Literature Survey of Product Expiry Alert Management System

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ABSTRACT

This project is aimed at developing an alert system which notifies shop owners and managers of products/inventory which are about to expire.Faced with the challenges shop owners face with loss and health hazards brought about by expired products, the researcher aimed at developing a product/Inventory Expiration System that manages product expiration in a computerised manner.The Product expiration management system notifies/alerts the store manager on products expiring soon for prompt attention and decision. The system was built with PHP, MYSQL and Python. Product expiry management system is very convenient for managing, input, output, and finding the data so as to make the messy supermarket data specific , visualisations , and rationalisation . Product management is a vital function to help ensure the success of manufacturing and distribution companies and lately retail stores. The effectiveness of Product management systems is directly measurable by how successful a company is in providing high levels of customer service, low inventory investment, maximum throughput and low costs.

Keywords: - *MYSQL , PHP, Python , Visualisation , Hazards*

1. INTRODUCTION

Products are considered as the business resources for the organisation. This includes managing the product with appropriate ways to review any time as per the requirement. Therefore, it is important to have a web-based Product Expiration System which has the ability to generate reports, report products expiry dates,maintain the balance of the stock, details about the purchase and sales in the organisation, which helps to minimise losses to the business or negative health hazards to consumers. These web applications can be used by large or small business organisations for the management of their stock in the production houses. After Analysing the other Product Expiration systems, we decided to include some of the common and key features that should be included in every Product Expiration system. The ProductExpiration System is a complete web-based application designed with HTML, CSS and PHP technology.

The main aim of the project is to develop Product Expiration System Model software in which all the information regarding the stock of the organisation will be presented. It is an internet based application which has an admin component to manage the inventory and maintenance of the inventory system. This application is based on the management of stock of an organisation. The application contains general organisation profile, sales details, Purchase details and expiration dates presented in the organisation. There is a provision of updating the inventory also.

2. LITERATURE REVIEW

2.1 Automated Billing System

In general, the consumer takes time to purchase something in a huge store. The main part of the time is spent searching for the item then queuing and waiting for their turn to make payment. A long time at the teller waits for a turn to scan the product and payment. This system consists of facilities to find the items in the cart using QR CODE which adds up the items and represents the number of items in the cart and amount should be paid. If in case, the customer misplaced the items without scanning the system detects the fault made by the customer it will be detected by the load cell. A buzzer is also enabled to notify the fault. If a customer needs any product system help to find where it is in a huge store. .The inventory details are updated in the database to calculate the

quality management of the shopping Centre. The mobile application was designed for Android by using eclipse software. The scanned product is added to the bill(server) if we consumers need to remove the product from the bill(server) consumer need to scan the same product again to remove.

The mobile application consists of a QR scanner which is used to collect the data of the material that user needs and display in LCD display helps them to make a budget purchase, it also helps the consumer to navigate the material that the user needs in the huge store to collect in their trolley. The mobile application was connected to the trolley through the Wi-fi module. We designed a mobile application that helps in the way of the voice command to search for material in huge stores . It also replays as a voice command.
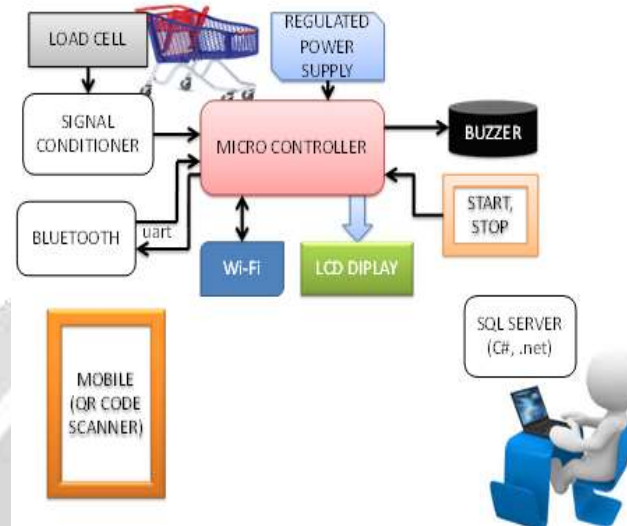

Fig.- 1: System Architecture

2.2 An Overview on Pharmaceutical Drug Recalls

Every year drug recalls occur routinely. The product recall is resorted to if there is evidence that the use and the continued presence of a batch of a product on the market presents a risk to the health of the user or a local regulatory authority directs a recall. A company must, therefore, have a system for speedy and efficient removal of unsatisfactory material from the market. There should be a written procedure that must define-who is responsible for deciding to initiate a recall and how the product, including samples, can be traced and removed from the market.

