

Software Development of Food Combining Guidelines Using Smartphone-Based On Android In Bandung

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Abstract

The number of applications circulating, some researchers do not want to be left behind, one of which is a food-based application that can be used as an Android mobile-based food combination guide. Examples of food applications that are used to overcome the problem of vitamins, minerals and energy needed by the body. Basically, food applications are needed to help citizens by determining the food consolidation menu. Providing information in the form of how much health content and plans will be carried out, this aims to provide information. To get recipe suggestions, clients are initially required to select a photo image from the camera. After the application will send image suggestions to clarify and get the label name of the ingredients, by getting a signal to the system to send the ingredients to the nutritionist to collect the ingredients. Once developed, the framework shows the side effects of labeling and collecting ingredients in the application. Once an ingredient is selected, the system sends the component name to Food2Fork to get the recipe. The recipe will be displayed before being displayed to the system. The test results can be ascertained that the Android application can work well.

Keywords: Android, Food Combining, API

Abstrak

Banyaknya aplikasi beredar membuat beberapa peneliti tidak ingin ketinggalan, salah satunya adalah aplikasi berbasis pangan yang dapat digunakan untuk panduan berbasis mobile Android. Food application contohnya digunakan untuk mengatasi masalah vitamin, mineral dan energi yang dibutuhkan oleh tubuh. Pada dasarnya, aplikasi pangan dibutuhkan untuk membantu warga negara dengan cara menentukan menu konsolidasi pangan. Memberikan informasi berupa berapa besar kandungan kesehatan dan rencana yang akan dilakukan, hal ini bertujuan untuk menyediakan informasi. Untuk mendapatkan saran pembuatan resep, klien awalnya diharuskan memilih citra foto dari kamera. Setelah itu aplikasi akan mengirimkan saran gambar untuk mengklarifikasi dan mendapatkan nama label bahan, dengan mendapatkan sinyal ke sistem untuk mengirim bahan ke ahli gizi untuk mengumpulkan bahan. Setelah konsekuensi dikembangkan, kerangka kerja menunjukkan efek samping dari label dan pengumpulan bahan dalam aplikasi. Setelah bahan dipilih, sistem mengirimkan nama komponen ke Food2Fork untuk mendapatkan resep. Resep akan diterjemahkan sebelum ditampilkan ke sistem. Hasil pengujian dapat disimpulkan bahwa aplikasi Android dapat bekerja baik.

Kata kunci: Android, Food Combining, API

1. Introduction

Numerous individuals burn-through unpredictable and didn't focus on the container of the food that has been devoured. The propensities can affect the strength of the body itself. Sporadic dietary patterns and don't focus on nourishment can prompt the rise of different illnesses. Notwithstanding the increase of various infections, sporadic equilibrium supplements can restrain day-by-day exercises because of energy and energy balance. Required adjusted nourishment should contain substances, such as sugars, fats, proteins, nutrients, minerals, and water [1], [2].

Food Combining is a dietary arrangement that can meet the nutrients and energy needed by the human body. This is expected to provide beneficial results for the body and digestive system. Another thing that needs to be considered is to set a regular diet and maintain a balanced diet. Food that has been mixed according to rules based on nutritional intake and expiration time. Due to an irregular diet and balanced nutrition, many health problems are found. Currently, there are still many people who don't know food consolidating and what kind the food is combining [3], [4].

There are tens or even hundreds of diverse assortment of menus dependent on essential materials, handling techniques, and tastes, respondents said the trouble of knowing the formula menu of food combining [5]. Android is a working framework created by Google that sudden spikes in demand for versatile cell phones [6]. Notwithstanding correspondence, respondents use to look

for data, listening to music, mess around, notes, web-based media, online shop, watch recordings, read the Qur'an, and photography [6], [7].

Based on the above, it would require an application that can help solve existing problems with the help of an Android application on your phone and take advantage of the technology API. These applications can give suggestions dependent on food consolidating menus accessible food fixings, plans dependent on the substance of supplements required, and the client journal to track the chosen menu and formula consistently [8], [9].

2. A Review

A. Food Combining

Food Combining *was* already introduced in Palestine. At the beginning of the 20th-century food, Food Combining is a strategy to change your eating regimen to get the energy and supplement admission are adjusted for the necessities of one heart-to-day exercise. Food joining diet sets start time or when food is eaten and any mix of good food. Food consolidating can accomplish ideal body conditions in which all the capacities work impeccably. A pointer of the body's equilibrium to see the corrosive and soluble body or unbiased pH conditions (7). To keep away from harm to organs and the appearance of different infections, it takes the body balance [10]–[12],

B. Clarifai API

Clarifai is the support of distinguishing pictures and video that consequently gives expectations about what is in the image or video just as the measure of likelihood. The model utilized in this investigation is the food model. Food models can perceive more than 1000 suppers in the picture and can perceive up to a degree of staples. The idea of Clarifai work can be seen in [13].

