INDUSTRIAL APP DEVELOPMENT ON FOOD PROCESSING PROBLEMS

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ABSTRACT

As the population is increasing day by day it is necessary to grow sufficient amount of food supply to humanity. Here we discuss the promising potential of ongoing technological advancements to enhance the food supply even further and to increase the health and wellness of the growing global population. This begins with a historical perspective that summarizes the parallel developments of agriculture and food technology, from the beginnings of modern society to the present. A section on food manufacturing explains the way food is processed and gives the details about various food processing methods that ensure food safety and preserve the quality of products. A section about potential solutions to future challenges briefly discusses the way in which scientists, the food industry, and policy makers are striving to improve the food supply for a healthier population and feed the future. Applications of science and technology within the food system have allowed production of foods in adequate quantities to meet the needs of society, as it has evolved. Today, our production-to-consumption food system is complex, and our food is largely not safe due to some preservatives, additives, isotopes added into Food while processing. It results into Cancer, Diabetes, Heart Failure like problems. Consumers have the right to expect that the foods they purchase and consume will be safe and of high quality. Consumers always ask for healthier foods ,a fact very often forgotten in on-going discussions. Our application systems and the food descriptors allow a very detailed identification of process treatment of ingrediants and meals.

1. INTRODUCTION

Food processing is the method used to turn fresh foods into food products. This can involve one or more combination of various processes including washing, chopping, pasteurising,freezing, fermenting, packaging, cooking and many more. Food processing also includes adding ingredients to food, for example to extend shelf life.Food processing includes traditional (heat-treatment, fermentation, pickling,smoking, dryingcuring) and modern methods (pasteurisation, ultra-heat, treatment high pressure processing or modified atmosphere packaging.Customer do not get detail information about the contents of food they are purchasing to overcome this problems we have implemented in our project details about manufacturing date, expiry date and the complete nutritional value. Thus we have created 4 login pages.

- Admin login

- Inspector login

- User login

- Industry login

1. Admin login – Complete management of product as well as industry details is done here. Admin provides credentials to industry Admins and food inspector.

2. Inspector login – Admin will request to food inspector to check every product.

3. User login – user will register and check the entered product is good for health or not.

4. Industry login – it particularly ask for the login details to the admin and upload their products from their industry.

2. LITERATURE SURVEY

In [2010] Three main groups are defined: unprocessed or minimally processed foods (group 1), processed culinary and food industry ingredients (group 2), and ultra- processed food products (group 3). The use of this classification is illustrated by applying it to data collected in the Brazilian Household Budget Survey which was conducted in 2002/2003 through a probabilistic sample of 48,470 Brazilian households. The average daily food availability was 1,792 kcal/person being 42.5% from group 1 (mostly rice and beans and meat and milk), 37.5% from group 2 (mostly vegetable oils, sugar, and flours), and 20% from group 3 (mostly breads, biscuits, sweets, soft drinks, and sausages) . Floros J, Newsome R, Fisher W, et al. [2010] Institute of Food Technologists scientific review describes the scientific and technological achievements that made possible the modern production-to-consumption food system capable of feeding nearly 7 billion people, and it also discusses the promising potential of ongoing technological advancements to enhance the food supply even further and to increase the health and wellness of the growing global population. This review begins with a historical perspective that summarizes the parallel developments of agriculture and food technology, from the beginnings of modern society to the present. A section on food manufacturing explains why food is processed and details various food processing methods that ensure food safety and preserve the quality of products. A section about potential solutions to future challenges briefly discusses ways in which scientists, the food industry, policy makers are striving to improve the food supply for a healthier population and feed the future . Dwyer J, Fulgoni V, Clemens R, et al. [2012] The Role of Processed Foods in Achieving Dietary Guidelines and Nutrient Recommendations in the U.S." describes ongoing efforts and challenges at the nutrition–food science interface and public health; addresses misinformation about processed foods by showing that processed fruits and vegetables made important dietary contributions (e.g., fiber, folate, potassium, vitamins A and C) to nutrient intake among NHANES 2003–2006 participants, that major sources of vitamins (except vitamin K) were provided by enrichment and fortification and that enrichment and fortification helped decrease the percentage of the population below the Estimated Average Requirement for vitamin .A, thiamin, folate, and iron; describes how negative consumer perceptions and consumer confusion about processed foods led to the development of science-based information on food processing and technology that aligns with health objectives; and examines challenges and opportunities faced by food scientists who must balance consumer preferences, federal regulations, and issues surrounding food safety, cost, unintended consequences, and sustainability [3]

