Billing Software

(A supermarket billing software)

# A

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## Abstract

## Supermarket billing system deals with the automation of supermarket. This software will help salespersons in managing the various types of records pertaining to customer.

## The product will help the user to work in a highly effective and efficient environment. It consumes the considerable time and energy that could be utilized in the better productive activities. Apart from that, with increasing customer strength, the task of managing information of each individual customer is indeed a cumbersome task.

## In the manual system, there are number of inefficiencies that a salesperson faces. The information retrieval is one of the foremost problems. It is very difficult to gather the overall performance reports of the customer. Large records-books have to be maintained where relevant and irrelevant information has to be stored .

## The automation deals with all such problems and tries to remove them in the best suitable fashion. The new system will cater to the need of the sales persons of any supermarket so that salesperson can manage the system efficiently. Supermarket billing system is developed with the objective of making the system reliable, easier, fast, and more informative.

## INTRODUCTION

## Supermarket billing system is the system to automate the process of ordering and billing of a supermarket store. Supermarket is the place where customers come to purchase their daily using products and pay for that. So there is a need to calculate how many products are sold and to generate the bill for the customer.

## This system is built for fast data processing and bill generation for supermarket customers. It also allows the customer to purchase and pay for the items purchased. The users will consume less time in calculation and the sales activity will be completed within a fraction of seconds whereas in a manual system will make the user to write it down which is a long procedure and it also consumes a lot of time. Because of this software, paper work will be reduced and the user can spend more time on monitoring the supermarket. The project will be user friendly and easy to use. This project is helpful to computerize the bill report and generating the items details. The billing data is a vast collection of product name, price and other product specific data.

## A product when billed is searched and its price is added to the bill based upon the product quantity. The system also contains discounts on various products so that the product is offered at discounted price while billing. The supermarket billing system is built to help supermarkets calculate and display bills and serve the customer in a faster and efficient manner. This software project consists of an effective and easy GUI to help the employees in easy bill calculation and providing an efficient customer service.

## With the continuous development and improvement of computer technology, communication technology, network technology, scale database technology, the commercial supermarket has become a developing technology worldwide.

## Objective

## To reduce the time for organisation.

## To increase efficiency and accuracy of the system.

## To reduce pressure on the labour and relieving man power from repetitive and dull job.

## To make the retrieval of information faster.

## To make the system more feasible.

## To reduce large amount of paper work.

## To make the system more reliable and to avoid any ambiguity.

## To reduce the cost factor of the system.

## To make the system more flexible.

## It provides a convenient solution of billing pattern.

## It maintains new entered category or products.

## Existing System

## Many Supermarkets use this type of billing system for a decade. It is also improved many times according to requirements of sellers and customers. It does the same work that is calculating the bill, gives it to the customer and maintain proper database. They are accurate in calculation and printing, they also generate records. A new concept is also added in the billing system is that they also maintain relationships with the customers who purchase more products from the store regularly. System also concerns their requirements and 9 gives them more commission. It also shows the overall profit and profit on a particular product and give repots which items are required and which have cross their expiry date.

## Bottlenecks of the Existing System :

## Every system has pros and cons so existing system also have many advantages and disadvantages. So the bottlenecks of the existing system are as follows:

## 1. User Interface: User Interface is not so much good that operators feel some problems in working.

## 2. Graphical User Interface: GUI is not good so the operators get bored by watching screen.

## 3. Processing speed: Processing speed of the software is not so much good to operate fast.

## 4. Flexible: Existing system is not so much flexible that can be changed according to the operators and customers.

## 5. Automatic generation of the Reports: Not able to automatically generate the reports and documents.

## 6. Workload: Sometimes the system hangs when workload is more.

## 7. Error Free: Sometimes the system gives error in the calculation in making the bill and in the information of the products due to workload. 8. Man Power: Existing system uses so many people to operate the system.

## 9. Resources: System does not use the resources properly.

## Proposed Sysyem

## The proposed system is intended to provide the facility of automating the billing system for the supermarket. To reduce the bottlenecks of the existing system there is a need to develop a new system. The new system should concern the requirements of the customer and the sellers. This project is designed with a goal to making the existing system more informative, reliable, fast and easier. There are many reasons for the starting of the project because in the selling of 10 items through the manual system of salesperson faces a lot of inefficiencies. It requires handling of large record books that consist of both irrelevant and important information’s thus making it difficult to find out the required information as per necessity. Object Oriented Programming concepts enabled me to implement the project modules in a easier way.

