

EMPLOYEE MANAGEMENT SYSTEM IN VESSEL SHOP

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Abstract - A software program called the Vessel Shop Management System is intended to make vessel repair and upkeep companies' activities more efficient. This system consists of a number of components, including those for managing employee information, attendance, salaries, customer complaints, and maintenance teams. Employers can keep and handle employee data, such as their contact information and job history, with the aid of the Employee Information Management module. The Employee Attendance Management tool helps with handling time-off requests, such as medical leave, holiday leave, and personal days, and keeping track of employee attendance. The Employee Salary Management section creates payslips and handles employee wages, taxes, and perks.

Businesses can handle client complaints, watch the resolution process, and raise customer happiness thanks to the client Complaint Section module. The maintenance team's schedules are managed, work orders are assigned, repair requests are tracked, and the maintenance team management module observes apparatus performance. The Vessel Shop Management System integrates these components to give companies a centralized platform for managing staff data, attendance, pay, client complaints, and repair teams. The system aids organizations in streamlining their processes, reducing administrative burdens, and enhancing general effectiveness, which boosts revenue and improves client happiness.

Keywords: vessel shop, customer complaint, administration, customer satisfaction

1.INTRODUCTION

Businesses that fix and maintain vessels must overcome many obstacles to run their activities efficiently. These difficulties include keeping track of client complaints, handling repair teams, and managing staff information, attendance, and pay. Businesses are increasingly using technological options like the Vessel Shop Management System to handle these issues. A software program called the Vessel Shop Management System offers a full range of tools for handling different facets of a vessel repair and upkeep company. The system is made up of

various components that work together smoothly to give companies a single base to handle their operations.

Employers can keep and handle employee data, such as their contact information and job history, with the aid of the Employee Information Management module. The Employee Attendance Management tool helps with handling time-off requests, such as medical leave, holiday leave, and personal days, and keeping track of employee attendance. The Employee Salary

Management section creates payslips and handles employee wages, taxes, and perks. Businesses can handle client complaints, watch the resolution process, and raise customer happiness thanks to the client Complaint Section module. The maintenance team's schedules are managed, work orders are assigned, repair requests are tracked, and the maintenance team management module observes apparatus performance.

1.1 VESSEL SHOP

If you're searching for unusual and useful vessels for your home or place of work, a vessel shop can be a wonderful location to go. You can find vessels that are both aesthetically appealing and useful for your requirements thanks to the many choices accessible. A vessel store can be a great spot to start your search whether you're looking for a set of porcelain dishes for your kitchen, ornamental vases for your living room, or metal containers for storing or transit.

A good vessel store may give professional guidance on choosing the best vessels in addition to having a wide selection of vessels for sale. They might be able to provide advice on the finest materials for particular purposes or details on how to maintain various kinds of vessels. Additionally, purchasing from a vessel store can help local companies and artists. You can buy one-of-a-kind, handcrafted goods while assisting the local economy by visiting one of the many vessel stores that source their merchandise from local artisans or small companies.

1.2 TYPES OF VESSELS

Ceramic containers are a common option for both practical and ornamental uses. They are frequently used to prepare, serve, or store food and beverages. Small bowls to large pots are just a few of the forms and sizes of ceramic receptacles. They are frequently embellished with elaborate patterns or designs. Glass containers: Glass containers are another common option for both practical and decorative use. They are frequently used as ornamental vases or table centerpieces, as well as for serving drinks and keeping food. Glassware is available in a wide range of sizes and forms, from small containers to delicate wine glasses. Metal Containers: Food and beverages are frequently prepared, stored, or transported in metal

containers made of copper, stainless steel, or aluminium. They are perfect for baking and cookery because they are strong and resistant to high temps. Plastic containers: Plastic containers are lightweight, strong, and frequently used for the conveyance or storing of food and beverages. They are frequently used for picnics, outdoor gatherings, or food preparation and come in a wide variety of sizes and forms. Wooden containers: Wooden containers are frequently used as food serving utensils or for aesthetic reasons. Artists and come in a wide variety of sizes and forms frequently make them. Wooden utensils can be used as decorative elements in a house or workplace as well as for serving meals.

