Order Management System for Time and Quantity Saving of Recipes Ingredients Using GPS Tracking Systems

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ABSTRACT Order management system is one of supply chain management system which has an important part related to the customer satisfaction and profit of the company. Order Management process is a software which is supportive for the businesses work hardware goods, where storeowner saves the records of sales and purchase. Mishandled record means disappointed clients, too much money tied up in storerooms, and slower sales. In the current scenario, people place the orders customers must visit hotels or cafeterias to know about foods and then delivered order and pay. In this process time and manual work is required. Due to the enhancement in technology, it is very easy for us to buy all the things of daily use by ordering online on E-Commerce sites. But in this advanced era of technology, we did not have any application or site for buying ingredients of the recipe that we want to make. In this paper, we are saving money, time, and Quantity of ingredients from wastage. In which we are providing Recipes and the Quantitative ingredients for that recipe within 1 to 2 hours. This system will provide quick service of order delivering to our consumer.

INDEX TERMS Inventory management system, just in time, GPS tracking system, home of distributive ingredients (HODI).

I. INTRODUCTION Order management is the heading and control of actions with the fundamental reason for existing presence to get the correct inventory in the ideal spot at the perfect time, in the exact amount, in the correct structure, and the correct expense [1]. Inventory for inspirations behind this system contains materials and extras, which support the generation and collecting process, however, do not shape some helping of the last item or unpolished materials. Stock the executives assume a significant job in each organization as any inadequate stock framework will bring about the loss of clients and deals. A compelling stock administration can create more deals for the organization which legitimately influences the presentation of the organization. In this manner, it requires a deliberate stock administration which is overseen by a gathering of representatives who are specialists around there [2]. Most concentrate on assembling a division focus on the western organizations as the mindfulness about efficient stock the executives exist in the west. Accordingly, this examination endeavors to augment the topographical degree by inspecting a material chain store in Malaysia.

Stock the board and creation work connected at the hip reliably to accomplish one objective, which is generated. Generation is the focus to prompt available stock; inability to do that will bring about stoppages and further creation misfortune. The point of Rustenburg Warehouse is to limit inventory-holding, which will decrease the inventory cost (Consumable Store stock Count and Adjustment Policy and Procedure [1]. Contrasted with bigger associations with progressively physical space, in littler organizations, the merchandise may go legitimately to the stock territory rather than an accepting area, and if the business is a discount wholesaler, the products might be done items as opposed to raw materials or parts. The stock is then pulled from the inventory areas and moved to generation offices where they are made into completed goods [2]. Practically 60% of the money is distributed for the stock in an endeavor. Materials Management is related to orchestrating, verifying, taking care of, and giving the appropriate material of the right quality, the perfect sum at the right spot in helpful time to coordinate and schedule the creation development.
in an integrative course for a mechanical undertaking. Stock issues of too extraordinary or too little amounts available can cause a business fault. If a suggestion meets the stock-out of a basic inventory thing, group ends could result. Stock the board shows the extensive casing work of management stock. The stock administration procedure is progressively helpful in deciding the perfect step of stock and determining answers to the issue of good stock and lead time. Stock the executives have gotten profoundly created to address the rising difficulties in most Business elements and this is in light of the way that inventory is a benefit of the specific highlight [3]. With the increasing weight and competition from worldwide powers on the exchange, many nations have received the operation of Just-In-Time (JIT) inventory frameworks. All over the years, many associations have attempted to use JIT to deal with their inventory administration frameworks and decrease costs identified with an inventory. The use of the Just in Time Technique as an instrument to manage stock. By using this device, the cost can be reduced, and this is one of the benefits of using JIT [4].