3. SYSTEM ARCHITECTURE
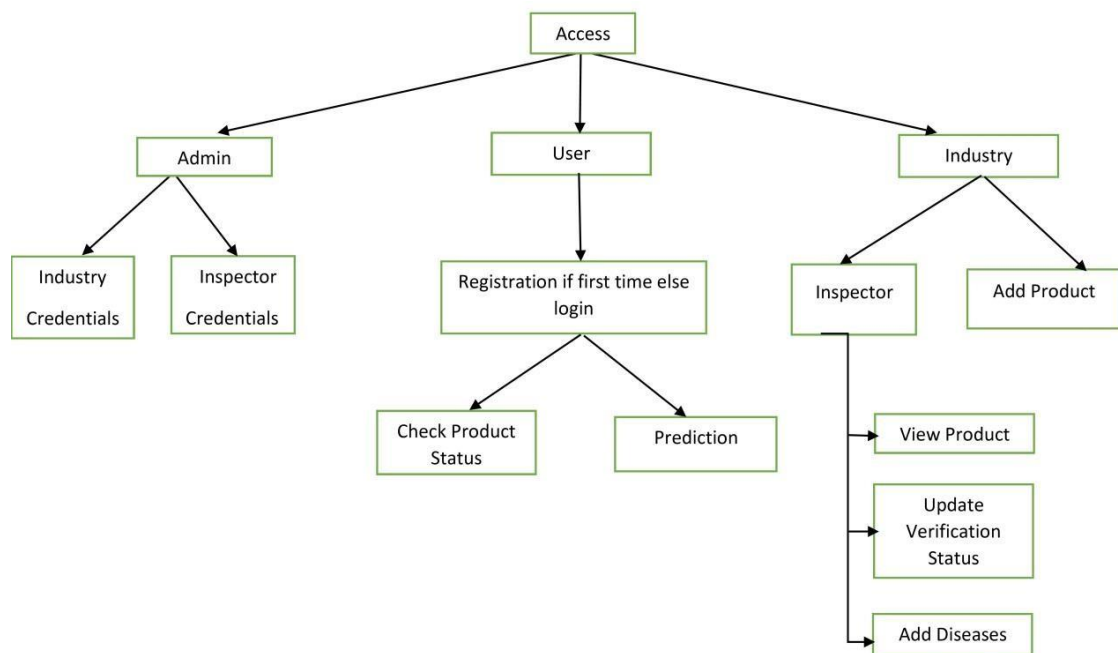
Fig. 3.1: System Architecture of Application

A data flow diagram maps out the flow of information for any process or system. It uses defined symbols like rectangles, circles and arrows, plus short text labels, to show data inputs, outputs, storage points and the routes between each destination.

In this system architecture,

- Registration is provided to Users and Industry people to create valid account in application.

- Admin has the authority to provide credentials to User and Industry people in order to get access to their respective profiles.

- Industry admin will add their product in application which can be viewed by Food Inspector and User.

- Food Inspector will check every product details entered by Industry admin and update its verification status as good or bad.

- As Food Inspector has detailed knowledge about products, thus Food Inspector is provided with Add diseases button where product name, diseases name and some

    informative description is mentioned so that the user will get to know whether the product for particular disease is good or bad for health.

- After getting access to the account, User will first login and check every product status uploaded by Food Inspector.

- User can upload image in application so that the data set can predict the image belongs to healthy or unhealthy food category.

As soon as the application is opened it provides us the page with 3 login pages which are the ADMIN LOGIN, INDUSTRY LOGIN, USER LOGIN.

