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Cashier and Inventory System for Vape Shop

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ABSTRACT: Almost every business in our current information age uses an automated system for their every needs. This is significantly better than just writing everything down because there are a lot of factors that can destroy your data. Using an automated system makes everything a whole lot easier considering you can just type everything and it will be saved automatically into your database. The objective of the team is to provide an easy-to-use cashier and database system for the chosen pilot area. Transactions, purchases, and even sales. A simple cashier and database system will significantly help the pilot area manage every aspect in their line of work. We have five respondents in consulting the survey of the system The overall results of the average of survey mean weighed is 4.27 which considered as a Good Software. The Functional Suitability and Security both got 5.00 which is the highest mean .The findings say that using the created system is much better than the past way of how the pilot area was doing. It is also much more secure because of the password. It also saves a lot of time as it quickly computes for the prices considering how much stock was bought and how much stock is left inside the database system.

KEYWORDS: Cashier, Database, Stocks, Transactions, Automated System:

I. INTRODUCTION

In this day and age, it is highly recommended to have automated cashier and database system to be efficient in your line of work as a shop owner. This helps the owner and staff do simple things like computing the total cost of all the items bought by the customer and at the same time decrease the corresponding number of stock into the database. It is the best way to ensure efficiency and you can even backup data easily rather than bookkeeping every possible transaction. The old system in the pilot area is a simple ledger containing all the transactions, stock bought, and stock sold. This way of doing things is really inefficient and possible cause errors unlike using an automated system which does everything easily and way faster than writing everything down. Losing the said ledger means every possible data within the store is lost and cannot be brought back.

The researchers chose this pilot area because most of the members of the group are vape users and the owner of the pilot area is a close friend. Providing a good cashier and database system is essential in order to help a friend and to pursue this study. A working cashier system makes transactions easier to do because it is calculated automatically just by providing how much stock was bought and how much is the price of each stock. The database system is for managing the stocks left with each product and how much was bought from the supplier. It can also add new products and edit each data or the product. This feature really helps a lot with the stock management of the pilot area itself.

II. REVIEW OF RELATED LITERATURE

Inventory management is the effective way to manage the stocks, supervise and utilize the stock. The study was done to notice the effect of inventory management on sales and customer satisfaction.

Just in Time company creation has gotten a lot of consideration around the world since its presentation in Japan a couple of decades prior. It has been reported that a portion of the fundamental advantages of Just in Time execution are decrease of inventories, lead time decrease and cost savings. Effective stock administration is basic to retailing

achievement[1]. Shockingly, there is minimal distributed observational research looking at the connections between retail stock, deals and client administration. In light of an overview of 101 chain store units, this paper creates and tests a progression of speculations about retail stock. Seventy five percent of the storekeepers/chiefs reacted to the mail study. Not surprisingly, huge positive connections were found between the stock, deals and administration. In particular, support was found for the hypothesis that stock is a component of the square foundation of offers. More prominent item assortment prompts higher stock, and administration level is an exponential capacity of inventory[2]. An ongoing article presents a theoretic talk of the requirement for maintaining a strategic distance from the discontinuity of advertising and conveyance. What pursues is a justification and portrayal of a down to earth way to deal with a partner of stock conveying costs with the field deals association inside showcasing in this way shutting the circle among advertising and physical circulation. The coordination of stock control and advertising, a period of bringing promoting and physical dissemination together, can be seen as an issue of in general administration. Top corporate officials have lately focused on the significance of income the board to all dimensions of the executives, not simply money related managers[3]. Information sharing practices, for example the vendor managed stock give producers access to progressively exact interest data, for example client deals information, than previously. The estimation of this kind of data sharing has been built up in numerous investigations. In any case, the greater part of the exploration has concentrated on the perfect circumstance of the producer approaching data from all downstream parties[4]. In the present focused market, in the event of certain items like cell phone, it is seen that following couple of long stretches of propelling another item, an equivalent kind of item by some other organization ends up accessible with a less expensive selling cost or with more adornments inside a similar selling cost. In this circumstance, clients ordinarily go for the new item dismissing the more seasoned one. So dependably there is a plausibility that a few units of item stay unsold. This forces the organization for a modification in selling price[5].

