International Journal of Electronics and Communication Engineering (IJECE)
ISSN(P): 2278-9901; ISSN(E): 2278-991X
Vol. 10, Issue 1, Jan–Jun 2021; 1–6

International Academy of Science, Engineering and Technology
Connecting Researchers; Nurturing Innovations

SMARTPHONE APPLICATIONS IN THE FIELD OF FOOD SCIENCE AND TECHNOLOGY: AN EVALUATIVE REVIEW

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ABSTRACT

A new generation of Internet and Smartphone has become an inseparable thing in the life of human being. Technology and Science is considered as a boon and it is developing every day. In addition to this, the mobile application plays a vital role and made everyone's life easier. Large number of apps is being used by the millions of human beings for various reasons. Smartphone applications are increasing day-by-day in every industry and food industry is no exception. In the field of Food Science and Technology more mobile applications are accessible and available at free of cost at Google Play Store. This review attempts to identify and focus on the Smartphone applications which are useful in the field of Food Science and Technology and emphasis on the detailed description about the significance of these apps to the consumer. This paper also attempts to find out the strengths and weakness of these Smartphone applications. These Smartphone applications would be useful to the food technology students and professionals and to those who are interested to understand the full potential of the food they are taking.

KEYWORDS: *Smartphone Applications, Food Science, Food Technology*

Article History

Received: *08 Jan 2021* **|** ***Revised:*** *12 Jan 2021* **|** ***Accepted:*** *04 Feb 2021*

INTRODUCTION

During the last decade, the smartphone has become an essential tool of communication in modern society (S. W. Lee et al., 2019). As of 2019, more than 5 billion people around the world use mobile devices, and it is estimated that approximately half of them use smartphones (Silver, 2019). The rapid increase in smartphone penetration and high-speed network services have enabled business enterprises to deliver their information to consumers more quickly and efficiently than before, allowing consumers to use various information services beyond time and space constraints (Cho et al., 2019; Dinh et al., 2013; S. W. Lee et al., 2019; Liu et al., 2017).

Smartphone Applications (apps) are introduced to create attention among the group of individuals which makes the required information visible in everyone's hand. These apps are cost efficient and the information retrieval is simple and readily accessible. The field of food science and technology has a number of mobile apps. But most of the people are not aware of the full potential of these applications. They are aware of food delivery apps like Swiggy, Zomato, Uber etc. But major smartphone platforms like Android and iPhone have been loaded with multiple apps related to nutritional facts, milk calculation, ice cream mix formulator, food allergens and food additives. Nowadays people started to pay attention towards the intake of nutritional values after the outbreak of Covid-19. There are many existing android application in

which users keep record of their daily food intake and its nutritional content. These apps also contains sample scanning device which scans and displays the essential information and there will be a checklists and questionnaires by which the assessment of the food material can be made. Smart phones are used by billions of people so it is quick and easy to find information regarding food plant diseases or usage of pests and fertilizers. Farmers, scientific researchers, consumers are benefitted by these apps which are loaded with multiple information. Not many people are aware of such apps so this article reviews about some of the apps that have been considered as significant for the well-being of the society. The mobile Applications are selected based on the availably and raining with more than 4 (Out of 5).

DEFINITION OF THE MOBILE APPLICATIONS

A mobile application, most commonly referred to as an app, is a type of application software designed to run on a mobile device, such as a smartphone or tablet computer. Mobile applications frequently serve to provide users with similar services to those accessed on PCs. Apps are generally small, individual software units with limited function. This use of app software was originally popularized by Apple Inc. and its App Store, which offers thousands of applications for the iPhone, iPad and iPod Touch.

A mobile application also may be known as an app, web app, online app, iPhone app or smartphone app (source: www.technopedia.com).

DESCRIPTION OF THE MOBILE APPLICATIONS

Food and Nutrition apps for Android.

MILLET PRO

- Ratings : 4.9 stars (out of 5)
- Availability : Free

Millet pro is developed to popularize and educate the importance of millets among the farmers and entrepreneurs as millet are recognized as important substitutes for major cereal crops to meet the growing challenges of food and nutrition security across the globe. The highlights of millet pro app are the product gallery (millet halwa, ragipappad, etc.), short videos on selected technologies (ragimurukku mix, instant beverage from ragi, millet flakes, malted ragi flour, convenience flour for mudde) and write up on millet based technologies. The most important feature that is the mechanism for feedback is also available. It consists of 21 millet based technologies which includes a brief description about each technology.

MILK CALCULATOR

- Ratings : 4.5 stars (out of 5)
- Availability : Free

A popular milk calculator app helps you to make calculations on the total amount based on CLR (Corrected Lactometer Reading) and fat in addition to this it also calculate CLR required for a particular fat value. Milk is a complete liquid drink which contains all the essential nutrients. Milk calculator helps you to make sure you are getting correct rate based on Direct method from SNF method.