Now we have the choice to select the login pages according to our need. The particular architecture of this application is divided into 3 modules:

1.Admin Login 2.Industry Login

3.User Login

MODULE 1: ADMIN LOGIN

It is the page which manages the complete flow of the application and initiates the process.If the one is admin and chooses theadmin login page then they have to fill the credentials, that are USERNAME and PASSWORD which are already stored in the database. Then they have access to assign the credentials to the group of industry included in the application. And also it is the admin which assigns the Food Inspector to the paarticular industry to check the purity of the products manufactured by the industry which helps the consumer to have the more pure form of the product they are consuming.As soon as someone gets logged in at the admin page it offers two features:

1.1 Set Industry Admin Credentials.

1.2 Set Inspector Credentials.

MODULE 2: INDUSTRY LOGIN

It is the page which have multiple user to it. Basically admin allocates Industry credentials to the number of the industry present in the group and they have the access. Firstly the industry person have to register themselves with the credentials allocated by the admin. Then there they have the power to upload whatever products their company is manufacturing in a very systematic manner which is the highlight of our project, which includes the manufacturing date, expiry date and the complete nutritional quantity distribution of the product. Also the admin assigns particular food inspector to the industries which is an important aspect of the application. Now it is the inspector's duty to check the purity of the products to be consumed by the people. Basically it provides us 2 functions.

Inspector: At the inspector login page they have two options of login or request login details. After getting details from the admin, the inspector gets logged in by entering the Email id, Username, Password got from the admin.

View Product : It is the facility provided by the application where we can have an detail systematic column wise distribution of the product details. Which are arranged as Manufacturing date, Expiry date, Mrp, Protein, Minerals, Vitamins, Status(whether the product is good or bad), Inspector name(by whom checking is done).

Update Verification Details : It is page where the inspector can check the nutritional quantities mentioned by the industry and can tag them whether products are good or bad by clicking on the button mentioned there.

Add Disease: It is Special feature of this application by this application, where during the inspector checking the product he/she can add specific information about a disease related to this product by adding the Name of product, Disease name, Description about the product and disease, And the result whether good or bad.

Add Product : The Industry have the right to add the products which are manufactured by them. So the user or consumer can have the knowledge about the range of products that the industry makes and the nutritional quantity. The industry adds the product by adding Name, Manufacturing date, Expiry date, Mrp, Protein, Minerals, Vitamins, etc.