1.3 MANAGEMENT

A vessel store manager's responsibilities include overseeing the everyday activities of the business, managing supplies, making sure customers are satisfied, and maintaining profitability. A vessel shop's success depends on effective management. A vessel shop needs to maintain the appropriate levels of goods in order to meet customer demand and keep carrying costs to a minimal. Effective inventory management includes planning for future demand, placing orders, obtaining and storing products, and monitoring inventory levels. Managing the vessel shop workforce comprises recruiting, training, and overseeing staff to ensure they are qualified to provide first-rate customer service. It also entails assigning tasks, planning workdays, and dealing with employee performance-related issues. The vessel shop can advertise to potential customers and attract new customers through discounts, social media, and advertising. Sales management includes establishing sales targets, monitoring sales progress, and motivating employees to meet targets. Successful money management is essential to the vessel shop's operation. This entails controlling the flow of cash, creating schedules, keeping an eye on expenditures, and making sure that all financial records are accurate. Customer service management is essential to ensuring that customers have a positive time at the vessel shop. This involves introducing yourself to customers, answering questions, resolving issues, and providing helpful advice

2.LITERATURE SURVEY

A SMART UNSTAFFED RETAIL SHOP BASED ON ARTIFICIAL INTELLIGENCE AND IOT

Lizheng Liu¹ , Bo Zhou **et.al has proposed** Unstaffed retail shop has been arising in the previous years and fundamentally impacted ordinary shopping styles. The traditional method, which is based on weighing sensors, is unable to detect what the customer is taking, so unmanned retail containers play an important role in this area. They can have a significant impact on the shopping experience for the customer. Based on artificial intelligence (AI) and the internet of things (IoT), this paper proposes a smart scheme for unstaffed retail shops to see if this model can be implemented. An end-to-end classification model trained using the MASK-RCNN method is developed for SKU counting and recognition using a data set of 11,000 images depicting 10 distinct stock keeping units (SKUs). The proposed solution in this study is able to achieve 97.7% counting accuracy and 98.7% recognition accuracy on the test dataset, indicating that the system can compensate for the shortcomings of traditional unmanned containers. In today's world, more and more businesses and consumers are paying attention to the efficiency and experience of shopping Unstaffed retail shopping is becoming more and more popular as the Internet of Things (IoT) and Artificial Intelligence (AI) develop and smartphones and mobile payments spread.

The Internet of Things (IoT) is a rapidly spreading concept that has influenced many aspects of human life. The background program is a shopping management platform. It allows sensors and intelligent hardware to connect to the internet. VIP management, order management, SKU management, and payment service are all implemented by it. This layer connects third-party services to the platform. The Apache server and the algorithm servo middleware make up the server and service layer. The fundamental HTTP service is performed by the Apache server. The connection between the algorithms and the background program layer is carried out by the algorithm servo middleware. The MySQL database and file storage services make up the majority of the database layer, which is used to store basic data, image files, and algorithms like facial recognition, SKU quantity statistics, and object recognition. [1]

IMPLEMENTATION OF LEAN PRINCIPLES TO IMPROVE THE OPERATIONS OF A SALES WAREHOUSE IN THE MANUFACTURING INDUSTRY

Atzori, L., Iera **et.al has proposed** The Internet of Things (IoT) envisions a future in which various applications and services can be made possible by connecting digital and physical things or objects (like smartphones, televisions, and automobiles) using the right information and communication technologies. The IoT's characteristics, such as an extremely large network of things, heterogeneity at the device and network levels, and a large number of events generated spontaneously by these things, will make it extremely difficult to develop diverse applications and services. By facilitating interoperability among the various applications and services, integrating heterogeneous computing, and communications devices, middleware can generally facilitate an easier development process. IoT middleware has been the subject of numerous proposals recently. These proposals mostly focused on wireless sensor networks (WSNs), which are an important part of the Internet of Things. However, they did not take into account RF identification (RFID), machine-to-machine (M2M) communications, supervisory control and data acquisition (SCADA), or any of the other three fundamental parts of the IoT vision. In this paper, we present a comprehensive analysis of the existing middleware solutions in relation to a set of requirements for IoT middleware. Additionally, open research issues, difficulties, and potential directions for future research are highlighted.

