

Flutter and Dart based Smart Digital Inventory Management System

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Abstract:

This project is aimed at developing a desktop based application named 'Stockpile' for managing the inventory system of any organization. Inventory management system is an application which is helpful for business operations. IMS refers to the system and processes to manage the stock of an organization with the help of technology. This system can be used to store the details of the inventory, stock maintenance, update the inventory based on the sales details, generate sales and inventory reports on a daily basis. This project categorizes individual aspects for the sales and inventory management

system. It is proposed to keep an eye at the stock levels and to apply an agent system for automation of inventory management processes. This application can be used by small grocery stores and departmental stores.

Keyword: Flutter, Dart, Inventory Management System, Android studio

I. INTRODUCTION

Inventory is a list of what you have. In company accounts, inventory usually refers to the value of stocks, as distinct from fixed assets. An

inventory would include items which are held for sale in the ordinary course of business or which are in the process of production for the purpose of sale, or which are to be used in the production of goods or services which will be for sale

The use of Android applications has been escalating expeditiously. And India has one of the enormous marketing cores in the world. With technology maneuvering all the manpower, people have become lethargic and also the growing variety of products have made it difficult for the shopkeepers to maintain the old ledger methodology, having an application makes it easier to maintain and review stocks

Depending up on the type of organization the inventory can be classified into two basic types. They are as follows:

1. Manufacturing Inventory: It is the inventory maintained by a manufacturing organization.

2. Trading inventory: It is the inventory maintained by a trading organization with a purchase and sales business.

Our project is developed keeping in mind the trading inventory system.

After analyzing the other inventory management system we decided to include some of the common and key features that should be included in every inventory management system. So we decided to include those things that help the small organization in a way or other.

The application contains general organization profile, sales details, Purchase details and the remaining stock that are presented in the organization. There is a provision of updating the inventory also. This application also provides the remaining balance of the stock as well as the details of the balance of transaction.

Each new stock is created and entitled with the name and the entry date of that stock and it can also be updated any time when required as per the transaction.

The project Inventory Management System is a complete mobile based application designed on dart and flutter technology using Android

Studio Software. The main aim of the project is to develop Inventory Management System Model software in which all the information regarding the stock of the organization will be presented. This desktop application is based on the management of stock of an organization.

II. METHODOLOGY

This application starts with the splash screen, when the user clicks on the application icon he sees a splash screen with the application name displayed. This system can be used to store the details of the inventory, stock maintenance, update the inventory based on the sales details, generate sales and inventory report daily or weekly based. The splash screen leads the user to the login screen where he/she enters his/her details and then is taken to his account. This project is categorized into individual aspects for the sales and inventory management system. In this system we are solving different problems affecting direct sales

management and purchase management. Inventory Management System is important to ensure quality control in businesses that handle transactions revolving around consumer goods. Without proper inventory control, a large retail store may run out of stock on an important item.