III. METHODOLOGY

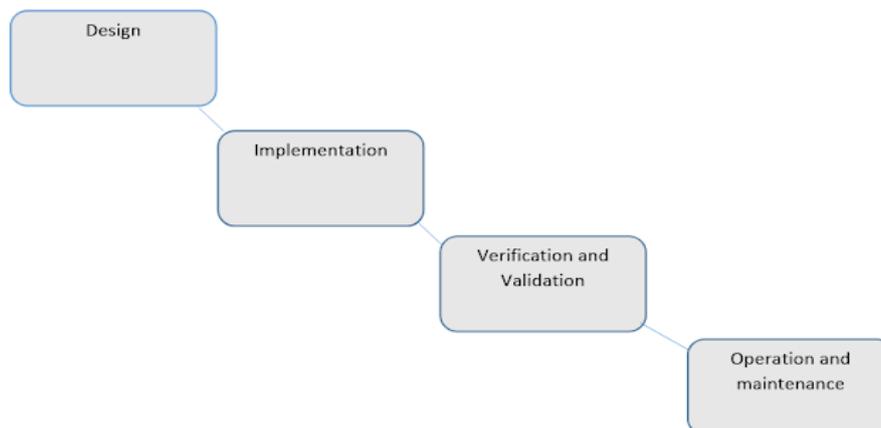


Figure 1.0: Vape Shop Inventory System Method (Waterfall Model)

The software model that is most suited to the software is the Waterfall Model because it is simple and functional project structure which is easy to analyze the feature realization in the project so we applied this model without any hesitation and it is one of the most trusted of the software development methodologies. The waterfall model for developing the particular system is consisting of 4 parts. Each steps will explain its own part. The first step is Design, Design Activity results in the overall software architecture. The systems design process partitions the requirements to either hardware or software components. The second one is Implementation, During this phase, the software design is realized as a set of software components. Components are tested ensuring each component meets its specification. The third one is Verification and Validation which is making sure that the product is being develop is as per the requirements and design specifications and to make sure that the product actually meet up the user's requirements, and check whether the specifications were correct in the first place. And last one is Operation and maintenance, the system is delivered and deployed and put into practical use. Maintenance involves correcting errors which were not discovered

in earlier stages of the life cycle, improving the implementation of system units and providing new functionalities as new requirements emerge.

By building a good business, the management and the users must responsible using the system in the shop. Also by being a professional users in using the system, is the way by running the system good records of transaction to the customers smoothly and being nice and good relationship to them is the key of good business. The Data Gathering of the system's first step is by asking permission and coordinate to the owner of the D' Vapery Shop to conduct the survey and the questionnaire is distributed to the respondents by judging the system if it is good enough or it needs some improvements. The results of the copies questionnaire were given and return after finished answering the survey. The Collection Analysis of the system are Inventory Management which is managing the stocks and informing overall amount of the products the store have. The second one is Customer Management which is keeping the track of purchase history of the customers. The last one is Report of the Sales which is analyzing the sales data and records to make it informed decisions to the users.

This system is very important to keep it updated because of the everyday activities of the managing the products and records of orders and sales. It is needed to take care the system to have a good business and building a good reputation to the customers.

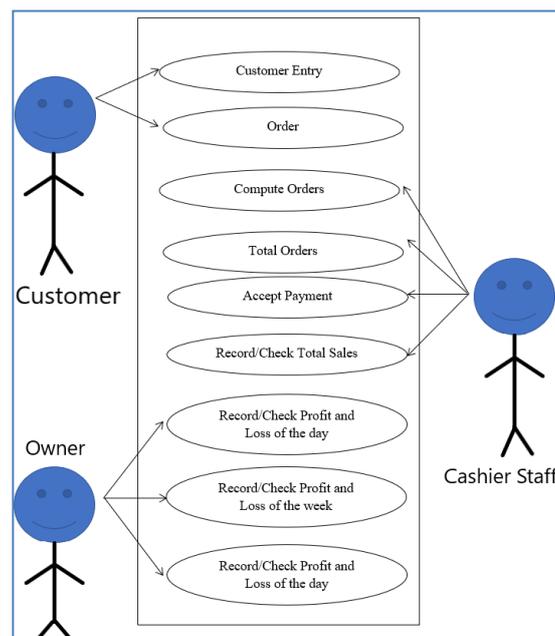


Figure 2.0: Use Case

This is the Use Case for the system provided by the team. The customer can only give out the order and enter the store. They relay the order to the cashier staff. The cashier can compute orders, total the orders, accept payment, and record the transaction afterwards into the database. The owner has access to the editing of the database and check the overall sales and profits of the week.

