

Healthline Management System using Android Application

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Abstract— In our day to day life, we come across many products. Unfortunately, the users are not aware of the product's ingredients and their composition. The users are also not aware of whether that product suits their health parameters or not. The existing application provides the product details and some of the ingredient details, but it is not that much useful for the user. In our proposed system, the barcode of the product is scanned and ingredients are displayed. In addition to that the composition of the ingredients is also provided. By getting the user's details like blood sugar level, pressure level, cholesterol level and it is compared with the product ingredients to provide suggestion to the user. The user can also request the admin to add the products to the database, when it is not available in the application. This application also suggests the products according to the user health parameters when their constraints are not satisfied.

Keyword: Barcode, Barcode Scanner, Ingredient details.

1. Introduction

The barcode is a machine-readable representation of data; the data usually describes something about the object that carries the barcode. There exists some application to scan the barcode and provide the details of the product. In our

proposed system, the suggestion is also provided to the user by analysing the ingredients and ingredient composition of products. The product details and the barcode details are retrieved from the API's already available.

2. Literature Survey

Modern barcodes are inefficient for the readers to read and decode a barcode symbol in the try-and-error manner. A more efficient decoding scheme is to identify the symbology used by the target symbol. Then the decoder in the reader uses the correct symbology for decoding. In this paper, we propose a method of identifying the QR and Aztec barcodes. We use the connected component labeling algorithm to compute the tag for each connected component, and then search for the innermost connected component of the finder patterns in the tag image [1].

The utility of bar coding for faster library transactions is time-tested, and more and more computerized libraries in our country are using this technology. The application of barcode technology in circulation system of a library and information technology is most successful due to its speed, accuracy and reliability. Barcoding though relatively an old technology, is one of the important steps in library automation and is still not widely used in libraries. The barcoded identity card will also perform the security check at the

gate and allow only authorized persons to enter in libraries as specified in [2].

The data captured using bar code scanner sent to the attendance system for the purpose of recording and preparing attendance record. Bar code scanner used to scan the student card which contains the student identification number. The twelve digits then send to the attendance system and it will remain displaying student record for 5 second before change to the state to accept another student card number. Each recorded data will be sent to the database which developed using database processing application. Structured query language (SQL) used to query data to produce various kind of student attendance report [3].

Electronic Shopping nowadays uses the Barcode Scanner for product identification and a consistent Wi-Fi connection with the shop's server. It also involves a LCD display that informs customers about product prices, discounts, offers and the total bill. The identification of the product is determined by the Bar code reader followed by the updating of the bill. While the customer finishes the shopping, he/she will be pressing the End shopping button and the details will be sent to the shop's server. After this action, the customer will pay the amount and leave [4].

The EWG Healthy living android application also provides the product details and the composition of the ingredients, whereas it doesn't provide any suggestion to the user according to their health conditions [5].

2.1 Existing system

In the existing system, the barcode of the product is scanned and the ingredient's lists are displayed. This is not that much useful for the user, because these ingredient list can be viewed

in the product itself. This system uses its own databases to store and retrieve data. So, this requires more amount of space to store data and accessing of data becomes tedious

2.2 Drawbacks of the Existing System

In the existing system, the user gets the details of the ingredients present in the products. Those details won't benefit the user and the usage of that particular application has reduced.

3. Proposed System

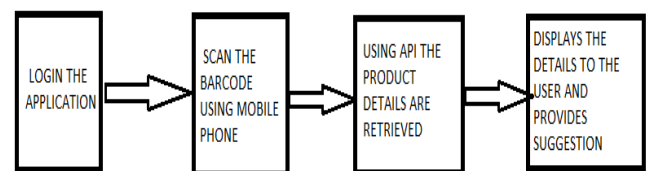


FIG 1: Proposed System

In our proposed system, the product ingredients and their compositions are provided to the user by scanning the barcode of the product. First the user scans the barcode of the product using the application in the mobile phone. The product details and the composition of the ingredients are displayed by getting the credentials from the user like sugar level, cholesterol and the blood pressure level. These details are retrieved using the barcode Id of the product stored in the API.

The suggestion for the user is given based on their health parameters given by them while logging into the application. For example, when a person searches a product which contains high sugar level and the person also has high sugar level. Then this application provides the suggestion as this product contains high sugar level and this may affect the health and also increases the sugar level.

The health parameters are entered once by the user and those details are stored permanently in the database created for the user. The mobile phone act as the barcode scanner. The API plays a major role in our proposed system, which is more efficient compared to the databases used in the existing system.