Many of the things we use every day are becoming wirelessly interoperable with attached miniature, low-powered or passive wireless devices (such as passive RFID tags) thanks to the development of numerous technologies such as sensors, actuators, embedded computing, cloud computing, and a new generation of smaller, cheaper wireless devices. These difficulties may be related to computation in general or concerns regarding communication. A middleware facilitates and coordinates some aspect of cooperative processing by providing a software layer between applications, the operating system, and the network communications layers. A middleware acts as a layer between system software and application software from a computing perspective. The IoT is likely to have a lot of different communication and system-level

technologies, so a middleware should be able to support both perspectives if they are needed. A set of requirements for a middleware to support the IoT is outlined based on previously described characteristics of the IoT's infrastructure and applications. These requirements are divided into two sets, as follows: first, the services that such middleware ought to offer, and second, the system architecture that it ought to support..[2]

IOT BASED INTERACTIVE SHOPPING ECOSYSTEM

Sharmila Anjumara K* and Wilson M et.al has proposed The Internet of Things aims to connect real-world entities and networked information systems. It connects things like smart phones, sensors, LED (light-emitting diode) displays, and even clothing via the internet, allowing them to communicate with one another and share information. The Internet of Things (IoT) is now used in virtually every aspect of life, including inventory management. As the variety and number of products and customers continue to rise at an exponential rate, inventory management is becoming increasingly complicated. Along with increased sales and decreased operational costs, store owners face the greatest challenge of optimizing the inventory management experience. It becomes extremely challenging for store owners to track and monitor a product's performance in terms of sales, shelf life, cost, and customer response with such extensive product lines. The Internet of Things (IoT) makes it easier to use Wireless Sensor Networks (WSN) to connect all of the players in a logistics system. It is challenging to store and process the massive amount of data generated by this interconnected network of devices. In this case, cloud computing serves as a facilitator and is extremely helpful in resolving issues with storage and processing capabilities. We present an Automated Inventory Intelligent Management System (AIMS) and an Interactive Shopping Model in this paper. Both of these systems make use of the Internet of Things (IoT) and the cloud to monitor, track, and manage products in real time. Additionally, we propose an algorithm that illustrates how our system operates. The iFogSim simulator is used to simulate the proposed system and algorithm. In order to accomplish this, the simulated results and the operation of our proposed system are presented.

The Internet of Things (IoT) and cloud computing can be used to create an automated inventory management system, resulting in the development of a smart shopping complex. However, there have been numerous proposals for inventory management systems over the past few decades, but none of them had features like real-time monitoring, traceability, on-the-fly stock data updates, epayment, data analytics, or secure customer authentication. Customary frameworks utilized manual strategies or scanner tag innovation for counting and overseeing operations yet neglected to adapt to the rising number of clients and enhanced coordinated factors..[3]

A LOCATION-BASED SMART SHOPPING SYSTEM WITH IOT TECHNOLOGY

lingfeng Shao! , Zhanyi Zhao, et.al has proposed Limitation is one significant piece of Web of Things(IoT) where the Area of Everything (LoE) framework assumes a significant part to work on most administrations in IoT region. When, on the other hand, we have a lot of data from IoT platforms, data mining techniques are essential for analysis. Indeed, a smart system service for IoT scenarios and applications can be created through the integration of location-based methods and the process of data mining analysis. A smart shopping platform with four components—the location of everything component, the data collection component, the data filtering/analyzing component, and the data mining component—is designed for this purpose. Then, at that point, a clever exact limitation conspire named "area orbital" is fostered that gauges the ongoing area of portable items (clients or everything) in light of both current and the past areas. Finally, the experiment is carried out in a shopping mall to examine the performance evaluation of the location-based scheme in practice. The experimental results demonstrate that the proposed plan has the potential to achieve significantly higher precision than other methods of localization.

However, the majority of the services provided by the current data-driven management systems are based on a single source or consistent type of data. Because of this attitude, the developed systems that were already in use did not get the most out of big data analysis. In point of fact, improve the level of interaction that exists between a shopping mall and its patrons by providing them with benefits like individualized information and special offers in real time. A location-based and real-time system for

predicting, customizing, and suggesting products and services combines the location of things with heterogeneous data from a variety of sources and analyzes it. Subsequently an easy to understand, area based and ongoing savvy shopping framework associated with a PDA application can help clients through a shopping center [6]. Users will be able to efficiently navigate the shopping mall by using such an application on their smartphones. This study develops a location-based system that enables a store to interact directly and individually with its customers, providing them with customized information about establishments or activities of interest based on customers' behavior, location, and actual shopping mall experiences. [4]