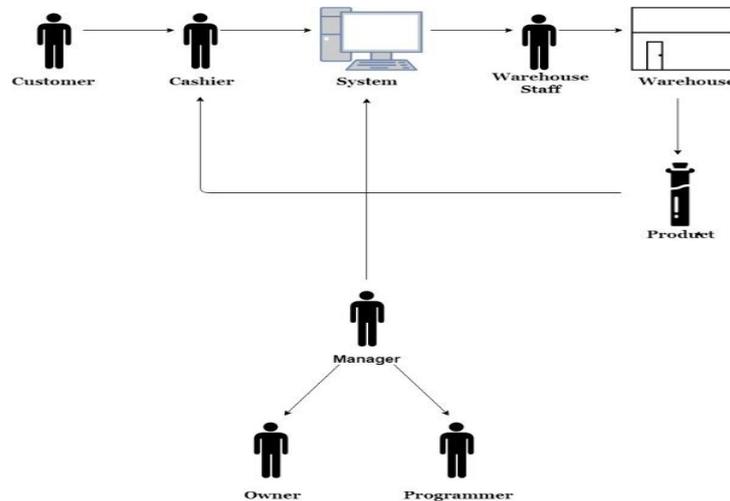


Figure 3.0: System Architecture

This is the system architecture provided by the researchers. The customer talks to the cashier which then checks the system if there are stocks available based on what the customer ordered. If there are stocks, the cashier will tell the warehouse staff then takes the order from the warehouse then delivers it to the cashier. The cashier takes payment from the customer and gives the product ordered. The manager has full access to the system. Also, the manager is the only one talked to by the owner and the programmers of the system itself.

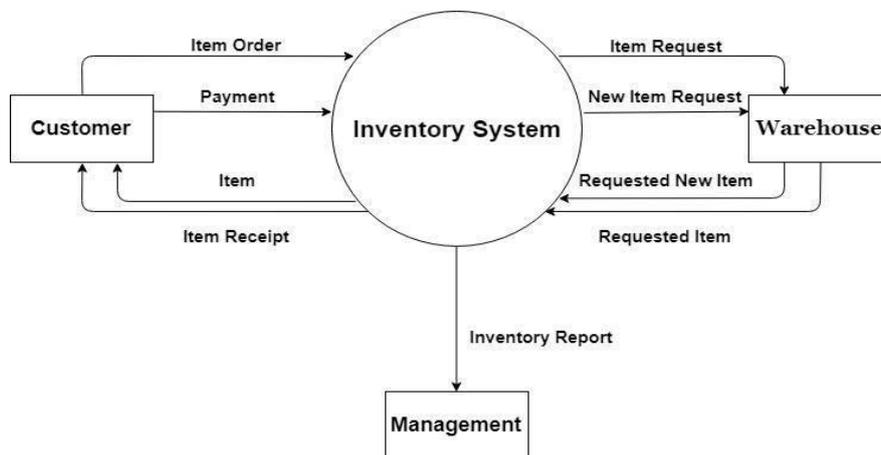


Figure 4.0: Context Flow Diagram

This is the context flow diagram of the system. As you can see, everything goes into the system. The customer orders and pays then the system puts the transaction into the database. The system can look into the warehouse stock in order to track if there are still some available according to the customers' request. It can also request new items from the warehouse to the main shop itself. The main inventory report can also be taken by the management itself in order to monitor the entire system.

IV. RESULTS AND DISCUSSION

The results shows that the software is reliable and efficient to manage by the owner/users. The following discussion will explain the functions and the usefulness of the system.