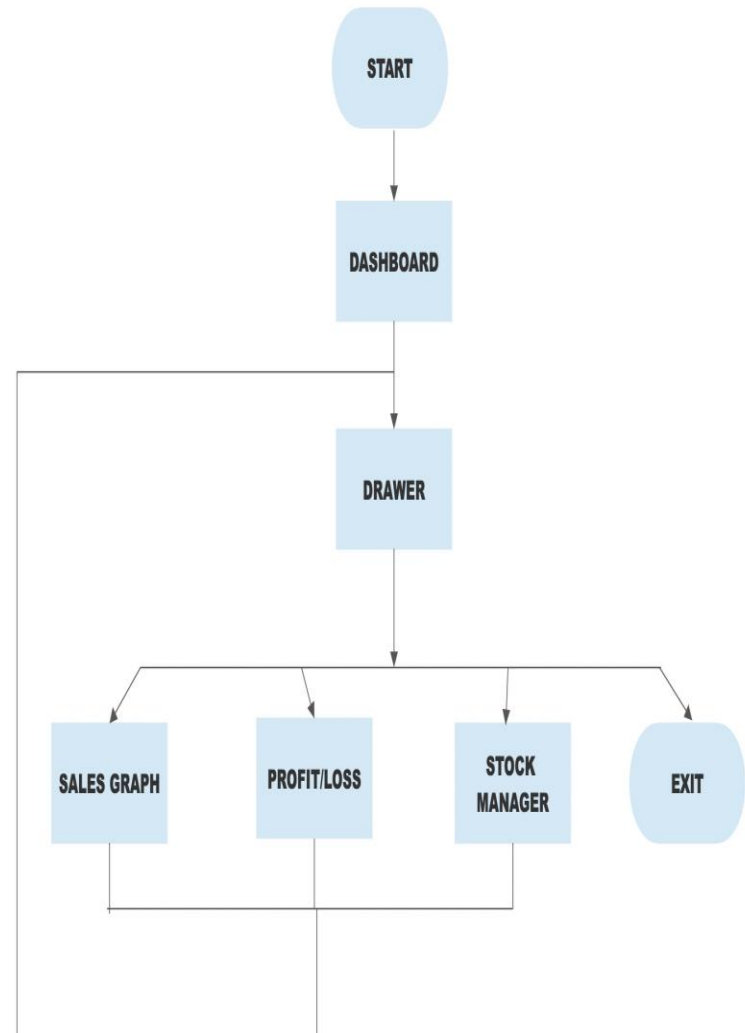
Here he/she will be able to see today's stock. It shows the list of all the stocks where you can add or subtract the stocks based on the requirement. So, the next screen will be of the page with user name displayed and where the user will maintain his stocks. The user here will be offered with four options. The first option will be if he or she wants to analyze the sales of the shop of the current month. This feature helps the owner have a quick check on the total sales of the current months as well as the past months. This feature will make it easier to check and balance the sales, also it will give the owner a presight of which stock items were sold the most and which ones were sold the least. Also this data helps him to not reorder the items that are sold in null amount. With this the owner of the shop can keep track of the

stock and update it on the basis of sales within a day or week based on his /her needs. The side drawer contains four buttons namely dashboard, sales, and profit and loss report and stock.

The sales button will guide the user to the graph of the stocks where it shows the graph of the sale of a particular item. It also gives the user a list of the total number of items sold today. The profit and loss.

The next tile will show the profit and loss of the month. This will make it simple to keep a track record rather than the original ledgers where the owners used to calculate the profit and loss once a year. With this facility on hand he will be able to analyze the profit and loss in a month. And it will also be helpful for him to upgrade his business to better profit.

FLOW OF THE PROJECT



III. RESULTS & DISCUSSIONS

The inventory in any business is maintained to decrease the set up costs and the shortage costs. If the demands of the customers are not fulfilled then it may result in the loss of their goodwills. If the orders are

canceled then it results in the loss of business. Thus ,this application helps the owner to keep an eye on the inventory of the store and easy maintenance of the same. Also the chances of errors are minimized by the digital technology based application as compared to the conventional human maintained ledger and records of the inventory. Figure -1 shows the login page where the account

