

Live Industrial Inventory Tracking System

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Abstract: *Inventory Management System is software which is helpful for the businesses operate hardware stores, where storeowner keeps the records of sales and purchase. Mismanaged inventory means disappointed customers, too much cash tied up in warehouses and slower sales. This project eliminates the paper work, human faults, manual delay and speed up process. Inventory Management System will have the ability to track sales and available inventory, tells a storeowner when it's time to reorder and how much to purchase. Inventory Management System is a windows application developed for Windows operating systems which focused in the area of Inventory control and generates the various required reports..*

Keywords: Inventory Management

I. INTRODUCTION

Inventory management software is a software system for tracking inventory levels, orders, sales and deliveries. It can also be used in the manufacturing industry to create a work order, bill of materials and other production-related documents. Companies use inventory management software to avoid product overstock and outages. It is a tool for organizing inventory data that before was generally stored in hard-copy form or in spreadsheets. With changing market conditions, our goal is to create a more efficient replenishment method that would maximize profits for everyone in the supply chain. The continuous tracking and updates will be given. A good system will help you keep track of your inventory and offer a centralized view of stock across sales channels. Controls your costs by making stock reports for analysis of your inventory. Reduce the time for managing inventory by keeping inventory by keeping records in place. Manages planning and forecasting by analyzing data trends.

Problem Statement:

To reduce the loss in logistics and to track the items effectively. Inventory costs have lot of impact on the profitability of the firm and its success. Inventory management and its optimized decisions are depending on the identification of key success factors and right decisions at right moment. In a dynamic market environment, it is necessary to focus on the decision making and the factors influencing decision making in order to optimize the results of inventory function. The survey approach can bring a light on the variables and these have lot of biased information. Testing of the factors influence on inventory decisions by using scientific methods can help to improve the reliability of the factors taken as key variables in decision making. Hence, the present research is focused on the dimensions namely identification of factors influencing inventory optimization among SMEs in steel sector through a structured and unstructured questionnaire and grouping them into two sets as internal variable and external variables and optimization by grouping the information for appropriate decision.

II. LITERATURE SURVEY

The loss in logistic for Fastmoving Consumer Goods (FMCG) has been very high since they have entered into big markets. Loss faced by Hindustan Coca Cola Beverages (HCCB) from 2016-18:

In 2016-17, it had posted a loss of Rs. 2.33 billion, according to the documents with the Registrar of Companies.

In 2017-18, a loss of Rs. 1.18 billion was reported. https://www.business-standard.com/article/companies/coca-cola-s-bottling-arm-reports-loss-for-2nd-straight-year-at-rs-1-18-bn-118112701080_1

PepsiCo midlife crisis:

PepsiCo India reported a loss of Rs280 crore, against a profit of Rs17.6 crores in the previous year, its RoC filings show. Revenue growth too fell to 3.1% in FY14 from 14.8% a year ago.



<https://www.livemint.com/Companies/V5SxXWA0oicnJFmAXNZaqJ/PepsiCos-midlife-crisis-in-India.html>

Amazon Seller Services' faced the loss of Rs. 5,685 crores during fiscal year 2018-19.

<https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/amazon-indias-e-comm-arm-narrows-fy19-loss-to-rs-5685-crore/articleshow/71796214.cms>

Flipkart India Private Limited reported a net loss of Rs 3,836 crore as compared to Rs 2,063 crore in the previous financial year, according to the regulatory documents filed by Flipkart, which were sourced from business intelligence platform Paper.vc.

https://www.business-standard.com/article/companies/flipkart-india-s-losses-increase-85-91-to-rs-3-836-cr-income-rises-42119102800862_1.html#:~:text=Flipkart%20India%20Private%20Limited%20reported,business%20intelligence%20platform%20Paper.vc