Due to the enhancement in technology, it is very easy for us to buy all the things of daily use by ordering online on E-Commerce sites. But in this advanced era of technology, we did not have any application or site for buying ingredients of the recipe that we want to make. In this paper, we are saving money, time, and Quantity of ingredients from wastage. In which we are providing Recipes and the Quantitative ingredients for that recipe within 1 to 2 hours. This system will provide quick service of order delivering to our consumer. In this system many recipes in a categorized form in the exact quantity of ingredients needed for a specific recipe. Our consumers can register themselves for using the application through the sign-up to our application. All the users have their unique accounts for login to the application. Our application will also provide our customers with a special service for uploading their own recipes. Users with his valid login can upload their recipes to our application and the admin will approve that request. Our application is also providing the facility of video tutorials through which customers can see how to make a specific recipe. Application is also providing the facility of order tracking. Users can track their order by the time-to-time update of the order delivery. There is also an option for recipe customization. Users can customize ingredients for the recipe in the quantity that they needed for a recipe.

II. LITERATURE REVIEW

A. INVENTORY MANAGEMENT AND COMPANY PERFORMANCE

Stock Management Every organization has its stock where every one of the organizations deals with the stock by different methods for overseeing. In any case, the motivation behind the stock is, where the stock should constantly fit to be used and the inventory cost must be low. Stock the executives suggests to every one of the workouts involved with creating and dealing with the inventory levels either the stock is raw materials, semi-completed material or completed great, so enough supplies must be always accessible and the structure must confirm the expense of over or below stocks are in every case low [5].

B. INVENTORY MANAGEMENT SYSTEM AND CONTROLS

Stock the board and generation work connected at the hip reliant to accomplish one objective, which is creation [1]. Stock is considered as a supply of products that are kept up by a business fully expecting some future interest [4]. Creation is reliant on prompt available stock; inability to do that will bring about strikes and further generation disaster. The point of Rustenburg Warehouse is to limit inventory-holding, which will decrease the stock expense [1].

C. INVENTORY MANAGEMENT

Stock is the inventory of raw materials, somewhat completed products called work-in-progress, and completed merchandise, a suggestion keeps up to meet its effective needs. It speaks to a sizeable assumption and a potential source of waste that should be thoroughly controlled. The amount to which inventory must flag that a request must be put to renew a thing [3]. Inventory Management System is programming, which is useful for the organizations work tool shops, where storekeeper keeps the records of offers and buy. Stock methods disillusioned clients, an excessive amount of money tied up in distribution centers, and more slow deals. This task dispenses with the desk work, human flaws, manual postpone and accelerate the process. Stock Management System will be able to follow deals and accessible stock, advises a storekeeper when it’s a great opportunity to reorder and the amount to buy Inventory [2]. The cost of holding inventory, general product production, and the risk of undesirability, especially in swiftly varying markets, make the payment of holding large portfolios of complete goods extreme and that high demand thing naturally have safety store assigned to them, but in many establishments, there are so many very-low-demand items that keeping any store of these objects is excessively expensive, so they maintain that firms must now provide good facility while keeping minimal portfolios. So, inventory management methods are important facets of any organization [6].

D. JUST IN TIME (JIT) IN INVENTORY MANAGEMENT

With the expanding weight and rivalry from worldwide powers on the exchange, numerous nations have embraced the utilization of Just-In-Time (JIT) stock frameworks. Throughout the years, numerous associations have attempted to utilize JIT to deal with their stock administration frameworks and diminish costs identified with stock. The utilization of the Just in Time Technique as an apparatus to oversee stock. By utilizing this device, the cost can be diminished, and this is one of the upsides of utilizing JIT [4]. This exploration paper will distinguish the focal points and burdens of JIT. It will recognize whether JIT is a way of thinking that South African little to-medium ventures (SME’s) will profit by when it
is actualized. The consequence of this paper is to perceive whether the use of the JIT thought will give a beneficial effect in transit stock is overseen in South Africa for creation associations [4].

E. CUSTOMER RECOMMENDATIONS BASED ON RECIPE INGREDIENTS

Recipe materials are used to calculate customer ingredients in the recipe ingredients-based reference approach. The customer and recipe directions are created based on ingredients or the length of the vectors.

Abstract all recipe ingredients from recipe records. Obtain exclusive ingredient terms with consistent quantities. Ingredients should be separated into two sets. Ingredients separated with and/or/instead are separated into unit set ingredients. The quantity associated with ingredients for the recipes is measured as the rate of ingredients existence in the recipe. Rates from all recipes as terms and quantities will be created as an inverted directory. Analyze maximum ingredient rates of the recipes and the total number of recipes. Show all recipes based on ingredients [7].

