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Sales Prediction for Online Shopping

Akhil Zacharia
Student, Computer Science and Engineering Department
Sahrdaya College of Engineering and Technology
Thrissr, India

Arjun P C
Student, Computer Science and Engineering Department
Sahrdaya College of Engineering and Technology
Thrissr, India

Gokul Vilson
Student, Computer Science and Engineering Department
Sahrdaya College of Engineering and Technology
Thrissr, India

Soumya Varma
Asst. Professor, Computer Science and Engineering Department
Sahrdaya College of Engineering and Technology
Thrissr, India

Abstract:- In today's world, managing a small business is more accessible than ever. But that doesn't mean sales analysis is an easy task to do. Good time series based sales prediction and analysis is still hard to get. The convenience of a mobile application to view the prediction data would be great for potential business owners. This work, is to build an application that offers easy access to prediction data and analysis. Users can access the application to view and buy items. The data from the user's transactions are used for prediction analysis and is given to the admin who accesses the admin console of the application. The admin can view the sales prediction data, and make necessary adjustments.

Keywords:- *E-Commerce, Sales Prediction.*

I. INTRODUCTION

Online shopping in India is an exponentially growing market. In fact, it is expected to a reach a sum of over 52,000 million USD by 2022. As people are buying things more and more frequently on the Internet, it has led to an increasing need for effective sales analysis of online shopping site. Sales forecasting is a significant part of numerous businesses today. Progressively, organizations are endeavoring to extend their estimating capacities, to get the edge on their rivals. For instance, a great forecasting model empowers makers to hold only the perfect measure of stock to fulfill the demand for their item. A good forecasting model alone cannot solve the problems, but quicker access to the data whenever needed within the palm of their hands will make the managers more efficient than ever before, thus resulting in an increase in the efficiency and performance of the E-commerce model.

A sales prediction report demonstrates the patterns that could happen in an organization's business volume after some time. In its most essential structure, a sales forecasting report indicates whether sales of an item are going to increment or decrease. Whenever amid the monetary year, project leads may investigate the patterns in the report to decide the best strategy. Supervisors frequently use sales prediction reports to distinguish showcase openings and zones where they could build volume. For occasion, an item may demonstrate a background of expanded sales amid specific periods. This information can be utilized to request extra business amid these pinnacle periods. A small-business manager's interest might lie in breaking down sales by the product. Some small, specialized businesses are tiny enough to use general sales data. Easier, quicker access to this sales data can make the management of the business more convenient.

Predicting sales related time series amounts like number of exchanges, site visits, and incomes is significant for retail organizations. This work centers around predicting the sales which is in charge of the E-commerce platform of its customers. As online sales are expanding at a gigantic rate, precise forecast of sales enables the businesses to legitimately get ready for taking care of the stuns to item stock, site traffic, and client support. Sales prediction is a significant objective for any sales analysis. The errand comprises of estimating sales amounts given the business history. This can be accomplished by broadening the time series into the future. Exact sales estimating is a basic achievement factor for the activities of the executives in the online sales industry. Truth be told, it assumes a significant job for some operational issues, for example, stock control and production arranging.

This work is mainly focused on bringing a very user friendly application which the users can use to view and buy items, while also, using the same application, the administrators can view the sales forecasting based on the sales data. And can apply it to improve their sales in all the ways mentioned in the previous paragraph. With this work, the plan is to make accurate sales forecasting data-and the benefits that come with it- more accessible than ever.

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II. PROPOSED SYSTEM

The proposed system has modules: a mobile application that can be used by the user and the administrator in which the user can buy items and the administrator can view the prediction details, and a prediction module in order to predict the future sales data on the basis of the sales volume of the individual items.

The smartphone application will run on the Android operating system, and will also allow users to view different items. The prediction code will use a model made using Long Short Term Memory neural network for sales prediction. The predicted data will be made available to the administrator via the smartphone application. The administrator, thus can make business decisions on the basis of the sales prediction data that is made available to them.

