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The Survey on Inventory Management System for Supermarket Using Android Application

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ABSTRACT: Inventory is usually the most important priced quality of a business once the mounted quality. Keeping the inventory conjointly suggests that keeping tab on the realizable value of all the stocks in production and finished output. This paper explores the challenges of manual inventory management system for supermarkets and infers solutions to this challenges by planning a computerized machine-controlled inventory management system to order and update the stocks. Whenever the product is purchased it should automatically update the stock level in database i.e when the unit is 50 and one product is purchased ,then the stock will be automatically updated to 49, when the product ID is entered it will automatically display the product details and total amount will be generated and the bill printed. It also manages the product, supplier and cashier details. When the product reaches the reorder level, it will automatically send an intimation to the owner via message and the owner opens up the application on his mobile to reorder the product and the payment for the product is done. The application developed will be an immense useful to the owner since the reordering of product is done by his own conscience which will certainly reduce the loss for the supermarket. The finding shows the challenges facing the manual system of inventory management system; the manual system requires everyday counting of items in the inventory, human errors are very prevalent during counting and recording. Based on the findings this paper highlights the possible solutions to the above problems; a computerized inventory management system to order and update the stocks was designed and goods were supplied to implement the possible solutions.

KEYWORDS: Inventorymanagement,Stock,Goods,Order

I. INTRODUCTION

Inventory Management is a continued process of overseeing and controlling of ordering, storage and use of components that a company will use in production of the items it will sell as well as the overseeing and controlling of quantities of finished products for sale. Keeping the inventory level too high will lead to idle capital reposition without utilization and too little will result with costly interruptions. The best inventory policy should optimize the ordering level and capital investment at opt time. Visualizing and adapting a best inventory strategic policy is a challenging task for an organization. . A good inventory strategy sophisticates the administration to take better inventory control decisions. An inventory control decides and manages about when to replenish the items and how much it should be replenished. A good inventory policy answers the following questions:

1. How much to order?
2. When to order?

These two questions are the biggest challenge thrown towards the top level management because if it is not viably answered the organization may end up with unnecessary lockage of capital or costly interruption to the business. These two questions are relatively influenced by many costs and these costs are called as Economic parameters. There is a wide scope of improving the storage management principles if the same is adapted with product inventory principles which are already bench marked. The scope of inventory management also concerns the fine lines between replenishment lead time, carrying costs of inventory, asset management, inventory forecasting, inventory valuation, inventory visibility, future inventory price forecasting, physical inventory, available physical space for inventory, quality management, replenishment, returns and defective goods and demand forecasting .Planning and controlling of inventory management is concerned with the following three basic questions:

1. Which items and how much of them should be on stock?



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2. Where to store them?
3. How is the re-order point defined?

In this context, the planning stage deals with the question of which items should be kept on stock and which specific to stock the items has to be defined. The third question is concerned with there-order point, of when to order in which order quantity. These questions are closely concerned with the overall research aim and the implementation of e-commerce. The initial question is about which items or spare parts should be provided to the customer to fulfil the customer needs. Furthermore, the whole distribution site and supply chain processes have to be determined.

II. AIM AND OBJECTIVE

AIM:

To design a computerised Inventory Management System to establish stock level of a market, once to order for additional merchandise, keep standing and updates of transactions, thereby serving to social control choices, progress level and stock taking.

OBJECTIVE:

1. to check the functions of inventory management system
2. To explore the challenges being featured by the manual system
3. to style a computerised inventory management system that solves the matter inherent within the manual system with the employment of swing and mysql
4. To implement the offer merchandise information on the computerised inventory management system to confirm its practicality.
5. to see how the android app works for the reordering of the product

III. SCOPE OF THE STUDY

This analysis work covers stock management, management and tends to correct anomalies in business. It analyses gap of recent Stocks, stock updates and talent to look at existing ones. It provides fast method of operation by capturing the manual method and automating them.

IV. SIGNIFICANCE OF THE STUDY

Stock management, maintenance and management are an important tool in any business. The tool that management use in its management is of significant importance to grasp once to put order for a brand new item and update current standing can depend upon how scientific discipline is handled. This paper facilitate provides such tools and useful in management, management and effectiveness.

V. METHODOLOGY

Regarding ten product were ordered for and were provided. Once they are provided the update of the stocks as well as provider records were being taken from time to time. The computerised Inventory Management System is meant with the employment of front end with swing in java and the back end with mysql. The android app is developed in java and also it uses the mysql database.

Platform : Windows Xp/7/8
Front End : Java-JDK1.7, Android-sdk and Eclipse, Apache tomcat
Back End : MYSQL

VI. EXISTING SYSTEM

In existing system we are manually order the products when they reach to minimum or fully finished. There is no automatic ordering system is there. For ordering products one person needs to check in garage and make a list to order.



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Again that list need to verify by superior, so this process takes too much time. In normal shops itself more products are there, then think about big shops like big bazaar , super markets, and shopping mall, etc... so it's take hours or days. This is the drawbacks in existing system. So we are going to automatic maintenance of stock and inventory control system.

VII. DIFFICULTIES IN EXISTING SYSTEM

NO AUTOMATIC MAINTENANCE.:

A manual inventory system does not provide any number, as all numbers from the inventory are gained through physical inventory counts. One of the difficulties of running a manual inventory system is that physical inventory counts must be performed frequently to control the items in the inventory. This is time consuming and can cost the business money, if employees must come into helpout outside of business hours. Keeping track of daily purchases is another difficult controlling measure with manual inventory systems. A manual inventory system requires the employees to write down the items sold during a single work day. This can be a difficult task, as one employee may lose the list of items sold or another may forget to write down a sale.