Product recall not only affects the company financially but also affects company reputation, brand integrity. Thus, taking responsibility and fast actions are the safest ways to save brand recognition and public health from product recalls. So the regulatory bodies have implemented measures to ensure that the product recalls are handled properly by alerting the public and removing the product safely from the market.The defective products associated with quality include Not of standard Quality, adulterated or Spurious medicine. Safety and efficacy connected recalls embody serious adverse reactions and death. This has been discovered and declared as not of ordinary quality by Government Analysts, supporting incidents wherever serious adverse effects or death are reported. Assessment should be made of the seriousness of the defect, its potential for inflicting damage to the patient. Legal proceedings were taken by the agency if the orders don't seem to be followed. Hence, a good recall procedure ought to be followed by the corporate to reduce harmful effects on the public. Nowadays, product recalls are common, thus firms should follow bound methods to reduce the recollects .

2.3 Waste Recycle Management System based on Product Barcode

This system emphasises on building up the setup of secondary markets to provide the recycling services for disposing of the waste in a formal way that help to control the environmental issues. After analysing the culture of the Indian market, a market driven solution is proposed to reduce- to reuse and to recycle the product waste that enable the competition in the secondary market.
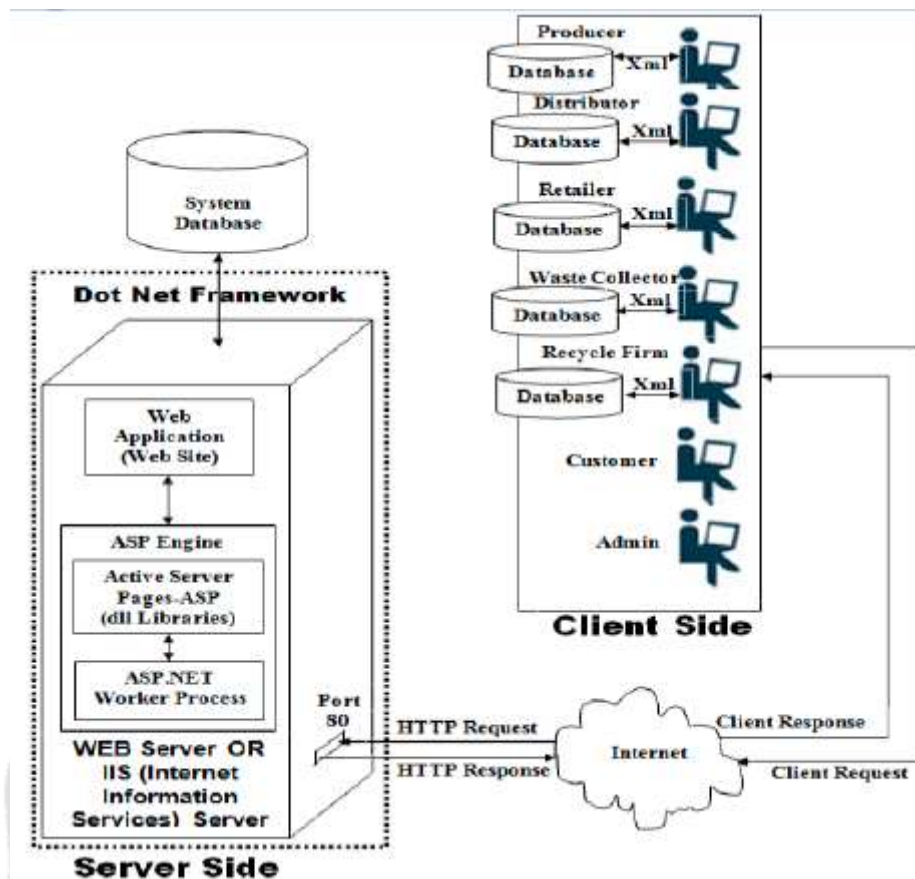
Fig.- 2: System Architecture

1. New User Registration Module: -To register the new user with the system. A PAN card number issued on the name of an individual or on the name of a company is mandatory.