The working is as follows:

- The user can login to the application and view the available items and buys the item they need.
- The sales data from the users are used to predict the future sales for each item.
- The administrator can use the application to view the predicted data.

The smartphone application also has additional features like the ability for users to give feedbacks and complaints which the administrator can view.

III. METHODOLOGY

The flowchart of the system is shown in Fig.1

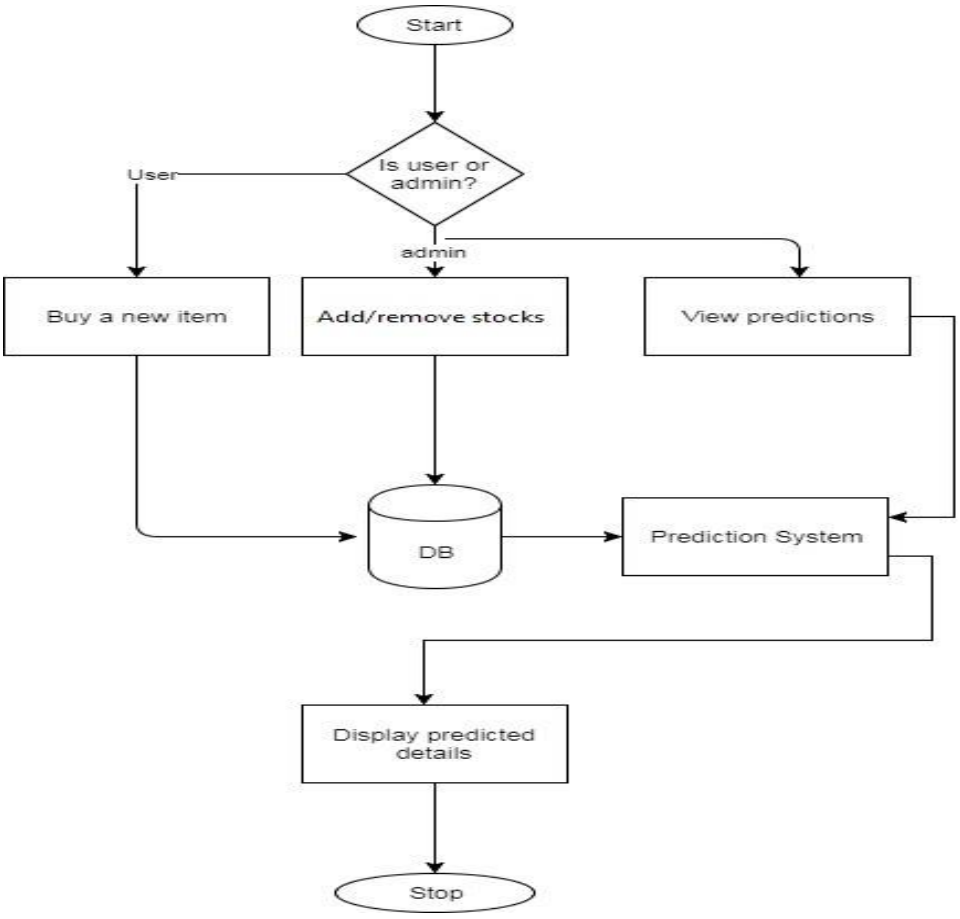

Fig 1:- Flowchart of the System

The user logs in and buys a new item. The sales data for this transaction is added to the data set of the sales data for that item. This sales data is used to predict the future sales for the item. The admin logs in to the system and views the prediction details. The admin can also add or remove stocks for each item based on the prediction data they viewed for the item. The Level 0 and Level 1 data flow diagrams for the system are shown in Fig.2 and Fig.3 respectively.