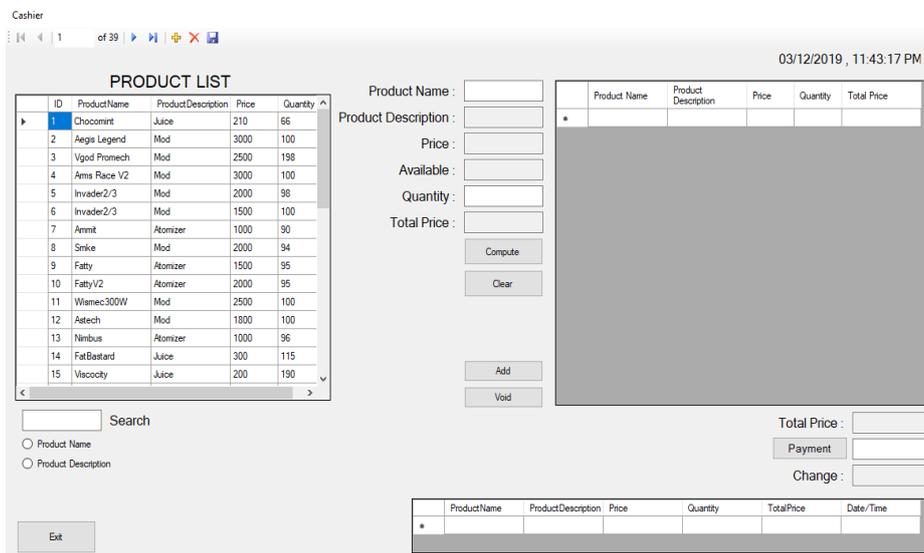


Figure 5.0: Cashier System

The pilot area only writes down all their transactions in their old system. They needed a simple cashier system for the transactions to be inputted easier. In figure 5.0, the simple cashier system interface displays the menu where you can just add products and compute for the total cost of them. Put the amount paid into the payment field then press payment then you can know how much change the customer will get. What is more is that you can search by product name or by product description for added suitability.

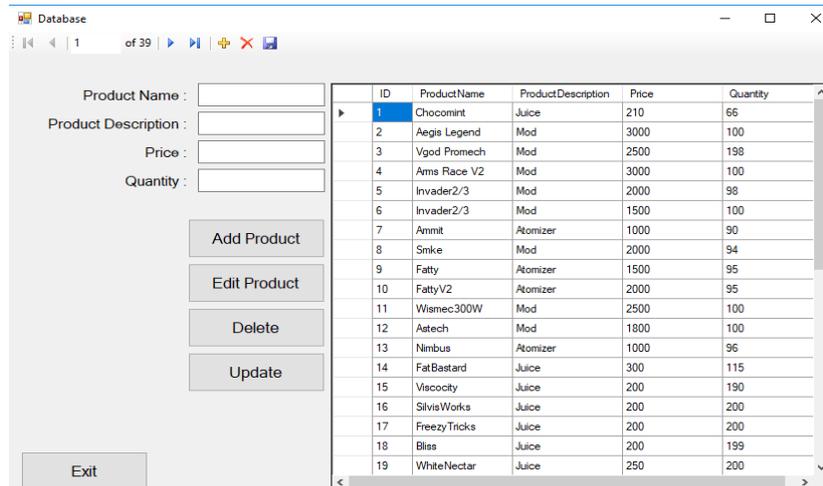


Figure 6.0: Database System

In figure 4.0, it shows the simple and easy-to-use inventory system where you can add, delete, or edit certain products within this section of the system. Just put the corresponding information into the corresponding fields then you can now add the product into the database. Click the ID number on the data grid in order to edit certain information about the product you wish to alter.

Table 1 Software Evaluation

| CRITERIA | MEAN | INTERPRETATION |
|------------------------|------|----------------|
| Functional Suitability | 5.00 | Acceptable |
| Performance Efficiency | 4.20 | Acceptable |
| Compatibility | 3.80 | Acceptable |
| Usability | 3.60 | Acceptable |
| Reliability | 3.67 | Acceptable |
| Security | 5.00 | Acceptable |
| Maintainability | 4.40 | Acceptable |
| Portability | 4.50 | Acceptable |

Table 1 presents overall aspect of the software in which the lowest rate got is the Usability that have 3.60 mean and the Functional Suitability and Security both got 5.00 which is the highest rate mean. The overall weighed average is 4.27 which considered as Good software.

Based on the results of the software's goal for developing a inventory management system with its certain objectives have been successful. The survey results data proves the reliability of the software and the overall feedback was positive to both developers and the end-users.

V. CONCLUSION

Our very own made application (D' Vapery System) was successfully developed with the help of each other as a member of this team. It takes a while before it began to run and use it to our pilot area store because we are developing it patiently because we want our application to be applicable and reliable to our pilot area store.

Although our system is running smoothly, we know that our team have a chance to update our system to improve and enhance it to be more reliable inventory system.

VI. RECOMMENDATION

The research team recommends adding a system where you can compute for the sales on a day-to-day basis. A system for computing the total sales since the implementation of the current system is a good way to learn if the store is actually getting profits on their every transaction.

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