2. Registered User Validation Module: -To access the functionality of the system user needs to enter the user-name and the password which is registered at the time of Registration process.

3. Request to update the Product Status as "SOLD" to the customer: -The customer pay an extra charges that has been included in the MRP (Maximum Retail Price) which is deposited in the bank. Also, a predefined part of commission of the distributor-wholesaler (dealer)- retailer on the sales of each product, is deposited in the bank and credited when the customer returned the product waste. Since, many malls and wholesalers directly sell the product to the customer with mega discounts, due to that customer may ignore to return the waste. Hence the recycling responsibility is also added on their shoulders, which forces them to offer the mega discount if and only if the product waste has been returned by the customer. This provision increases the success ratio of the system.

4. Request to update the Product Status as "Returned": - At the end of product life cycle customer returns back the product waste to the appropriate authority which initiates the waste product life cycle (WPLC).

2.4 FoodAlert

 The objective of FoodAlert is to limit the food waste of application users by planning out food expiration and usage. FoodAlert will be a platform for users to see their food usage trends and plan their most optimal food usage. FoodAlert will also allow alarms to be set for expiration deadlines to help cleanliness of the kitchen environment and prevent pests.

FoodAlert will help consumers by allowing the transfer of information from food purchases onto the FoodAlert calendar and database. In the application, users will see when certain food items expire, plan out meals, and analyse their own food waste. By facilitating user planning, FoodAlert will enable consumers to monitor how much produce they purchase and cut back on food waste in households. The food saved with FoodAlert can be left up to the retailers for distribution to the homeless or to farmers to be used as fertiliser, minimising the food that ends up in landfills.

3.CONCLUSION

In this paper, a state-of-the-art cloud-based, Google Home accessible smart expiry system is proposed. In the proposed system, the expiry dates are automatically downloaded to the customer's smartphone just by scanning a single QR code, and expiring items can be accessed using Google Home using voice command. Future work includes making the smartphone app for the iOS platform and interfacing with Amazon Echo.

8.REFERENCES

[1] Waste in America: Statistics and facts on food & water, Sound Vision, 2019. [Online]. Available: http://www.soundvision.com/article/waste-in-america-statistics-and-facts-on-food-water

[2] T. W. Jones, "Using contemporary archaeology and applied anthropology to understand food loss in the American food system," Report by Bureau of Applied Research in Anthropology, University of Arizona, 2004.

[3] P. Mitchell, "Health effects of eating expired foods," 2015, [Online]. Available: http://www.livestrong.com/article/485198-healtheffects-of-eating-expired-foods/

[4] Moulds on Food: Are They Dangerous?, United States Department of Agriculture Food Safety and Inspection Service, 2013. [Online]. Available: http://www.fsis.usda.gov/wps/wcm/connect/a87cdc2c-6ddd-49f0-bd1f393086742e68/Molds_on_Food.pdf?MOD=AJPERES

[5] T. H. Khan, "A cloud-based smart expiry system using QR code," IEEE International Conference on Electro Information Technology (EIT 2018), pp. 245 – 248, Rochester, Michigan, USA, May 2018.

[6] QR code standard (ISO/IEC 18004), 2000, [Online]. Available: http://www.swisseduc.ch/informatik/theoretische_informatik/qr_codes/docs/qr_standard.pdf Google Home, 2020, [Online]. Available: https://store.google.com/us/product/google_home?hl=en-US [8] Best Before Manager app, 2020, [Online].Available:https://play.google.com/store/apps/details?id=com.bokang.myproj.best before manager free.

[7] Best Before TPP app, 2020, [Online]. Available: https://play.google.com/store/apps/details?id=pl.jacek.jablonka.android.tpp

[8] Samsung Family Hub refrigerator, 2020, [Online]. Available:: http://www.samsung.com/us/explore/family-hub-refrigerator.

[9] R. Darell, "QR fridge magnets keeps track of your food's expiration dates," 2013, [Online]. Available: http://www.bitrebels.com/technology/qr-fridge-magnets-food-expiration/

[10]Firebase Storage, 2020, [Online]. Available: https://firebase.google.com/docs/storage

[11]Android Service, 2020, [Online]. Available: Ihttps://developer.android.com/guide/components/services.html.

[12] Set up & manage Routines, 2020, [Online]. Available: https://support.google.com/googlehome/answer/7029585?hl=en