MODULE 3: USER LOGIN

It is most important page of this application. For this page if its user's first time the their is no login page , First user have to register themselves at the User Registration page. Where the user have to register themselves by putting First Name, Middle Name, Last Name,Email id, Contact no,Gender, Username, Password. This Application is specially developed keeping the consumer in mind. Most of the people are food lovers but the breaker is the health so consumer can have the detailed information about the proportion of what they are having. As soon as the user downloads the application and get done with the registration process can have the access to know the information.
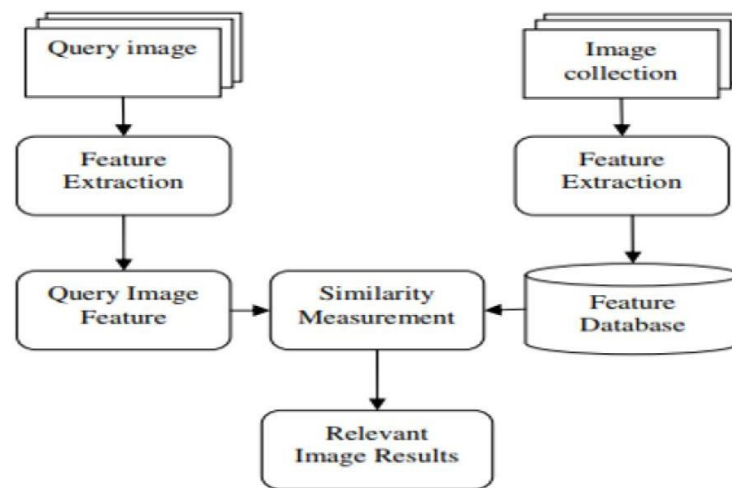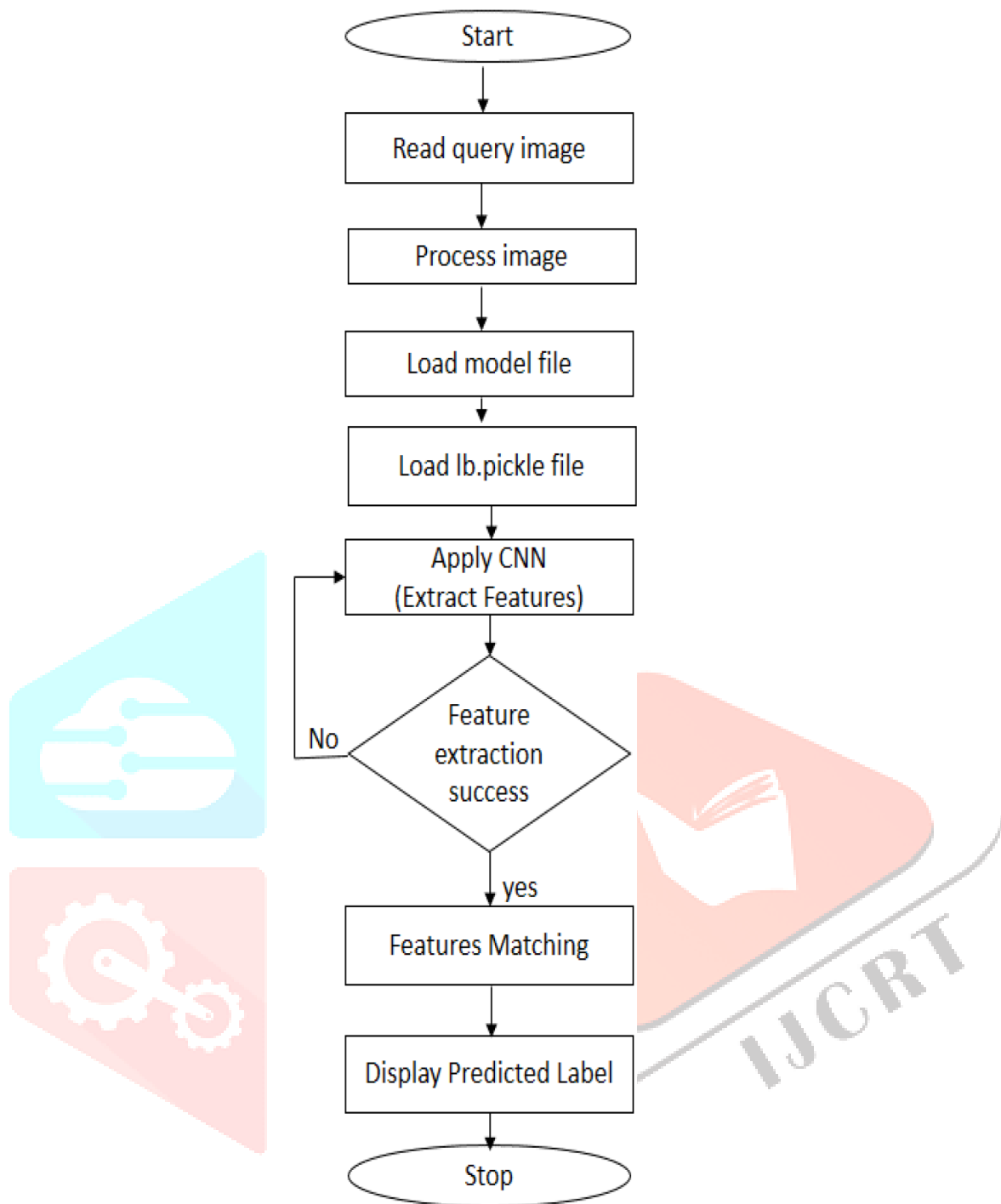
PREDICTION

Fig. 3.2: System Architecture for Prediction

Fig. 3.3: Data Flow chart of Prediction

4. CONCLUSION

This project we have built as an android application. So this application will be very helpful to the people as because today we know that ,"Health is first priority for many people "As now-a-days markets are full of processed foods which creates a very big question mark on the consumers health.

Because of that packed food issues are created. So we thought of creating the project as an android application which would help the people in such a way that they would have an exact idea of what are the nutritional values of the product or the processed food they are having. This android application would help the people in a way that now the customers can directly visit the site and can have complete knowledge about the product which is even checked by the Food-Inspector. For example, if a person knows that he is suffering from an disease in which he/she should have very less amount of vitamins then in the application he/she can check the details of the product and can have a clear idea of whether he/she can have it or not. In this

way our project is going to help the users. And as this an android application their is no cost for downloading this application for the user. Here users have one more benefit that he/she can know who the food inspector was and if they have any query related to the product or its nutritional quantity he/she can directly contact the food inspector or the industry. So the chances of corruption are also reduced.

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