Griffen Marler

Pete Tucker

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Final Project Proposal

For my CS 172 final project I would like to design a business application for a sporting goods store to help them track inventory, expenses, profits, and keep track of assets. The first thing that this application will do is be able to take in a list of all current inventory and sort it into different files based on sport and item type. The application will also be able to sort items by price from highest and/or lowest. The list will look something like: Category, Item Name, Cost of the item to the company. The program will be able to read this correctly and sort it. Next, the program will also be able to read in a list of customers and their specific orders for items. The program will be able to deduct from the current inventory as it reads in from the order list and will also calculate the profits for each item as the order list will look something like: Customer Name, Email address, Category, Item Name, Sale Price. Sale price - expenses will be used to calculate profit. I am undecided yet as to whether I will include any overhead or for the sake of simplifying the project will just do a flat expense. This program will also be able to keep track of the companies assets to make sure that they are not overspending and do not dip down into a negative balance as they are acquiring new inventory. One more feature that this program will have is a feature that can track our top customers by the amount they spend with us. We want to easily access a list of our top customers so we can send out special promotions only for them. Once this list is generated, we can send it to our marketing team and they will be able to use the list to send out the promotions.

Some challenges that I anticipate include keeping track of each customer's individual spending amount when they make multiple transactions. The business I am working with has a few bulk buyers that place multiple orders a month and it is imperative that I keep track of how much they spend monthly as well as a transaction by transaction basis. I need to make sure I do not get these mixed up.

Another challenge I expect to face is when sorting the items either by sport or price. The sort function is something I really have struggled with throughout this Computer Science course but I believe I am well on my way to understanding it. I think once I see the exam 2 solution posted I will be able to understand how to sort consistently.

One more challenge I expect to face is sharing information between all the different classes. I am usually fine with just one class, but in the past it has been difficult for me to implement two or more classes. I will have a customer class and item class for sure, so I know I need to pass information between these two and not lose any data. I am looking forward to getting started with this project and will be reviewing past assignments to get prepared!