IOT BASED SMART SHOPPING CART USING RADIO FREQUENCY IDENTIFICATION

Chandadevi Giri , Sheenam Jain et.al has proposed The modern era of technology, when the majority of shoppers have to wait in line at the supermarket because doing so takes a lot of time. Due to the barcode-based billing process, a large crowd in the supermarket during discount offers and weekends makes it difficult to wait in long lines. In this regard, the Smart Shopping Cart based on the Internet of Things (IoT) is proposed. It consists of an Arduino microcontroller, Bluetooth module, RFID sensors, and a mobile application. Wireless communication is necessary for RFID sensors. The RFID reader, which effectively reads the information about each product, and the RFID tag, which is attached to each product. After this, every item data shows in the Versatile application. The mobile application enables the customer to easily manage their preferences-based shopping list. The shopping data is then wirelessly transmitted to the server, where billing is generated automatically. The goal of this experimental prototype is to eliminate issues with service quality and the time-consuming shopping process. In the real-world scenario of the future, the proposed system can be easily implemented and tested on a commercial scale. The proposed model is therefore more competitive than others.

The most important part of supply chain management is promoting products to consumers and distributors through the merchandising process. The act of bringing a group of people together at a single location to make purchases of goods is known as shopping. There are supermarkets and shopping

malls where people can shop. There, retailers show off their products to customers, and customers buy products based on quality, such as whether or not the ingredients are expired, the brand, a reasonable price, and how much they need. Traditional retailing is another name for this. When it comes to retail and urban planning, supermarkets are convenient. During the weekend, supermarkets are the busiest places. Making a list, typically with a pen and paper or on their mobile phone, is one of the fundamental steps in shopping, as the majority of customers have experienced. They are required to wait in long lines to pay their bills and spend a significant amount of time searching for items individually throughout the entire supermarket. The queues of people waiting have a negative impact.. [5]

RESEARCH ON PRODUCT PAPER PACKAGING CONTAINER AUTOMATION SYSTEM BASED ON COMPUTER BIG DATA

Min Yu¹ , Weimin Zhang , Peter Klemm et.al has proposed From three perspectives, China's packaging industry has developed a big data system for packaging: implementing information engineering, creating a platform for a collaborative symbiosis network of packaging information resources, and creating a product chain-centered industrial chain knowledge map Big data information acquisition, hierarchical division and management, problem and audience, visual transformation, and other thinking modes are utilized in packaging big data visualization design. Additionally, text information visualization, multi-dimensional information visualization, hierarchical relationship visualization, and other technologies are utilized in this design to realize the visual presentation of data from the packaging industry.

Based on the keywords extraction algorithm, the construction method of the product paper packaging container automation system is analyzed in this paper. After extracting keywords related to the key elements, the network data is analyzed. On the one hand, it emphasizes the significance of big data in commodity packaging design for online shopping; On the other hand, through the use of big data in online shopping commodity packaging design, it investigates novel concepts and approaches to the design of online shopping commodity packaging.. [6]

AN ADVANCED SYSTEM TO ENHANCE AND OPTIMIZE DELIVERY OPERATIONS IN A SMART LOGISTICS

Environment Michael S. Thompson, Scott F. Midkiff et.al has proposed A major concern in supply chains, particularly for e-commerce, is the optimization of order dispatch operations and delivery time prediction. This necessitates the implementation of cutting-edge solutions to cut delivery times, cut costs, and improve customer satisfaction. In practice, as the number of orders grows, they fail to justify scalable and long-lasting solutions. For this reason, effective logistics management necessitates accurate prediction and optimization of delivery operations. In the context of a smart logistics environment, this paper presents an advanced logistics service that calls for constant coordination among all involved parties. There are two main components to the advanced shipping system that is proposed: the delivery prediction model to determine the anticipated time of arrival and a hybrid optimization model to address issues with the path. The advanced system consistently outperforms standard dispatching methods, as shown by our demonstration, indicating that the proposed method effectively contributes to cost reduction and distribution chain optimization.