The method and system also contain taking and arriving into the Organization’s new orders from clients of the Stock for making, supply, and carry-out of items [8]. The delivery boy starts from the store for supplying, the Global Positioning System coordinates of his position is referred back to the vendor, sender updated map with the place of the delivery, which is sent to the client [9].

F. GPS TRACKING SYSTEM

Global Positioning System tracking system is a collective method to get vehicle position info in real-time for navy scheduling [10]. The receiver receives the data content to a distant receiving position, for a show to a significant database. Photo electronic Cells are attached to the inclusion to recharge series Which deliver power to the electrical modules of the tracking component.

The sign of the current GPS (Global Positioning System) started as an army project in the ’50s. The first two tries were complete by the Navy. Transit was the first satellite-based direction-finding system. It used seven low-altitude glacial satellites and radio signals to get relatively correct information about the location of individual ships. Access to the info conveyed from the hand-held GPS method will be accessible over the Internet. It will be available to any device that contains a graphical web browser such as laptops and Internet cell phones. The map will be addressed on the current location of the hand-held unit [11]. The GPS data is managed in a data processing workplace where the location and speed of the sensor, at the time the data has been an experiment, is computed. Our proposed system suggests an actual tracking system using a client-server model. Our buyer is an entrenched device with a GPS/GPRS section to recognize device location information that is sometimes communicated to a server. [12]. Glencore had various creation workplaces all around the world and provided metals, minerals, unrefined petroleum, oil items, coal, flammable gas, and rural items to international clients in the car, control age, steel generation, and sustenance handling enterprises [13]. The job of stock administration is to keep up an ideal stock level for each item or thing, where the plans that arrange and control inventory must be founded on the item, client, and the process for the item that available in the stock [14].

III. PROBLEM STATEMENT

There are many problems peoples are facing. Near About 80% of housewives face the problem of unavailability of ingredients from the local market and the wastage or expiration of the ingredients. HODI is helpful for all of them.

1. In this era of technology, they are using the old way of buying things while going to the local market while wasting there a lot of time.
2. Face the problem of unavailability of ingredients from the local market for making bakery items or fast food.
3. They find the bulk of ingredients rather than the quantity in which they need it.
4. Do not know how to cook bakery items or fast-food items.
5. Waste there a lot of time in finding ingredients.

IV. METHODOLOGY

Page elements should be visualized on paper before building them on the computer. Just as you draw a site map to plan the site, use cartoons and storyboards to begin blocking out the site’s appearance and navigational scheme. In the existing system, people must go to the market to purchase ingredients from the market to make recipes. A lot of time is wasted on it because all the required items are not available in one place and some items are even not available in local markets. Some items are available in large quantities and get expired after a single use because we do not require that item on other recipes, so it is the wastage of money and items also.
A. SITE MAPS
1) HODI WEBSITE
2) HODI MOBILE APPLICATION

B. NAVIGATIONAL MAPS
1) HODI ANDROID APPLICATION
2) HODI ADMINISTRATION WEB PORTAL

V. IMPLEMENTATION
A. REGISTRATION AND LOGINS
HODI provides registration and login to end-users. For using the HODI system, they must register themselves and then login. System provider’s logins and registration functionality to all its end users.

B. CUSTOMER HOME
By SIGNING IN as a customer user will proceed to the customer homes.

Clicking the Order Recipe button to view the recipes and order any given recipes. It will redirect the user to the new screen containing the recipes. Clicking the Video Tutorials button to view the videos of the given recipes that how to
make that recipe. It will redirect the user to the new screen containing the links to watch videos. Clicking the Order History button to view the recipes the user had ordered before and the current ordered recipes that are not delivered yet. It will redirect the user to the new screen containing the history of all the orders.