C. Nutritionix API

Nutritionix API is web services for any nutritional information and food ingredients. 6 features are on fire Nutritionix, including [14]:

- a. Natural Language
- b. Common Foods
- c. Branded Foods
- d. Dietitian Verified

Restaurant Geolocation, there is 202.495 restaurants that can be used to view the location based on the data available nutrients.

D. Food2Fork API

Food2fork API is a site that provides recipes from around the world that continue to add databases every day by having features that are easy to use by the user. Food2fork has a search feature-based material and a ranking system based on social media popularity [15].

E. System Android

Android is a working framework and programming stage created by Google for cell phones and other cell phones . Android can run on a variety of devices from many different manufacturers. Android includes a software development kit for writing native code and assembling software modules to build apps for Android users [16], [17]. Android also provides a market for distributing applications. Overall, Android states an ecosystem for mobile applications [18] [19].

3. Analysis System

A. Problem analysis

Because of the poll's aftereffects to the individuals who made it online in September 2018 [20]–[22]. The survey was led to test 70 individuals from different circles of work, age and from the poll for the locals found a few issues, to be specific :

1. Society is brutal in determining the menu of food combining.
2. Society is challenging to know the nutritional content of each menu food combining. Society difficult to learning the recipes based on food combining

B. Analysis of Food Combining

Following the analysis of food combining:

1. Within one week of food combining is not to be done every day. Food combining can be done for five days and two days free of food combining called cheating. Better do cheating at lunch and dinner. Fruit on breakfast should still be done.
2. There is no food portion in the Food Combining; the quantity of food is determined by the respective body when the meal is a full stop because each person has a different amount.
3. On any menu meals (lunch and dinner) vegetables should be more than protein or starch..

C. Analysis of Technology

A few innovations are used to construct this application to deal with food menu proposals just for lunch and supper. The aftereffects of the ID tag of Clarifai, Nutritionix, and food2fork Indonesian translate into using Google Translate API. Here's an explanation of the results obtained from the technology.

1. The identification process using Clarifai API.

a. First, take pictures of food from the camera or gallery.

Once an image is selected, and then uploaded to Clarifai to identify the material name tag.

b. Results tag of Clarifai API:

TABLE 1. Results Clarifai Tag API

No	Material
1	Capsicums
2	Cauliflower
3	Celeriac
4	Chilli peppers
5	Basil
6	Cucumber
7	Silverbeet
8	Ginger
9	Butter
11	Tomatoes
12	Witloof
13	Pesto
14	Broccoli
15	Kale
16	Taro
17	Sweet corn
18	Egg
19	Broccolini
20	Spinach
21	Carrot

Once the tag material obtained, the next step is to determine the group of each ingredient by using the API Nutritionix

TABLE 2. Results of Nutritionix API

No	Material	Group
1	Capsicums	Vegetable
2	Cauliflower	Vegetable
3	Celeriac	Vegetable
4	Chilli peppers	Vegetable
5	Basil	Vegetable
6	Cucumber	Vegetable
7	Silverbeet	Vegetable
8	Ginger	Vegetable
9	Butter	Protein
10	Tomatoes	Vegetable
11	Witloof	Vegetable
12	Pesto	Vegetable
13	Broccoli	Vegetable
14	Kale	Vegetable
15	Taro	Vegetable

16	Sweet corn	Vegetable
17	Egg	Vegetable
18	Brocolini	Vegetable
19	Spinach	Vegetable
20	Carrot	Vegetable

D. System Architecture Analysis

Analysis of system architecture aims to identify the architecture to be built. The system architecture can be seen in.

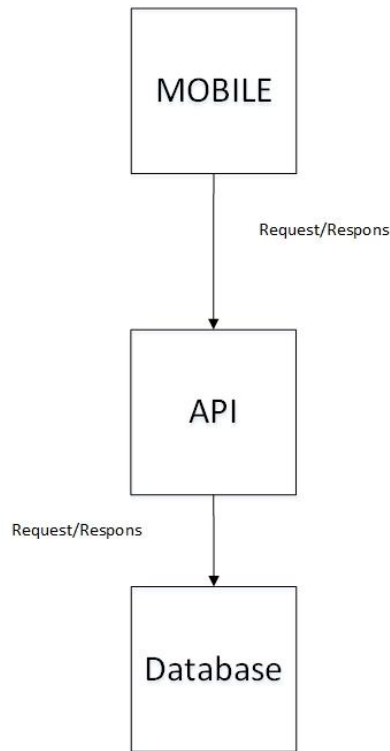


Fig. 1 System Architecture

E. Use Case Diagram

Use Case is a construction diagram to describe the relationships between actors with the system's activities. From the existing applications analysis, that use case diagram can be seen on a mobile platform.