Products sold online are manufactured in various nations or regions in the context of e-commerce. As a result, logistics companies are primarily required to ensure the effective transportation of various manufactured goods to shipping centers over long distances. However, the current operations that are carried out in the shipping centers are still based on conventional approaches to providing the product delivery service. Additionally, it is necessary to guarantee a short delivery distance and a low average demand in shipping centers in order to fill shipping tasks for customers with large product demands. In addition to increasing delivery costs, these logistical characteristics also reduce delivery efficiency. As a result, logistics businesses can benefit from cost-effective and efficient solutions provided by the implementation of smart logistics environments. Smart logistics shipping methods were the subject of significant mainstream research [7]

CASE: A CONTEXT-AWARE STORAGE PLACEMENT AND RETRIEVAL ECOSYSTEM

Sidhartha Reddy Vatrappu et.al has proposed

Arising cloud-local advancements, for example, holder runtime and compartment orchestrator offer phenomenal spryness in creating and running applications, particularly when joined with microservice-style engineering. The microservice paradigm is being applied to a number of existing 5G-Telecom network products, including the element Management System (e-MS), 5G Core, and 5G Access. In a cloud-based environment, businesses can easily and cheaply scale their application; However, utilizing containers without sacrificing numerous cloud-native technology benefits is frequently challenging. The e-MS is designed to systematically store terabytes of stateful data per second and orchestrate nationwide 5G network elements (5GNEs). Because containers have an ephemeral state, the "stateful-ness" aspect of e-MS complicates orchestration. Stateful storage selection, content placement, and content retrieval operations within e-MS microservices are all subject to a number of challenges that are discussed in this paper. We propose CASE, A Context-Aware Storage placement and retrieval Ecosystem, which enables context-based operations to be intrinsically supported by the underlying e-MS application, as a means of overcoming these obstacles. By associating context information directly to 5GNE rather than fixed storage entities, our strategy ensures scalability and maintains the location-independent cloud-native philosophy. We show that CASE with e-MS can facilitate high performance despite dynamic 5GNE count agility, stateless e-MS replication, and stateful storage scaling without posing a significant signaling burden on the cloud environment through simulation with real data from one of the largest terrestrial telecom operators in the world. [8]

VESSEL MANAGEMENT EXPERT SYSTEM

T. Tran; C. Harris; P. Wilson et.al has proposed

The Maritime Avoidance Navigation, Totally Integrated System (MANTIS) is a unified collision avoidance system that has been proposed to enhance the safety and effectiveness of maritime transportation. Its operation is based on the idea that a system structure that makes marine transport deterministic removes the challenges and unknowns associated with marine navigation. The complex task of vessel management needs to be automated in order for it to function properly. A blueprint of the MANTIS engineering is given, trailed by a detail

portrayal of the vessel the executives Master Framework. The results of the simulation show how important the system is for using in the future.

Any ship computer can house the software for the vessel management expert system (VMS). From a technical standpoint, only one Expert System is required in any circumstance. Any vessel without an on-board Expert System receives advice from other vessels with one or, if available, from the VTS. As part of vessel planning and avoiding collisions while traveling, the Expert System must be able to handle complex encounters involving multiple ships, which is essential to the integrity and precision of MANTIS operation. The advice must be presented as a collection of journey waypoints (position and time) and must comply with collision avoidance regulations (COLREG), ship characteristics, and environmental constraints. The operator will be able to easily validate the solutions if the system is predictable and transparent. An expert system has been developed that can resolve complex encounters involving multiple ships. The MANTIS framework has made it possible to know every ship's current and future path. As a result, uncertainties are eliminated, providing a brand-new perspective on collision avoidance science. Instead of the conventional viewpoint that each ship takes care of itself to reduce the risk that comes with it, while adhering to collision avoidance regulations, ship and environment constraints, and optimally scheduling the path of all ships offline (before their journey begins) and online (for unforeseen and dynamic events) is now the challenge.

Decision-support aids use the current states of their own ship and the target ship to estimate the likelihood of future encounters and then calculate avoidance maneuvers based on these predictions. This system, on the other hand, uses information from waypoints to figure out encounter situations and maneuvers to avoid. Because future changes in ship course, as well as state errors and fluctuations, are unaffected, this method is more durable. The only condition is that the ships must arrive at their chosen waypoints within the allotted time. [9]

CLOUD BASED SHIPPING MANAGEMENT SYSTEM

Vivek Sharma; Aamod Krishna Tiwari; et.al has proposed Companies like Amazon, eBay, and even FedEx and DHL have, in fact, dominated the e-commerce sector for decades. Around the world,

shipping companies have increased their operations in response to the ever-increasing demand. Costs for cyber-based management systems and maintenance have also gone up as a result. We might think about making some cloud computing projects with more features and less money. Cloud-based shipping management systems can streamline the entire ordering process, from placing the order to receiving the product and receiving positive feedback from the customer. In order to make the data more automated and centralized, its efficiency is improved.