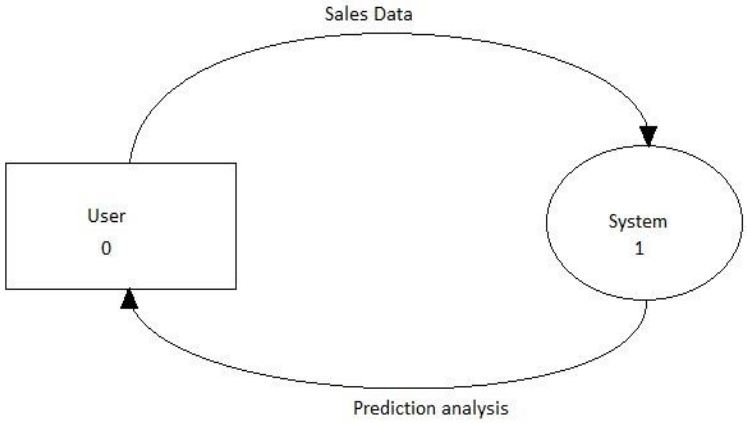

Fig 2:- Level 0 DFD of the system

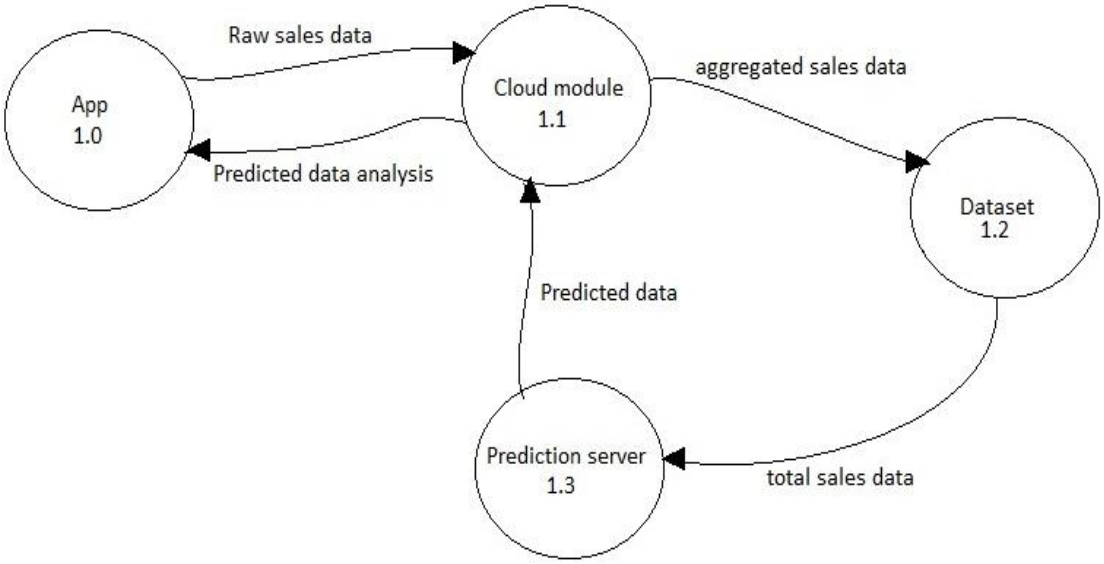

Fig 3:- Level 1 DFD of the system.

IV. CONCLUSION

In this work, we proposed a system which allows for better E-commerce management by employing a mobile application and sales prediction techniques. The proposed approach stores the sales data from the users who use the mobile application to buy items and then predicts future sales and forecasting which it in turn presents before the sales manager as they need it in the mobile application itself. The mobile application allows the users to buy and view new products, while allowing the admins to view the prediction details. As internet and E-commerce is booming, this work has great scope among small businesses. We believe that this system will help improve the online shopping market.

FUTURE WORK

In the future, we will try to implement a selling option in the mobile application for certified sellers to sell their items directly to the customers. Adding a social network aspect to the mobile application so that the consumers will feel like a community in order to improve morale and thus in turn improve sales is also planned for the future

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