1) DRIVER HOME
By SIGNING IN as a Driver user will proceed to the customer’s home. Clicking the My Profile button to view his/her profile and to update the information given in the profile.
Clicking the Order Location button to view the location from where he has to deliver the order. Clicking the Order History button to view the orders deliver before and the current ordered recipes that are not delivered yet.

C. CUSTOMER SIDE NAVIGATION
Customer can perform different task from site navigation...
3) HOW THE SYSTEM WORKS AS A WHOLE

As you can clearly see in figure 9 that firstly user login from the valid username and password. Then user Sees the available recipes which are in a categorized form. Use order for a specific recipe after recipe customization and the order request will go to the admin site. Admin approves that request and notifications are sent to the user’s mobile. Admin manages all the orders and users. Then after receiving the order will deliver and the

Order tracking will talk about the order updates order Request received, Order on the way, order delivered, etc. The figure also shows the option of the Chabot (Direct chat) option and the option of video tutorials. Video tutorials will be uploaded by the admin side for the help of users to make the recipes. And user can also share their secret recipes that request will go to the admin side if the admin approves their request, then Their recipes will also show on the main recipe page.

VI. TEST CASES

This deliverable is based on the IEEE standard of software testing i.e., IEEE SOFTWARE TEST DOCUMENTATION Std 829-1998. This standard describes a set of basic test documents that are associated with the dynamic aspects of software testing (i.e., the execution of procedures and code). The standard defines the purpose, outline, and content of each basic document. While the documents described in the standard focus on dynamic testing, several of them may apply to other testing activities (e.g., the test plan and test incident report may be used for design and code reviews). This standard may be applied to a commercial, scientific, or military system that runs on any digital computer. Applicability is not restricted by the size, complexity, or criticality of the system.
A. SEARCH RECIPE CATEGORICALLY
See Table 1.

B. ORDER RECIPE
See Table 2.

C. DELIVERY LOCATION ON ANDROID MAPS
See Table 3.

D. ORDER TRACKING
See Table 4.

VII. ANALYSIS & DISCUSSION
We are saving money and Quantity of ingredients from wastage. There are many ingredients which we use only in small quantity, but these are available in packets those Packets are useless. Many ingredients are not available in the local market. We provide ingredients in the exact quantity it is needed for and providing alternatives. We are providing recipes and ingredients at a reasonable price.

People purchase ingredients in the market to make any recipe, but ingredients are available in packets in large quantity and sometimes they did not find ingredients from their local market. There are many ingredients which we use in small quantity, but these are available in packets after used those packets will expire after the due date. We are making an Android Application from which people order us our admin portal is web-based and we are using the Firebase database for data. Our application will provide the list of categorized recipes, order tracking system, and we also have the option to upload your own recipes. Also, we are providing video services through which the user can see the way to cook the specific recipe. Users can also see their search history and have the option of direct chat and they can also rate the recipes Admin site on the web will manage all the orders and user’s data.
TABLE 4. To track the order of the customer.

| Test Engineer | Wardah Naeem |
|---------------|--------------|
| Test Case ID  | TC4          |
| Related UC/FR/NFR | UC-24      |
| Date:         | 05-12-19    |
| Purpose:      | The purpose of this test is to make sure that the orders from customers are tracked smoothly and to get to know how many orders are delivered on process pending and canceled |
| Pre-Req       | The user should login HODI web application as an Admin and get order request from the customer |
| Test Data:    | The System will display requested orders and the status of the requested order |
| Steps:        | There are some steps to do this test. These steps are as follows: 1. Signin into Admin Portal 2. Click the View Orders 3. Check the order status |
| Status:       | Pass         |

VIII. CONCLUSION

All results of test cases are positive. The Whole System is working well. The system is working without bugs/errors/crashes. HODI is tested at each aspect according to its test cases. We provide ingredients in the exact quantity it is needed for and providing alternatives. We are providing recipes and ingredients at a reasonable price. We are making an Android Application from which people order us our admin portal is web-based and we are using the Firebase database for data. Our application will provide the list of categorized recipes, order tracking system, and we also have the option to upload your own recipes.

Know HODI is a Bug-free/error-free and crash the free tested system. Working well in all its functionalities.

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