The company saves a lot of money, and all parts of the business have better visibility and scope as a result. It enables us to perform more effective real-time monitoring, resulting in precise models of the process's merging. A significant portion of the automation that takes place through cloud-based networks is accessibility to the entire operational team regardless of location or time. Additionally, it connects all supply chain stakeholders, providing a crucial strategy for inventory development. It prioritizes shipments that are moving slowly and aids in monitoring delivery networks. Because internal hardware is almost completely eliminated throughout the automation process, it is even less expensive to operate and maintain. Flexible, secure, and scalable best practices are readily available for businesses of all sizes. The enhancement of functionality once more improves connectivity, reliability, and ROI overall. Because the resources are located off-site in the cloud, it enables the businesses purchasing the technology to save money on IT infrastructure and management. You must be able to easily handle customer conversations if you want your business to grow to its full potential. Salesforce web services with integrated bots make it easier to communicate with customers one-on-one. [10].

3. MODULE DESCRIPTIONS3.1 EMPLOYEE MANAGEMENT SYSTEM

A software program created to assist vessel repair and maintenance companies in managing their workers' data, punctuality, pay, perks, and performance is known as an employee management system (EMS) in the context of a vessel shop. This system usually consists of various modules that seamlessly work together to offer companies a unified framework to handle their operations. Employee data, including contact information, job records, and personal information, are stored and managed by the employee information management

tool. Businesses can handle time-off requests, including those for medical leave, vacation time, and personal days, by tracking employee attendance with the assistance of the Employee Attendance Management module. The Employee Salary Management section creates payslips and assists companies in managing employee compensation, taxes, and perks.

An Employee Management System in a Vessel Shop may also include components tailored to the marine sector, like compliance management, safety instruction, and accreditation monitoring. Modules for managing shifts and timetables for staff members working on ships may also be included in this system, ensuring that the right people are accessible for duties like repairs and upkeep. An Employee Management System in a Vessel Shop can give companies a centralized tool to handle employee data, attendance, pay, perks, and performance, as well as their adherence to safety rules and licensing requirements. This method can assist companies in streamlining their processes, reducing administrative burdens, and improving general efficiency, which will increase revenue and boost client happiness. Overall, an employee management system in a vessel shop is a crucial tool for companies to effectively manage their workforce, ensure adherence to safety regulations and certification requirements, and enhance employee productivity and satisfaction, all while maintaining the safety and dependability of the vessels they are responsible for.

3.2 EMPLOYEE SALARY

A software program created to assist companies in managing employee wages, deductions, and perks as well as producing payslips is called the Employee Salary Management module in a Vessel Shop Management System. This module is crucial for making sure that wages are given on time and correctly, which is important for preserving employee motivation and happiness. This module can handle explicit allowances and deductions for sailors, such as extra compensation, food allowances, and deductions for lodging on board the ship. Payroll management: this tool can automate all The computation of total pay, deductions, and net pay. This lesson can assist companies in ensuring compliance with labour statutes and rules particular to the marine sector, like the marine Labour Convention. (MLC). Benefits management: This section can assist employers in managing employee

perks like paid time off, retirement programs, and health insurance. The Employee Salary Management section in a Vessel Shop Management System can assist companies in correctly and effectively managing employee pay and benefits, minimizing mistakes and saving time, by combining these features. Additionally, by ensuring adherence to labor laws and regulations, companies can enhance their image and lower their risk of facing legal and financial repercussions. Overall, a Vessel Shop Management System's Employee Salary Management feature is a crucial tool for companies to correctly and effectively handle employee pay and perks while ensuring conformance with labor laws and rules unique to the marine industry.