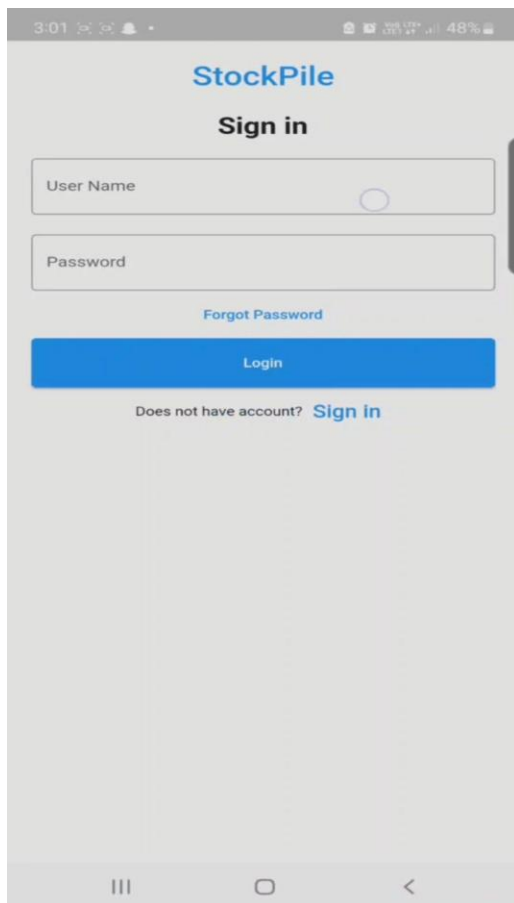


Fig-1

details,username and password,need to be entered. Figure - 2 shows the side drawer of the application which displays key elements of the application with the help of buttons. Figure - 3 displays the dashboard where the list of stocks is shown. Figure - 4 shows the sales where we can see the sales of the shop on the daily and monthly basis.Fig- 5 shows the profit and loss of the month.