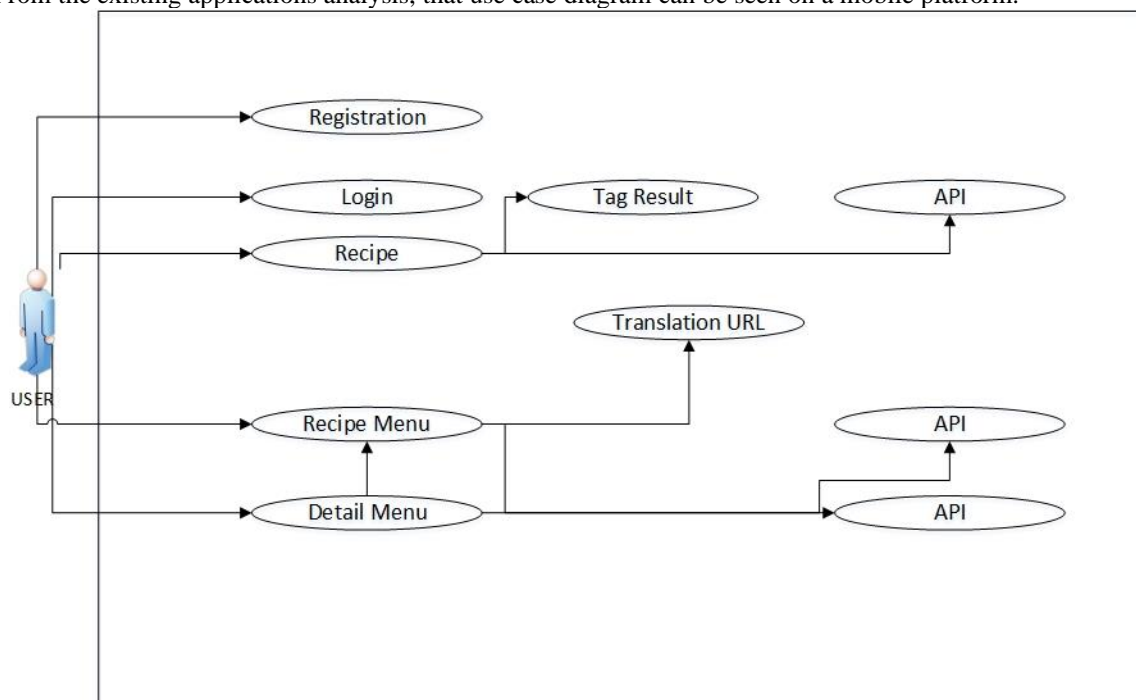


Fig. 2 Use Case Diagram

4. Result

This stage is the process after analysis and system design. Implementation of the system is the stage of laying the system so that it can be operated. The performance aims to confirm the creation of the modules so that the system user can provide input to the system's development.

TABLE 3. Results Recipes from Food2Fork

No	Recipe
1	Grilled Mushrooms with basil, and scramble egg
2	Pasta, lasagna, egg rolls, ginger eggs
3	Original Sundanese Food Recipes, and Ampera food
4	Healthy food for gym and diet needs
5	Betawi specialty food, egg crust
6	Soto, satay, cream soup, noodles

A. Beta testing

Beta testing is testing conducted directly by the users who will be using the software [23], [24].

B. Beta Testing Results

Once the question is given to the public, look for a percentage of any of the answers. To find the percentage used the following formula [25], [26]:

Likert scale is used to measure the attitude of app users who have been given a questionnaire. Here are the scores for the answers to the questionnaire. With a total filler of 70 correspondents, the following are the results of correspondent.

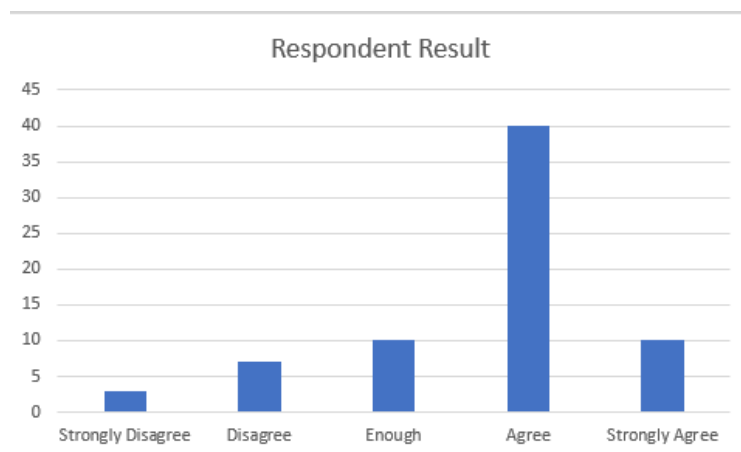


Figure 6. Quissioner Bandung Society

5. Conclusion

Food combining manage application by utilizing API based on Mobile Android. Food Combining is the case of food to address the issues and balance of enhancements and energy needed by the body. In light of test outcomes and conversation made, it tends to be reasoned that this application can help decide the menu of food consolidating, assisting with giving wholesome data, and giving the formula as per the food Combining. For the future, this framework can be created by joining food menu recommendations understanding with the sickness just as utilize other APIs to acquire better outcomes

6. Referensi

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