3.3 EMPLOYEE ATTENDANCE

To monitor employee attendance and handle time-off requests, such as sick leave, vacation leave, and personal days, companies can use the Employee Attendance Management module in a Vessel Shop Management System. In particular, when working on vessels, where schedules and dates are vital, this module is essential in ensuring that companies have the required people accessible for repairs and upkeep duties. The Employee Attendance Management feature in a Vessel Shop can be modified to suit the particular requirements of the marine sector. For instance, it might have attributes like:

Seafarers' particular working hours, such as the number of hours worked during a journey, leisure times, and a limit number of working hours per week, can be handled by this module. Management of hours and timetables for workers working on ships is possible with this feature, ensuring that the right people are accessible for repairs and upkeep jobs. Time-off management: This module can manage requests for time off, including those for sick days, holiday days, and personal days, and it keeps track of each employee's remaining leave amounts. conformance with labor laws: This lesson can assist companies in ensuring conformance with labor laws and maritime-specific regulations, such as the MLC, which establishes minimal requirements for living and working circumstances on board boats. The Employee Attendance Management module in a Vessel Shop Management System can assist companies in correctly tracking employee attendance and managing time-off requests by combining these features, which can decrease errors and save time. Additionally, by

ensuring adherence to labor laws and regulations, companies can enhance their image and lower their risk of facing legal and financial repercussions. Overall, the Employee Attendance Management module in a Vessel Shop Management System is an important tool for companies to handle employee attendance and time-off requests correctly and quickly, while ensuring compliance with labour laws and rules unique to the maritime industry.

3.4 CUSTOMER COMPLAINT SELECTION

A software program created to assist companies in managing customer complaints and swiftly resolving them is the Customer Complaints Management feature in a Vessel Shop Management System. This module is crucial for guaranteeing client happiness, enhancing brand image, and fostering client devotion.

The Customer Complaints Management feature in a Vessel Shop can be modified to suit the particular requirements of the marine sector. For instance, it might have attributes like: Tracking complaints: This feature makes sure that each complaint is quickly handled by keeping track of them from the time they are filed until they are resolved. Create support tickets for client complaints using this module, which makes it simpler for companies to handle and document complaints. System of notification: This feature can alert the appropriate staff when a new report is received, ensuring that it is handled quickly. Reporting and analytics: By generating reports and analytics on client complaints, this feature can help companies find patterns and trends that will help them better their goods and services. The Customer Complaints Management section in a Vessel Shop Management System can assist companies in managing client complaints and quickly resolving them, increasing client happiness and trust. Businesses can resolve underlying problems and enhance their goods and services by using this module to help them spot patterns and trends in client complaints. Overall, a vessel shop management system's customer complaints management feature is a crucial tool for companies to handle customer complaints, increase customer happiness, and foster brand loyalty.

3.5 MAINTANCE SYSTEM

A software program created to assist companies in managing the activities of their maintenance team and ensuring prompt repair of vessels and equipment

is called the Maintenance Team Management section in a Vessel Shop Management System. This element is crucial for ensuring that ships are secure, dependable, and well-maintained, lowering the possibility of malfunctions and maritime mishaps. The Maintenance Team Management feature in a Vessel Shop can be modified to suit the particular requirements of the marine sector. For instance, it might have attributes like: To make sure that upkeep is carried out at the most practical time, this tool can plan duties based on the working timetable of the vessel. To ensure that the maintenance staff has clear directions on what needs to be done, this tool can generate work orders for maintenance jobs. Asset management: By tracking and managing machinery and vessel assets, this tool can make sure they are well-maintained and maintained.

Reporting and analytics: This module can produce reports and analytics on maintenance operations, finding areas for growth and assuring compliance with legal requirements. The Maintenance Team Management module in a Vessel Shop Management System can assist companies in managing the activities of their maintenance team and ensuring prompt repair of ships and equipment, lowering the risk of failures and maritime mishaps. Additionally, by identifying potential areas for enhancement in their maintenance procedures, companies can cut expenses and boost productivity with the assistance of this module. Overall, a Vessel Shop Management System's Maintenance Team Management module is a crucial instrument for companies to control the activities of their maintenance team and guarantee the dependability and safety of their machinery and vessels.

