Smart Billing and Invoicing Software for Small and Medium Enterprises

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Abstract:- Today GST has replaced state and central tax system. This tax is applied all over India for all the goods and services which are under domestic consumption. This paper proposes a billing and invoicing software which includes GST tax system. Purpose of this software is to maintain the stocks and provide efficient billing system. The main goal is to fulfill the requirements of the small medium scale Industries i.e., Easy to maintain the Stocks, Easy to generate bills to customers, Easy to generate various reports in one click. User can also use USB barcode reader to record the stock and generate invoices. In addition to this software, we are implementing an android app to make it smart and establishing the connection between them. By this app user can get information about the available products and make a list of required items without manually visiting the shop and can get the average price of all the listed products.

Keywords: GST, invoicing, crystal reports, sql server, android application,

I.INTRODUCTION

Billing software refers to programs that handle the tracking of billable products and services delivered to a customer or set of customers. These types of programs automate much of what used to be a time- consuming process of preparing invoices or other documentation. It gives you collective data of the customer order entry, satisfaction and invoices given to the customer. You can easily analyze the data which is entered into system on daily basis and one can easily measure the performance of the business. GST [2] also known as the Goods and Services Tax is defined as the giant indirect tax structure designed to support and enhance the economic growth of a country. It was introduced on 1st July 2017. GST is a well-organized version of the indirect taxes on goods and services by the central as well as state governments in India. In order to avoid the payment of multiple taxes such as excise duty and service tax at Central level and VAT at the State level, GST would unify these taxes and create a uniform market throughout the country. Integration of various taxes into a GST system will bring about an effective cross- utilization of credits.

FEATURES OF BILLING SYSTEM [3]
1.PRODUCTS/ITEMS: Items are the products that you sell to various clients and can be purchased from various vendors in a business. There are two type of item. One is to track inventory and other one for customer items which do not include to inventory.
- General settings(name, code, descriptions, category, item tax, image)
- Sales pricing (Set Sales pricing for Inventory Item.)
- Purchase pricing(Set Purchase pricing for Inventory Item)
- Transaction(Shows each transaction history of an item with date and quantity)
- Status (When user create an item, it will shows stock status for all location for this company with quantity of item available.)

2. SALES: You can use the complete sales process or just the steps you require depending on your operation. The menu options below are annotated with suggestions as to which Department would use them.
- Invoices
- Payment

3. PURCHASES: A purchase order is an official document that you issue to your vendors, indicating relevant information about what you want to buy, the quantity, the price agreed for that particular product or service.

- Select a Supplier
- Select a store location
- Reference number will generate automatically.
- select items, supply quantity and click Add Item
- Write note of purchase order.
- Submit your order.

4. CUSTOMERS: Admin has permission of add, edit and delete customers. This is to manage all customers who are purchasing items/products from this selected company. There are two different way to create new customer. Admin can create customer by both manually and by uploading CSV files. For manually adding new customer there is a customer create form which needs customer's name, email , address and phone number.

5. SUPPLIERS: This is almost similar to customers. Admin can create suppliers for his/her company by inputting supplier's name, email, address and phone number. There are two different way to create new supplier. Admin can create supplier by both manually and by uploading CSV files. For manually adding new supplier there is a supplier create form which needs supplier's name, email , address and phone number .

6. REPORTS: Various reports are generated as they are given below.
- Inventory stock on Hand
- Sales Report
- Purchase Report
- Expense Report
- Team Member Report

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2 OBJECTIVES

The 'smart billing software' helps in maintaining records and products. It also provides the economic/financial report to the owner monthly, weekly and yearly. The purpose is to fulfil the requirements of small and medium scale industries by maintaining stock and providing efficient billing system. User can also use USB barcode readers to record the stock and generate invoices.

3 SYSTEM ARCHITECTURE

The system defines a two tier architecture i.e., client-server architecture in which server hosts, deliver and manages most of the resources and services to be consumed by the client. [4]It has one or more client computers connected to a central server over a network. Client and server communicate over a computer network on separate hardware, but both reside in the same system. [5] A client requests a server's content or service function and therefore initiates the communication session with servers. The below fig shows the representation of system architecture. Here the user make a data entry and send the details to the server in order to generate the bill. This request is received by the server which checks for items entered, their quantity and finally do the calculations including GST and respond for the client.
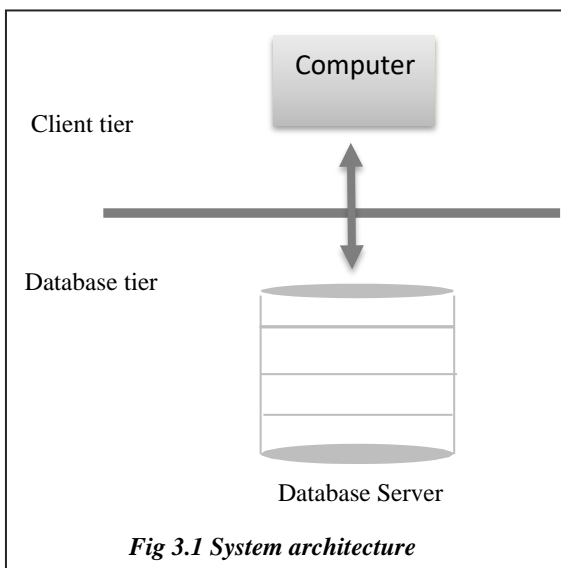

Fig 3.1 System architecture

4 LITERATURE REVIEW

Processing systems have become computerized for great ease and accuracy [6]. A **billing system** is a combination of hardware and software that receives purchase details and service usage information, groups this for specific accounts or customers produces invoices, creates reports for employee or an administrator.