## Advantages of the proposed system:

## Converts the manual work which is time consuming and error prone to fully automated system.

## Helps in eliminating the paper work ,saves time and improves customer services.

## Makes the addition of items in the bill, deletion of items and modification of items in the bill easier and faster.

## Python has supported to implement object oriented concepts.

## Bills can be calculated more easily and with more accuracy.

## Reduces pressure on the labor.

## Makes the system more feasible and flexible and thus retrieval of information becomes convenient.

## Technologies and tools

## Python 3.4

## pp.png

## PyCharm

## pc.png

## Hardware

## CPU configuration –

## AMD processors 4000+ series

## RAM 4 GB DDR2

## Monitor –

## 17” color

## Operating System –

## Windows XP with service pack 2

## 

## Future Scope

## This project will help the store keeper in fast billing

## This project enable store keeper to maintain a great database of all customers visited and purchase product from store.

## Project will enable to see report regarding product and category.

## Easy to maintain in future prospect.

## ANALYSIS OF PRESENT SYSTEM

## Before we begin a new system it is important to study the system that will be improved or replaced (if there is one). We need to analyze how this system uses hardware, software, network and the people resources to convert data resources, such as transaction data, into information products, such as reports and displays. Thus we should document how the information system activities of input, processing, output, storage and control are accomplished.

## PROBLEM OF EXISTING SYSTEM

## Inability of modification of data: The managing of huge data effectively and efficiently for efficient results, storing the details of the consumers etc. in such a way that the database can be modified as not possible in the current system.

## Not user friendly: The existing system is not user friendly because the retrieval and storing of data is slow and data is not maintained efficiently.

## Difficulty in reports generating: Either no reports generating in a current system or they are generated with great difficulty reports take time to generate in the current system.

## Manual operator control: Manual operator control is there and lead to a lot of chaos and errors.

## Lot of paperwork: Existing system requires lot of paper work and even a small transaction require many papers fill. Moreover any unnatural cause (such as fire in the organization) can destroy all data of the organization. Loss of even a single paper led to difficult situation because all the papers are interrelated.

## Inability of sharing the data: Data cannot be shared in the existing system. This means that no two persons can use the same data in existing system. Also the two departments in an organization cannot interact with each other without the actual movement of data.

## No support in decision-making: Existing system does not support managerial decision-making.

## No support in strategic competitive advantage: Existing system do not support strategic competitive advantages.

## CHARACTERSTIC OF THE PROPOSED SYSTEM

## Easiness in modification of data: The proposed system provides managing of huge data effectively and efficiently for efficient results, storing the details of the customers, employees etc. in such a way that the database can be modified.

## User friendly: The proposed system is user friendly because the retrieval and storing of data is fast and data is maintained efficiently. Moreover the graphical user interface is provided in the proposed system, which provides user to deal with the system very easily.

## Reports are easily generated: Reports can be easily generated in a proposed system. So any type of reports can be generated in a proposed system, which helps the managers in a decisions-making activity.

## Sharing the data is possible: Data can be shared in proposed system. This means that two or more persons can use the same data in existing system provided that they have right to access that data. Also the two or more departments in an organization can easily interact with each other without the actual movement of data.

## No or very few paperwork: The proposed system either does not require paper work or very few paper works is required. All the data is feted into the computer immediately and various bills and reports can be generated through computers. Since all the data is kept in a database no data of the organization can be destroyed. Moreover work becomes very easy because there is no need to keep data on papers.

## Support strategic competitive advantage: Proposed system supports strategic competitive advantages. Since the proposed systems provide easiness in reports generating it will provide strategic advantages among competitors.

## Computer operator control: Computer operator control will be there no errors. Moreover storing and retrieving of information is easy. So work can be done speedily and in time.

## Data flow diagram

## A data flow diagram is graphical representation that depicts the information flow and the transforms that r applied as date moves from input to output. It can be used to represent a software at any level of abstraction. In fact DFDs may be partitioned in to levels. That represents increasing information flow and functional details. DFDs are defined in levels with every level decreasing the level of abstraction as well as defining a greater detail of the functional organs of the system. A zero level DFD also known as context or fundamental system model represents the entire software elements as a single bubble with input and output data entities which are indicated as incoming and outgoing arrows. Data Flow Diagram help understanding the basic flow of data from one process to another process. This 0 level DFD represents fundamental overview of the billing system.

## dfd.png

## Entity Relation Diagram

## Entity Relation Diagram represents the object relationship pairs in graphical forms thus we can say that the primary goal of ER diagrams is represent data objects along with their relationships.

## ER model for data uses three features to describe data:

## Entities which satisfy distinct real world items in an application

## Relationships connecting different entities and representing meaningful dependencies between them.

## Attributes which specify various properties of entities and relations involved in a system.

## Snapshots

## ss2.png

## ss.png

## ss3.png

## Conclusion

## This was our project of System Design Lab about “Billing System”.

## Development of this System takes a lot of efforts from us. We think this system gave a lot of satisfaction to all of us. Though every task is never said to be perfect in this development field even more improvement may be possible in this system. We learned so many things and gained a lot of knowledge about development field. We hope this will prove fruitful to us.