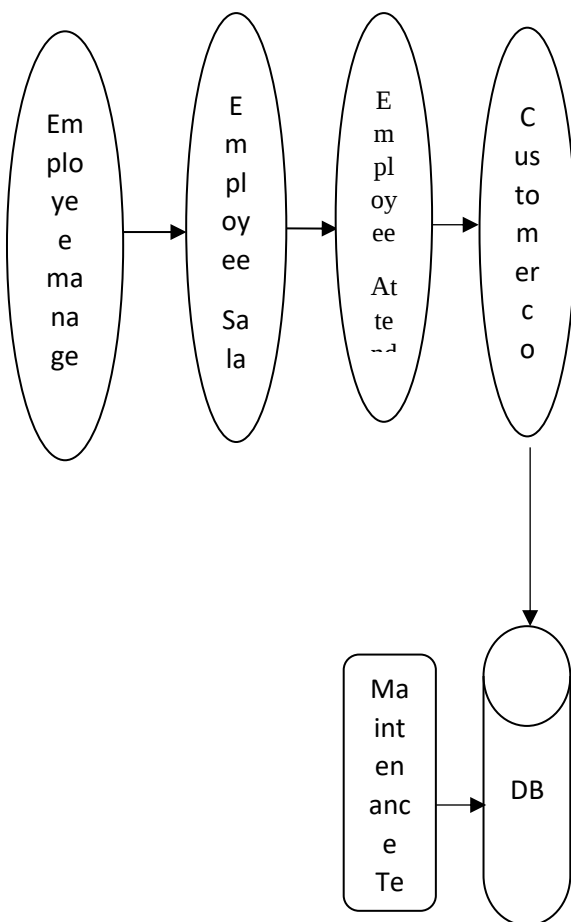
4. SYSTEM DESIGN

A software program called a "Vessel Shop Management System" was created to assist companies in the marine sector in managing their activities efficiently. To guarantee that all facets of vessel management are addressed, the system architecture for a Vessel Shop Management System should be thorough and well-organized.

Users should have easy access to the system's various components thanks to a straightforward and user-friendly user interface. All the data associated with the different components, such as employee data, salary data, attendance data, client complaints, and repair plans, should be stored in the database. To guarantee efficient operations, the system should

also be built to connect with other systems, such as bookkeeping software, payroll systems, and communication systems. Each element of the system should be created to meet particular business requirements. All employee-related data, such as employee details, work responsibilities, and the employee management module should manage performance reviews. To handle all salary-related data, including employee compensation, taxes, and other expenses, the Employee Salary section should be created. The employee attendance tool should track data on employee attendance, such as work hours, overtime, and vacation requests. All client complaints should be managed by the client Complaints module, which should also include a system for recording complaints, creating tickets, sending notifications, and reporting and statistics. The maintenance team's tasks, such as maintenance scheduling, work order generation, asset management, reporting, and analytics, should be managed by the maintenance team administration module.

5.DATAFLOW DIAGRAM



6.METHODOLOGY

System study and design come next in the process after gathering the requirements. In this stage, the requirements are divided into granular sections and components, and the system architecture is designed. The design team will produce a comprehensive system design paper during this phase that describes the capabilities of each module and how they interact to accomplish the system's overarching goals. The system design paper will also include information on the database schema, user interface design, and any integrations needed with external systems. The production team will use this paper as a guide to follow during the implementation stage. Implementation of the System: Based on the design paper, the execution part entails writing code and creating the system. The development team, who will evaluate each component as it is created to make sure it complies with the specifications. System testing, will build the system module by module: After the system has been created, it goes through extensive testing to make sure it functions as intended. During the testing process, any bugs or mistakes in the system are found and fixed in order to make sure it is user-friendly and satisfies the criteria. System Deployment: The system is set up in the working area after it has been tested and is available for use. Installing the system on the live server, setting it up for use, and instructing the end customers on how to use it are all part of this step. System Support and upkeep: To make sure the system keeps working correctly after launch, it needs regular upkeep and assistance. During this period, the system will be checked for mistakes, updated as necessary, and supported for end users who run into issues while utilizing the system.

7. CONCLUSION

A vessel shop management system is a crucial instrument for organizing the various facets of vessel maintenance and repair activities, to sum up. By offering a centralized tool for handling staff data, customer complaints, and repair teams, it can streamline operations, increase productivity, and improve customer happiness. A well-defined approach, including requirement gathering, system analysis and design, system execution, system testing, system deployment, and system upkeep and support, is necessary to create an efficient vessel shop management system.

It is possible to create a system that fulfills stakeholders' expectations and aids in the accomplishment of the business's general objectives by using this methodology and closely collaborating with them to comprehend their requirements. With the proper system in place, vessel shop managers can organize their business processes more effectively and concentrate on giving their clients high-quality services, which will increase client happiness, boost earnings, and make their company more profitable.

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