

Smart Product Expiry Tracker for Efficient Alerts for Freshness Management

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Abstract— The goal of this project is to create an alert system that alerts managers and store owners when inventories or items are ready to expire. The researcher set out to build a product/Inventory expiry system that controls product expiry in a computerised and optimal method to enable shop owners to verify the validity of items, given the difficulties they confront with losses and health risks caused by expired products. The shop manager is alerted by the product expiry management system about products or things that are about to expire so that they may take immediate action.

Keywords— product/Inventory, notifies/alerts, health hazards.

I. INTRODUCTION

Products are regarded as the organization's business resources. This involves handling the product in a way that allows for proper review at any moment in accordance with the needs. In order to minimise business losses or harmful health risks for customers, it is crucial to have a web-based product expiration system that can generate reports, report product expiration dates, maintain stock balances, and provide information about purchases and sales within the company. Both small and big company companies can use these online tools to manage their production house supplies. We choose to add some of the essential and common characteristics that any product expiration system should have after analysing the other systems. Using HTML, CSS, and PHP, the Product Expiration System is a fully functional online application. The primary goal of the project is to create a Product Expiration System Model software that will display all of the organization's stock information. It is an online program with an administrator component for inventory management and system maintenance. The administration of an organization's stock is the foundation of this application.

The application includes the organization's basic profile, sales information, purchase information, and expiration dates. The option to update the inventory is also included. A product is a good or service that is put up for sale. It may exist in a cyber, virtual, or physical form. Each product has a cost of production and a price at which it is sold. The market, quality, marketing, and targeted group all affect the price that may be paid.

II. LITERATURE SURVEY

Every mentoring program is built on top of Performance Analysis Systems. Without a doubt, a person will progress with the guidance and assistance of statistical data, which will also help the business where he works succeed. A background inquiry is carried out in order to look at similar contemporary approaches that are utilised to analyse student performance. Before starting our literature research, we first learn about three existing systems that are comparable to the suggested system.

Recently, a number of applications have been created to notify users of the expiration date. The product name, purchase date, and expiration date must be manually entered by the user in the [8] app. Reminders are generated a few days before to the expiration date. But manually entering the name and expiration date of every product you've bought is tedious, time-consuming, and ineffective.

The software in [9] aims to create a simpler method of inputting product information by just utilising the smartphone's camera to scan the product's barcode. The program does not, however, include a database for translating the barcode to the product name; instead, the user must manually construct the table for each product they use, which is an overhead. Samsung recently unveiled the Family Hub refrigerator [10], which features a huge display unit

attached to the refrigerator and three cameras for taking pictures of objects within. Using drag-drop reminder notes, the user may manually specify the expiration dates of the things that are visible to the cameras. Since many products are hidden from view by the front cameras, this approach requires human input and is not suitable for usage in refrigerators.

In [11], the idea of using QR fridge magnets to monitor food expiry dates is presented. Each QR fridge magnet gadget contains a CPU, display, and hardware for scanning QR codes, and it is exclusively used to track the expiration date of a single product. This concept requires the consumer to pay for many QR fridge magnet devices, which is an expense. In contrast to previous similar initiatives, the proposed work aims to make data entry simple by allowing users to scan a single QR code on the receipt. Google Home now has access to the expiration dates, enabling it to respond to enquiries about them and further the smart home revolution.

III. SYSTEM IMPLEMENTATION

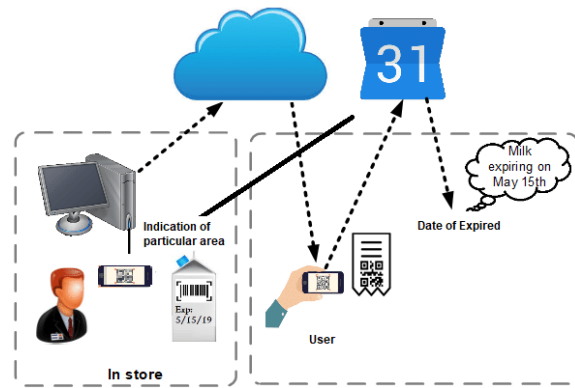
Existing System

Consumer health risks and significant financial losses for companies have been the main issues caused by outdated goods. Human error still occurs when small and medium-sized business owners manually take inventory of their items. Exposure to expired items can cause a variety of health problems for customers, from unsettled stomachs to food poisoning (which can be fatal).

In addition to potential legal action, the business owner will lose money if the merchandise in the store expires without prior warning.

Proposed System

In order to help business owners take inventory and manage product expiration dates, an app-based system was developed. This system eliminates the time-consuming tasks and activities involved in calculating and taking inventory of large products, which often lead to large business owners missing expiration dates, miscalculating, and discarding some crucial figures. With just a single click, business owners can now take inventory, check product expiration dates, and calculate the number of product



Proposed Architecture

Methodology

1 Registration: In this step, the user must first register by providing personal information such as his name, email address, cellphone number, password, and so forth.

2 Login: Following a successful registration, the user is sent to the login page, where they must provide a distinct username and matching password.

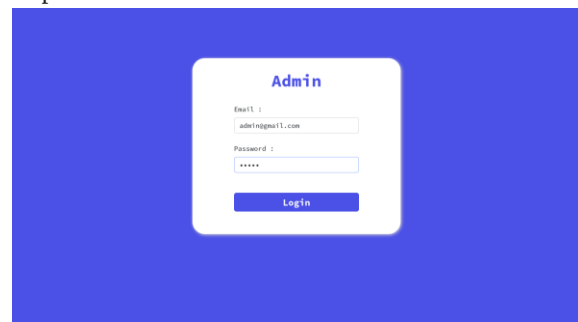
3. Choose Categories: During this step, the user must choose from lists of options for categories like Food, Documents, Drugs, Electronics, etc.

4 Expiration Date: The user must enter the expiration date in this step. They can do this manually or by scanning the text written on the product using their smartphone's camera.

5 Reminders: At this point, the user enters how many reminders they would want to get about a certain product, or how often they would like to be informed about it.

6 Notification: This is the final phase of the project, during which the user receives a product reminder via email or regular text message sent to the registered email address and cell number, respectively.

Experimental Results



Admin Home Product Logout

Expiry List

#	Product Name	Rate	Stock	Expiry Date
Nothing Found				

Admin Home Product Logout

Product :

#	Product	Rate	Stock	Expiry
Nothing Found				

Add Product

Admin Home Product Logout

Product :

#	Product	Rate	Stock	Expiry
1	OH	100	5	2023-03-04

Product Added Successfully

Admin Home Product Logout

Expiry List

#	Product Name	Rate	Stock	Expiry Date
1	OH	100	5	2023-03-04

IV. CONCLUSIONS

In order to prevent needless food waste and increased grocery expenses, this project aims to develop software that will assist us in reminding us when any product is about to expire. As software, it retrieves data from databases that include the expiry date of every product that the administrator has entered, and it notifies the shop owner of this information. In order to help business owners manage product expiration dates and take stock, an app-based system for product expiration was developed. This system eliminates the time-consuming tasks and activities involved in calculating and taking stock of large products, which often lead to large business owners missing

expiration dates, miscalculating, and discarding some crucial figures. With a single click, company owners can now calculate their remaining inventory, verify product expiration dates, and take stock.

A cutting-edge cloud-based smart expiration system that is compatible with Google Home is suggested for the future. The suggested solution allows customers to access expiring products using Google Home with voice commands and immediately downloads expiration dates to their smartphones by just scanning a single QR code. Future projects include developing an iOS smartphone app and integrating with Amazon Echo.

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