NO PROPER MANAGEMENT:

A manual inventory system does not update at the end of the day with updated inventory counts. This means you must go through the inventory items each time you need to place an order for new raw materials, products or supplies for the inventory. This can be a time consuming process, as you will physically have to go through each product box and browse through the items.

LESS EFFECTIVE:

Manual inventory systems are time consuming, as the business owner must keep track of inventory sales on a daily basis, while updating the system manually at the end of the day. A manual inventory requires employees and managers to write down each time an item is removed from the inventory. If one employee forgets to mention that the last coffee product has been removed from the inventory, a manager expects the item to still be available for a customer during a sale. Compared with a technical inventory system, a manual inventory system does not help the communication in the workplace.

VIII. PROPOSED SYSTEM

Using this application automatic notification is generated to the owner in case of attaining minimum reorder quantity level for any product. We provide three logins, first one is cashier - for normal purchase and billing. Supervisor - Can maintain and view stock information. Admin - Can add new products, and also can purchase the products. Purchase of new products can happen via system and also android app. Main advantages of the system is automatic notification and stocks to the owner.

IX. ADVANTAGE OF THE PROPOSED SYSTEM

- **Automatic maintenance.:**

Whenever the product has been purchased it will automatically update the stock in database and when it reaches the reorder level it send a automatic notification to the owner and he purchases the product .

- **Efficient Time management.**

In the manual inventory management system , manually we need to count the product and maintain a register to update the stock details . This can done at the end of the day or week or month. Hence it consumes more time. But in this system ,it saves time by automatic updation of product.

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- **More effective**

Since this proposed system consumes less time and automatic maintenance of the product, this system is considered to be the effective one and also we can reorder the product at anytime and at any place because of the app used by the owner.

X. MODIFICATION

In modification, the Android app is created. In that individual user logins are available like login for admin, owner, and supervisor. By using these app product purchase can be done. So by using that application new products purchase happens via system and also android app. And additionally alert system is included. It is the main advantage, because automatic notification about stocks remaining sends to the owner.

XI. DATABASE DESIGN

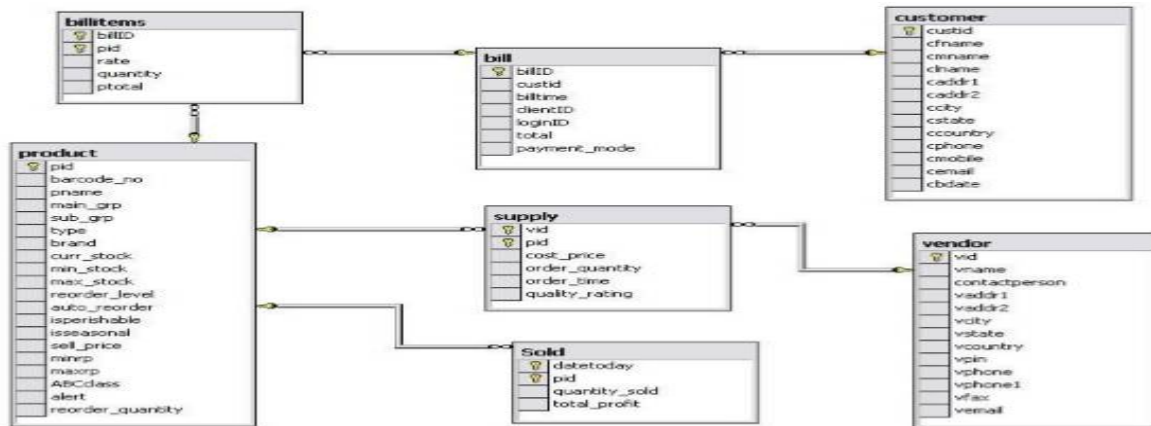


Figure: class diagram for inventory management

I. PROGRAM ANALYSIS

The program starts with a login page as a measure to ensure security. In which if it is successful, will display the splash screen after which it will automatically display the main menu form. The user has the option of choosing from the on screen menu options which are the New Stock, Update Stock, Search and View options. The user form will capture records regarding stock details which are stored in the database, retrieved and viewed later.

On reaching the re order level, it sends a notification to the admin and the admin can use a app to view the product status and order the product which has various suppliers in it.

II. PROGRAM IMPLEMENTATION

This is the stage within which the developed system is tested and it's expected that the system can perform the desired task on meet the requirement of the end-user. System implementation involves

1. coaching end-users,
2. Setting up implementation surroundings and
3. activity the conversion or modification over.

III. PROGRAM MAINTANENCE

The program may be maintained on the ground that the system requires an upgrade. When there is a new field to be added or a new form to be added in order to serve users well. And since it is not compiled as a standalone it can be maintained any time by changing or removing some codes or adding new one.

IV. RECOMMENDATION

It is recommended that this research work should be implemented in supermarkets. Effort should be made by supermarkets to ensure that all records regarding the items are properly entered into the system. It is also recommended that the computerized system should replace the manual system of stock recording and processing in order to hasten managerial decision.



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XII. CONCLUSION

Android app is created in that individual user logins are available like login for admin, owner, and supervisor. By using these app product purchase can be done. So by using that application new products purchase happens via system and also android app. And additionally alert system is included. It is the main advantage, because automatic notification about stocks remaining sends to the owner. It is often the case that when you have a simple, generic design, the resulting system can have the capabilities which were not specified in the original requirements. This is true with our currently proposed data inventory model. One of these capabilities is that a reader can actually be a generator of parameters that will influence the conceptualization of data inventory model. Inventory models include a wide spectrum of suitable for applying various economic parameters. There is a need for proper study to identify and equate the parameters of data inventory with product inventory so that further alteration or creation of mathematical models will result with experimental deployments. As part of future work, we plan to equate the parameters of the inventory control with data inventory and the construction of relevant models well suited for data inventory control.

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