

Literature Survey and Information Gathering For inventory management system for retailers

Literature survey

Wei-Ping et al.[1] (2011) proposed a system to store the data of textbooks on NetBeans which uses MongoDB to store the data and concluded that MongoDB is faster but has some maintenance issues as compared to NoSQL.

Tamang et al.[2] (2015) developed a system to store the data of auto spare parts on Tally ERP by using Regression technique as to analyze the requirement.

Gandhari et al.[3] (2016) proposed a Hospital Management System which uses the power of RFID to register or discharge a patient without any hassle of any paperwork.

Isitman et al.[4] developed a mobile system to record the data of the patient by using SQLite in which a user can get to know any nearby hospital in any emergency.

Gregorius et al.[5] (2018) proposed a web application development system using MongoDB, MySQL and Php for handling structured as well as unstructured data at the same time. In this study several research papers have been discussed and distinguished based on the Techniques Used, Tools Used, Advantages, and Issues.

Paper Reference No.	Techniques Used	Tools Used	Advantages	Issues
[1]	NoSQL, MongoDB.	NetBeans	MongoDB turned out to be faster than MySQL in terms of processing the queries.	MongoDB has a harder post maintenance issue as compared to MySQL.
[2]	Regression	Tally ERP	Regression analysis is used for forecasting.	Limited to import on surfacetransport.
[3]	RFID (Radio FrequencyID), JSP.	--	Efficiency: As for new patient bed is assigned automatically and when discharged update accordingly in the database and for control: Only the authorized person can access the records.	Manual insertion is adopted for collecting the patient's information.
[4]	SQLite	--	In an emergency situation, the users can locate a close hospital by GPS features of the application.	The model faces data transferring problems because of the usage of SQLite.
[5]	Visual C++4.0	Pocket PC2003	LAN protocol is adopted for the transmission of emergency alarms.	No proper system is adopted for alarming the staffs in case of any sudden emergency.

[6]	Cloud Technology	--	By using the client-server architecture of the cloud, the data stored is in-house which needs hardware, software and server which needs to be installed on the doctor's computer.	The system can predict the doctors for a certain domain for an appointment.
[7]	Java, NoSQL.	MongoDB	Usage of XML Schema to make sure that the data is according to the schema before	The data stored in MongoDB is usually not normalized and thus acquires a lot of space.
[8]	MySQL, NoSQL, PHP.	MongoDB, CodeIgniter, HeidiSQL, RoboMongo.	A hybrid system of MySQL and MongoDB is developed to handle structured and unstructured data.	The model is implemented on a single system and with much less data.
[9]	MySQL, NoSQL.	MongoDB, RoboMongo, PhpMyAdmin.	Query execution time between MySQL and MongoDB is compared.	The system on which the model is implemented is much lesser to opt for comparison.
[10]	NoSQL, MongoDB.	--	Concluded that the migration is feasible from SQL to MongoDB using mathematical relational model.	--

Information Gathering for Inventory Management for Retailers

Managing inventory, keeping track of stock accurately is imperative in retail. It helps prevent many issues like out-of-stock problems, theft, and vendor fraud. It helps with assortment planning.

Proper methods in place to track and manage inventory from the time from receiving it from suppliers to the time from selling the products to customers will be able to keep accurate track of everything

1. **Assign Logical IDs for Each Item:** Instead of using UPCs or other generic IDs, design your [SKU formats](#) to show some information about the item at a glance – like size, color, packing, gender, etc.
2. **Record Items Received in Detail:** Train your employees to be meticulous in recording details of items received from suppliers. Vendor fraud accounts for 5.4% of retail shrink. Wrong stock counts in vendor invoices may not even be intentional, just misales. Nevertheless, if you keep track of every detail, errors can be quickly spotted and rectified.
3. **Keep Track of Stock Adjustments:** Keep track of each and every stock movement. If an item has been taken off the shelf, record why it was done, whether the item is a total loss, or whether it is good enough to be disposed of in a sale, etc.
4. **Implement Methodical Stock Counting:** You need to take manual stock counts in your store periodically to prevent thefts and errors. Divide your stocks into three categories based on how fast they sell. Take weekly count of your fast-sellers, monthly count of the next category, and may be a quarterly count of the slow-movers.
5. **Use Good POS Software:** There are now numerous full-fledged POS Systems available that enable accurate recording and tracking of all sales made in your store. They are also able to update your inventory in real-time so that you are always on top of your stock availability status for all items.
6. **Implement Methodical Stock Counting:** You need to take manual stock counts in your store periodically to prevent thefts and errors. Divide your stocks into three categories based on how fast they sell. Take weekly count of your fast-sellers, monthly count of the next category, and may be a quarterly count of the slow-movers.

Benefits :

Using good Inventory Management can provide many advantages:

Keep track of stock accurately: With automatic updates and synchronization of data, you are always aware of stock levels for each item.

Avoid Running Out of Stock: Whenever a popular item reaches a certain stock level, you can send an alert to the concerned person to reorder that item or get a supply of it from your warehouse before customers are put off by a no-stock issue.

Analyze Stock Movement to Optimize Assortments: With clear and up-to-date records of inventory, you can find which items sell fast and which are slow-moving. This can help you make an informed decision on assortment planning.

Good inventory management methods and the use of Inventory management software can help increase the productivity and profitability of your business.