The word 'billing' can refer to both the total amount of goods and the act of counting them. Medical billing system [7] involves a healthcare provider submitting following up on, claims with health insurance in order to receive payment for services. It discuss the purpose of medical record documentation and various forms and

the patient's accounts, order entry, charge capture, billing and accounts [www.coursewareobjects.com].
'Billing plus' [8] is the admin plus module to manage student billing – from invoicing and online bill payments to tuition plans, financial reporting and record keeping. Designed for use by private and public schools.
'Telecommunication billing software' is the group of processes of communications service providers that are responsible to collect consumption data, calculate charging and billing information, produce bills to customers, process their payments and manage collection[9].
'Electronic billing' is when a company, organization, or group sends its bills over the internet, and customers pay the bills electronically [10].

5 METHODOLOGY

A software development methodology is the basic framework using which software developers can plan, structure and control the overall process of developing a software or information system. Software project methodologies are especially important, since it makes system user-friendly. This project includes crystal reports, **Crystal Reports** is a business intelligence application used to create custom **reports** from a variety of data sources. The package includes the major features needed for a business to create a database **reporting** environment, such as data access, report design/formatting, report viewing and application integration.

The figure 5.1 explains the basic process involved in the methodology which includes purchase, inventory, tax rates, sales, quick billing, advance reports.
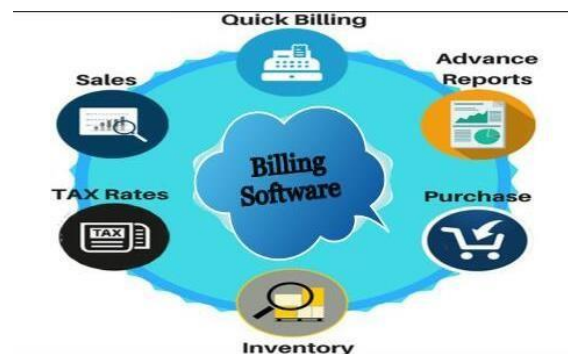

Fig 5.1 billing software methodology

In accounting, **purchases** is the amount of goods a shop bought throughout a periodic time. It also refers to information as to the kind, quality, quantity, and cost of goods bought that should be maintained. They are added to inventory. Here purchasing can be seen in 2 forms one is by the owner who buy goods and store them another one is by the customer who wants to take particular items from the shop. **Inventory** is the collection of unsold products waiting to be sold. It is listed as a current asset on an enterprise's balance sheet. Inventory is a key component of calculating cost of goods sold (COGS) and is a key driver of profit, total assets, and tax liability. Many financial ratios, such as inventory turnover, incorporate inventory values to measure certain aspects of the health of a business. Once a customer purchases the items

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corresponding value is deducted from the inventory and amount of tax along with the GST is calculated. Further sales are done, bills are generated and proper report is maintained.

ANDROID APPLICATION

We are making the billing software smart enough to get the customer order details prior to their visit into the shop i.e., customer having the smart phones have to download the app and get registered. He can login to the page by his username and password there by getting all the information about the stock details. By sitting in the home itself one can make a list of items along with the quantity and complete the remaining task as provided by the app. Once he done with all his request, user get the information, according to which he will pack all those items so that by the time customer visit the shop all his items must be ready to take with him. As soon as the user gets customer list by the app all those items are added to customer's personal account and can check for the history. Corresponding quantity of each items reduced from the inventory and total amount is added to the net balance of user's account.
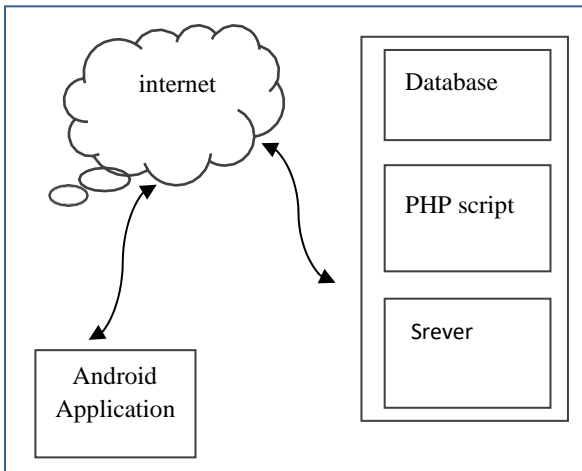

Fig 5.1 Basic diagram of android connection to database

For this thing to happen, database is connected with the android application. First the app calls a PHP script in order to perform data operation. The PHP scripts then connects to the MYSQL database so the data flows from the app to PHP script and then finally in database. Below figures 5.2, 5.3 show you how customer can register, view his product list and add new items too respectively.

Fig 5.2 customer register page

Fig 5.3 options showing for the list entry

HARDWARE AND SOFTWARE COMPONENTS

Hardware components required are 1 GB RAM, 20 GB hard disk, windows 7 and higher version operating system, printer.

Software requirements are .NET framework 4.0 or higher, SQL server 2008 and higher, and crystal reports to print the bill.

6 CONCLUSION

Today man getting change according to the technology and he always finds a new way to explore the things. Of course there may be many billing softwares but no small and medium scale shops are using them. **"Smart billing and invoicing software for small and medium scale enterprises"** project will help the common people to know about how the things are done automatically and even how they can use their mobiles for these types of work too. Billing system provides a complete view of user's stock inventory, periodic reports, and also it gives full of security and protection. It mainly focus on making the system user-friendly.

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