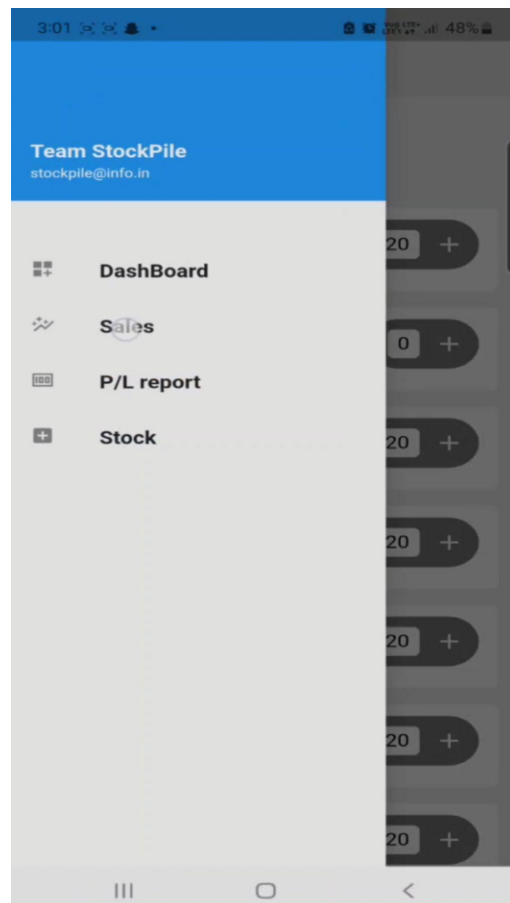


Fig-2

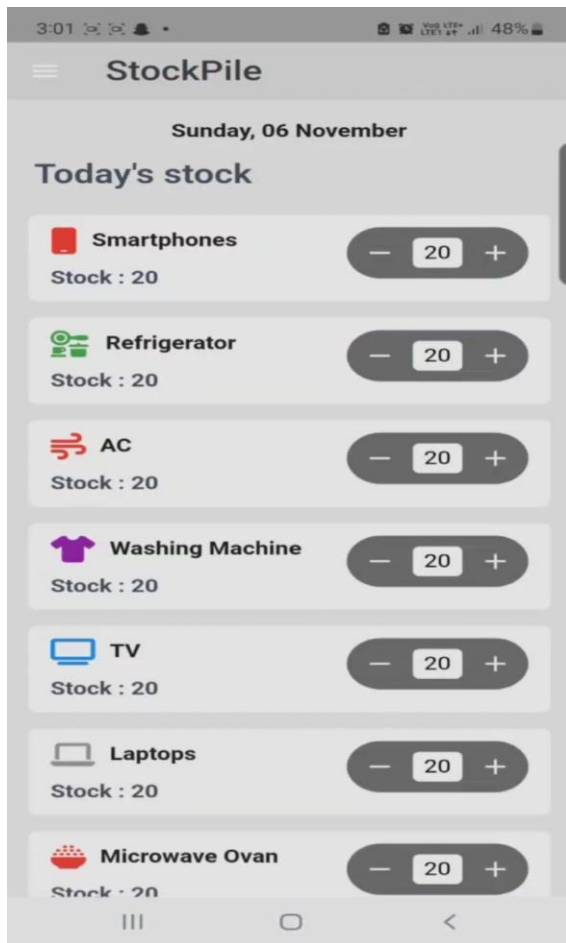


Fig-3

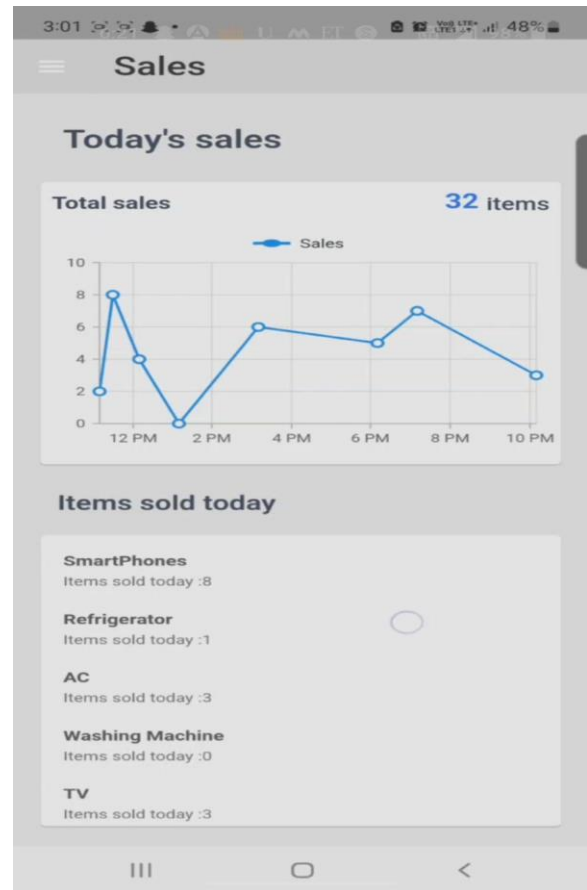


Fig-4

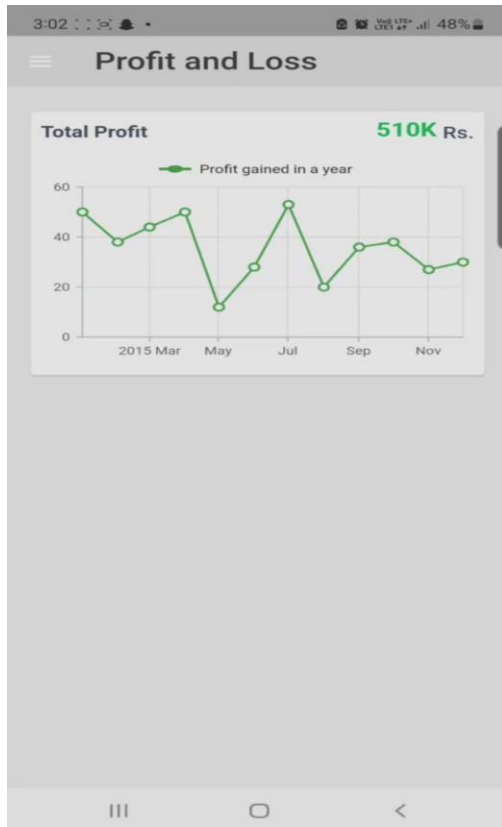


Fig-5

IV. CONCLUSION

This system can be used to store the details of the inventory, stock maintenance, update the inventory based on the sales details, generate sales and inventory reports daily or weekly based. This project categorizes individual aspects for the sales and inventory management system. In this system we are solving different problems

affecting direct sales management and purchase management. Inventory Management System is important to ensure quality control in businesses that handle transactions revolving around consumer goods. Without proper inventory control, a large retail store may run out of stock on an important item. A good inventory management system will alert the wholesaler when it is time to

record. Inventory Management System is also an important means of automatically tracking large shipments. An automated Inventory Management System helps to minimize the errors

while recording the stock. This application will help its users analyze and finance their business in a better way. And guide them to the path of profit and success.