Working:

The user should download the application. The first layout of the application asks for the user's credentials. On entering the login id and the password, they can enter into the application. Each and every user has their own login id. Then the user enters their blood sugar, cholesterol and blood pressure level details in the application. The product is scanned using the barcode, where the barcode id is already stored in API. The product is retrieved when it matches the barcode id of the product and the analysis of the product with the health parameters given by the user. The products are also suggested to the user by analyzing the product ingredients and the user health details.

Software Components used in proposed system

API:

In computer programming, an **application programming interface (API)** is a set of subroutine definitions, communication protocols, and tools for building software. In general terms, it is a set of clearly defined methods of communication among various components. A good API makes it easier to develop a computer program by providing all the building blocks, which are then put together by the programmer.

Using the API, the product details are stored which is also like a database. But it is readily available so the developers can use by getting their

license. This reduces the man work for storing and searching of data. The barcode is scanned and using API the exact product is retrieved by matching the barcode details.

Microsoft Visual Studio:

Microsoft Visual Studio is an integrated development environment (IDE) which is developed by Microsoft. It is used to produce native code and managed code. Using this, the web development of this application has been made. It is done using the C# language. The front end design of the web application is made using visual studio.

Android studio:

Android Studio is the official Integrated Development Environment (IDE) for Google's Android operating system, built on JetBrains' IntelliJ IDEA software and designed specifically for Android development.

Using relative layout and linear layout features in android application the structure and the design of the application is made. The inbuilt options like Button creation, Text Box creation etc., are also used in this application.

Experimental Result

FIG 2: User Login Page

The FIG 2 shows how system begins with the login page where the user can login or the existing user can sign up into the application by entering their login id and password.

The next step is to create the user profile as shown in FIG 3.

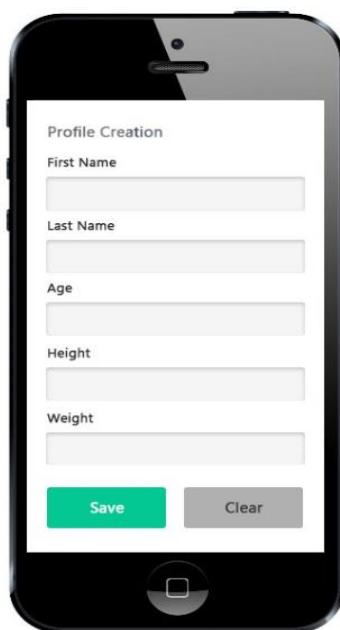


FIG 3: Creating User profile

The FIG 3 shows the second page of the application which will be used by the user to create his/her profile by entering the details like name, age, weight, height

After the creation of the user profile the bar code of the product will be scanned. The FIG 4 shows the details of the scanned product. It also provides the suggestion to the user about the product ingredients and the composition in the products. The indicator shows whether the product is harmful or not.



FIG 4: Details of Scanned Product

Red color indicates, the product is not that good to use. Yellow color indicates, the product is okay to use. Green color indicates, the product is good to use.

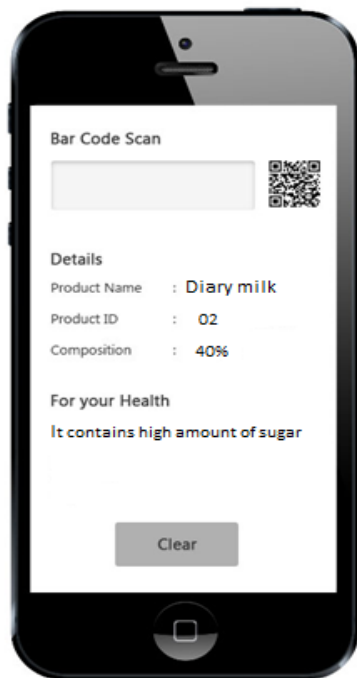


FIG 5: Output showing the suggestion

The FIG 5 shows the product's name, product id and its composition. In addition to that it gives the suggestion about the product.

Conclusion:

Implications of automated and barcode technology is one of the best techniques to minimize the time taken at the circulation center. Barcoding by itself is not system but an identification tool that provides an accurate and timely support of the data requirement for the sophisticated management systems. In this Paper gives the result about the product and its data's. Also get the users information manually to give the suggestion about the product. This application will be extended in future by making all things automatic without any manual work by using api, algorithms.

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