III. DESIGN & ARCHITECTURE

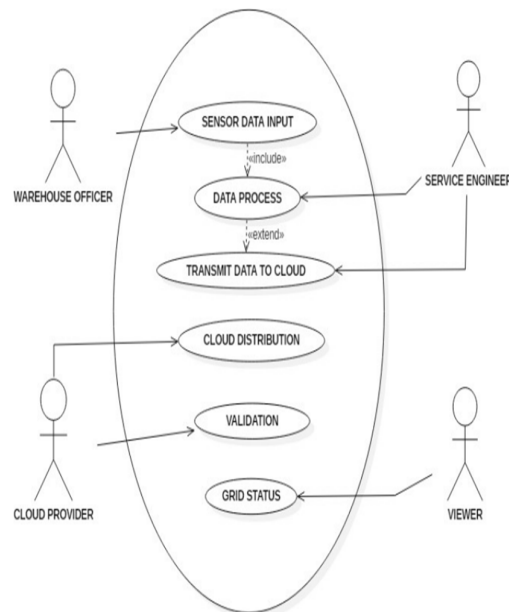


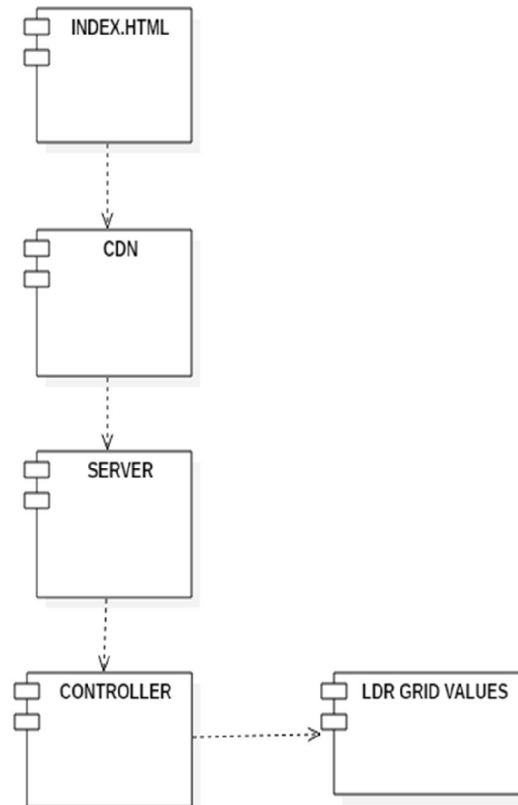
Fig: Architecture

- Sensor Data Input: Sensor data is the output of a device that detects and responds to some type of input from the physical environment. The output may be used to another system or to guide a process. Sensors can be used to detect just about any physical element.
- Data Process: Data processing, manipulation of data by a computer. It includes the conversion of raw data to machine - readable form, flow of data through the CPU and memory to output device, and formatting or

transformation of output. Any use of computers to perform defined operations on data can be included under data processing.

- **Cloud Distribution:** Cloud distribution is a next generation value-added distributor that specialises in bringing new cloud first, innovative and disruptive cyber security, networking and data centre solutions to market. Cloud Distribution is passionate about maintaining the value in distribution.
- **Validation:** Validation is the process of establishing documentary evidence demonstrating that a procedure, process, or activity carried out in testing and then production maintains the desired level of compliance at all stages.
- **Grid Status:** Grid manager displays the overall Grid Status and status of all grid services. The grid status represents the status of the most critical members or services in the grid. When all grid members are running properly, the overall grid status is green.
- **Service engineer:** Service engineers are responsible for numerous areas within and outside of facilities, including the design, installation, and monitoring of mechanical, electrical, and public health safety systems.
- **Cloud provider:** A cloud provider is a third - party company offering a cloud - based platform, infrastructure, application, or storage services
- **Warehouse officer:** The warehouse officer is a vital part of the supply chain process and team. He/She oversees the efficient receipt, storage, and dispatch of a wide range of goods including food, clothing, healthcare products, manufactured goods, household items to support projects and programs.

Block Diagram:



- **INDEX.HTML:** Default Homepage. The index. html page is the most common name used for the default page shown on a website if no other page is specified when a visitor requests the site. In other words, index. html is the name used for the homepage of the website.

- **CDN:** A content delivery network (CDN) is a group of geographically distributed servers that speed up the delivery of web content by bringing it closer to where users are. Data centers across the globe use caching, a process that temporarily stores copies of files, so that you can access internet content from a web-enabled device or browser more quickly through a server near you. CDNs cache content like web pages, images, and video in proxy servers near to your physical location. This allows you to do things like watch a movie, download software, check your bank balance, post on social media, or make purchases, without having to wait for content to load.
- **Server:** Server, network computer, computer program, or device that processes requests from a client. On the world wide web, for example, a web server is a computer that uses the HTTP protocol to send web pages to a client's computer when the client request them. On a local area network, a print server manages one or more printers, and prints files sent to it by client computer. Network servers (which manage network traffic) and file server (which store and retrieve files for clients) are two more examples of servers.
- **Controller:** The Controller Area Network (CAN) is another type of serial communications protocol that was developed within the automotive industry to allow a number of electronic units on a single vehicle to share essential control data.
- **LDR Grid Values:** An LDR is a component that has a (variable) resistance that changes with the light intensity that falls upon it. This allows them to be used in light sensing circuits. The LDR has a high value when no light is present. The value of resistance of the LDR depends on the type. In this case it's about 10k. As the light level increases the resistance drops, which makes the current increase (by Ohm's Law), which in turn, makes the voltage at A0 (Va0) increase.

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