MILLETS BENEFITS

- Ratings : 4.5 stars (out of 5)
- Availability : Free

Millets are indigenous to many parts of the world. From years millets has expanded extensive importance between people for its health benefits .It consists of health benefits of millets. This app is useful to understand and learn about the benefits of millets. It covers various topics like millets for hair loss, weight loss, millets for skin, millets for diabetes and nutrition. Disadvantages of millets are also descripted. All these features are available for free.

FOOD SAFETY STANDARD

- Ratings : 4.5 stars (out of 5)
- Availability : Free

It is the ideal app to know Food Regulatory Compliance for India and ideal application for food importers and exporters, food processors, food packers and distributors. Everything about Food Safety is here like Importing food products to India, Exporting food products from India to US, Europe, Compliance to Food Safety Act, Food Safety Rules and Regulations, Food Safety Updates, Food Safety News, Food Safety Certifications, Food Safety Resources, and download checklist, manuals, rules, regulations, standards, etc. This app provides them all with their interest and be updated to latest developments in food safety regulatory compliance, food safety systems, household food safety and industrial food safety norms.

NUTRITION FACTS

- Ratings : 4.4 stars (out of 5)
- Availability : Free

This app displays the nutrition facts for more than 8700 food items divided into categories like dairy and egg products, spices and herbs, Baby foods, fats and oils, poultry products, fruits and fruit juices, pork products, vegetable and vegetable products, nut and seed products, beef products, beverages, finfish and shellfish products etc. By default it shows the calculation for 100g and there is a facility to customize weight. For the desired product you can receive details like proteins, carbohydrates, fats, vitamins, minerals (calcium, iron, magnesium, phosphorus), calories and ash content. The application has a convenient and quick search. Nutrition facts app does not claim for accuracy, since everything depends on the country, climatic conditions and many other factors.

VITAMINS AND MINERALS: GUIDE

- Ratings : 4.4 stars (out of 5)
- Availability : Free

A well detailed app to know basic information about vitamins and minerals. It gives about the complete use of vitamins and minerals for our body and how to get these nutrients from natural source , followed by problem or diseases in body due to lack of these vitamins and minerals and also about natural herbals and their uses, benefits, etc.

MyIPM

- Ratings : 4.3 stars (out of 5)
- Availability : Free

MyIPM fruits aids Integrated Pest Management (IPM) for both conventional and organic fruits. This app is specifically targeted for the commercial growers and farm advisors. It is available on android for free. MyIPM is focused on diseases and insects which attacks the fruits followed by diagnostics and managements. A detailed description about the infection and controlling measures which includes both cultural and chemical controls. It is also provided with audio recordings with pest and disease management. The gallery features pictures of disease symptoms with the picture of solutions. The functionality for offline use is added recently.

FOOD ADDITIVES

Ratings :4.2 stars (out of 5)

Availability : Free

A dictionary of most used words in the world of additives. Food Additives is a free, ad-free application which provides up to date database for more than 650 additives (E numbers) that are present in many everyday food products. What makes this app stand apart is it has dietary restrictions and the risks related to these additives are described and information on nanoparticles and ultra-processed foods is given. This application uses camera to scan the product and accesses internet to collect the data of each scanned product. For each additive it features the level of danger, the origin , the type(food colouring, emulsifier, chemical…).You can also encounter the status of the additives whether it is Halal\Kosher\Vegan or Vegetarian.

FSSAISCANNER

- Ratings :3.5stars (out of 5)
- Availability : Free

The working of FSSAI Scanner is to scan FSSAI code\FSSL and know if the product is approved by FSSAI (India). FSSAI scanner scans for FSSAI (Food Safety and Standards Authority of India) code on food products through camera and automatically fetches information about license, validity and other details of the product. The app is made available for other countries too because Indian food products might be available in those market too. This app has no advertisement and has provision to use FSSAI website to fetch license information.

CONCLUSIONS

User perception is one of the most powerful tools in the hands of marketers and developers. The secret lies in discovering what people are looking for in delivering few relevant notifications through the app. As user applications touch points increase in frequency, change in modalities and expand in device type, the future of app development is multipurpose, according to a recent survey by Gartner, Inc. In order to keep up with the rapidly developing digital market, mobile developers must make sure that even at the state of creating an application, they are more focused on consumer requirements and take into account existing decisions, hoping to refine them.

Our life is simpler with mobile applications so how about we exploit! Users and clients need to broaden their knowledge on nutrition, make the most of their food and environment and get protected from the infection.

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