become tedious because of the time taken for a person to write down the many details.[4] The method is also prone to human error due to the possibility of mistakes by the personnel recording each transaction.[4] In addition, the employees use an *order summary* form, which requires them to fill out information for specific orders on a document.[5] Since there is no way to easily find the records without manually searching through every page of the record book, this process has become labor-intensive when searching for specific orders.[6]

As highlighted, this current method of bookkeeping is tedious and hinders both the company and the customer in ways such as the time-intensive process of recording the orders, the loss of productivity, and possible errors. By streamlining this process, SPVC will be able to provide satisfactory customer service, while at the same time becoming more efficient. Therefore, the company has accepted my proposition to develop an interface in which employees can record and access various order details quickly.

Word count: 257

Rationale for Solution:

It is clear that there is a need for an efficient method of storing and retrieving copious amounts of data, necessitating an interactive database that must eventually replace the physical record book in use. In addition, some form of intuitive GUI must be implemented to ensure efficiency and ease of use. As such, I have decided to create a Java Swing GUI application for SPVC, with Apache Netbeans as my chosen IDE.

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[1] Client, interview by author, Bangkok, December 24, 2021, transcript question #1, Appendix A
[2] Client, interview by author, Bangkok, December 24, 2021, transcript question #2, Appendix A
[3] Client, interview by author, Bangkok, December 24, 2021, transcript question #3, Appendix A
[4] Client, interview by author, Bangkok, December 24, 2021, transcript question #4, Appendix A
[5] Client, interview by author, Bangkok, December 24, 2021, transcript question #4, Appendix A
[6] Client, interview by author, Bangkok, December 24, 2021, transcript question #7, Appendix A

My software solution will consist of a GUI for company workers. Since the client requested that the process of recording data require minimal labor when compared to the writing of information for each order, I will develop an interface that allows the user to input information and save it in the database as a new order. Java is a suitable language for this task because its Object-Oriented-Programming functionality allows me to create my own data-types. The client also mentioned the need for the ability to view all orders at once or search for specific orders. This is in order to keep track of which orders have been completed and which orders need to be updated with new information. Therefore, I will use a jTable to show all orders in an organized manner, along with the option to search for and select certain orders to delete or update them. Finally, the client would like the option to generate an order summary (a document that the client uses to display all information regarding a specific purchase), so I will use the Java iText library to create PDF files according to a programmed template.

Word count: 283

Success Criteria:

After meeting with my client, we have summarized the criteria as follows:

1. Users (company employees) can record data regarding purchases quicker than the previous record book system.
2. Users can view data of all active purchases in a simple interface.
3. Users can update data for specific purchases after they have already been added.
4. Users can delete an order from the database.
5. Users can search for, sort, and group purchases by certain parameters.
6. The program can automatically calculate the total amount due for a specific purchase, given details like price per product and the number of products purchased.
7. The program allows the user to select a specific order, where the data for that order will be used to generate a PDF file to a certain template, similar to a receipt that will summarize the details of a specific purchase.
8. The orders data can be stored when the program is not running.
9. Error handling. If the user inputs a wrong value for the order data, the program will notify the user.

Total word count (excluding tables, bulleted lists, and diagrams): (540)