Modern Medical Innovation on the Preferred Information about the Medicine using AI Technique

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Abstract

The number of mobile Medicare applications has grown exponentially over the past few years, and it is expected to continue to grow soon. The use of health apps promises to be a good way to improve patient care and make work easier for professional. However, some cases of malfunction or misdiagnosis and treatment recommendations have been reported. Regulation is essential to protect users and support product development. So, to suppress the malfunctions we present a pharmacopeia Medicare app in which the customer can see the original profile and the specification of any stimulant with its useful information. This inculcates a clean process which procures a less chance of misapplication of the drugs. These mobile medical app companies have improved access to clinical references and point of care tools. However, it is difficult to identify mobile medical apps that are suitable for the practice of pharmacy. This app is entirely based on our experience in accrediting websites with health-related content and journal.

Keywords: Malfunction; Pharmacopeia; Safeguard.

1. Introduction

Employment of Smartphone applications in various fields is booming to a greater extent. The practice of using sensible phones by healthcare professionals and medical students are maximizing and medical students are maximized by referencing relevant applications (apps) as a source of advertence in daily clinical care. By 2018, 500 million people uses Smartphone worldwidely, using a medical application. Statistics report that the top ten Google play categories are Education, Lifestyle, Entertaintment, Business, Personalization, Tools, Music&Video, Books&References, Travel&Local and Puzzle [17]. There are more and more healthcare app trends targeting healthcare users. These apps are usually offered in the Health & Fitness category of app stores. Health apps have the potential to rework care and health promotion within the community [10].So far, there are 13,000 apps available in the "health section" of Apple's "App Store" and more than 3,000 in Google's "Play store.". Studies account that over 85% of health professionals use a Smartphone and 30–50% use medical apps in clinical care centers. Many divisions are covered such as women's health and child care [11], HIV and other sexually transmitted diseases [12], ophthalmology [13], depression [14] , smoking cessation [15] and pain management [16]. As these platforms facilitate the development and distribution of mobile applications by clinicians and other developers, the rapid growth of the market is likely to continue. Commercial corporations and also the pharmacy company are increasingly developing and marketing more medical apps for health care professionals. These applications have tremendous potential to improve patient practice, system efficiency, and communication by providing a quick reference tool that is accessible at the point of care. The clinical use of Smartphone and apps can seemingly still increase, and that we have exposed an absence of high-quality and well-liked apps despite a powerful need among physicians and trainees [7]. In clinical care the most commonly used app varieties are medical calculators, writing and request apps and gestation wheels. General requested app varieties were textbook/reference materials (average response: 55%), classification/treatment algorithms (46%) and general medical information. Continuous tracking of health records becomes significant for the changing lifestyles [6].Recent developments in health care enhance the access to the real patient data.

These medical apps provide a quick, comprehensive and up-to-date summary of current clinical guidelines that can help clinical decision making and transform the future care is delivered. It has great potential for improvement. [1].Smartphone apps allow software developers to create tools to assist in deployment. About 1000 new health-related apps are released every month for free [2]. Health app content should be peer-reviewed based on evidence and provide up-to-date clinical data. However, the method of criticism itself is prejudiced, incomplete, and can be wrong. Most medical apps lack reliability details. Authors, manufacturers, and distributors are not listed and references are inaccessible or out of date [3]. Recent studies have addressed the lack of evidence and qualified medical involvement in their programs and their development, questioning the responsibility and accuracy of their medical content and the consequent impact on patient safety. I have. Each application store profile includes high-level assessment in keeping with certain criteria that can assist with store categorization and analysis[4].

Raising reliable patient data in terms of ethical aspects; the date of the last modification with relation to clinical credentials, the author's documents, confidentiality of information, source knowledge reference is crucial [8]. Hence it becomes a prime objective to enhance the quality of accessing medical application.This is a medical application that helps users see the original profile and specifications of each stimulant along with useful information without a doctor. This application contains some stunning features while practicing. The application is made user-friendly and convenient to such an extent that the user is never required to type any information. Just a click of the button is required to scan the barcode of the stimulant. Healthcare is affected by the globalization and migration of people, creating the need to work with them (and their loved ones) in languages we do not speak or understand. The information is displayed as text on the screen and the text is converted to speech. Text-to-speech, speech-to-text, and speech-to-speech translations have become a reality [9]. They can be very useful for research, education, and reference use. The work also includes a database that stores all the information based on the stimulant barcode. The database contains the complete content of all the features of the system.

However from the study it is confirmed that intake of false medicine or inaccurate diagnosis is increased due to the lack of knowledge about it. We have designed an application which will tell about knowledgeable information of any medicine and its diagnostics circumstances. This medical app was developed based on regulatory measures to ensure the quality of care. In the near future, advances in mobile health technology and the introduction of smartphones into medical apps will be important and will be an integral part of everyday medical life. However, while the rapid development of medical apps has attracted the attention of medical professionals and increased access to medical knowledge. Not only for professionals has it also helped every individual people around the world to get more information about the medicine that they are using. It is important to increase the expertise of including assessments as part of the eHealth implementation and should be adopted by the organization implementing or funding such a system. As with any new nursing technique, it is important to find out where responsibility and management are.

2. Necessity and purpose in modern world

The goal of this application design is to give the practical recommendations and complete useful prescribed information of a drug without consulting any physician. This practice declines the threat to the usage of false drugs and dependency over physician. The app plays an important role in today's life as it is an open source identification environment that quickly integrates into clinical practice by physicians.(refer fig 1).

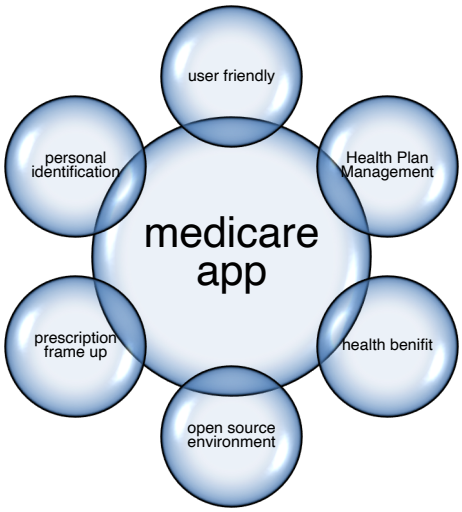

Figure 1 : purpose

3. Proposed Technique System

This method illustrates that the drugs with the barcode are scanned in the mobile using the Medicare applications. Then the barcode number is generated and it is checked through the database, which contains all available information and instructions of the drugs which is scanned. This process gives the original profile of any medicine that is scanned in this application. The information is displayed as text in the screen as well as it also transcribes the text to speech. The project also holds the database where all the information is stored based on the stimulant barcode. Database holds the total content of all the features of the system.(Fig 2)

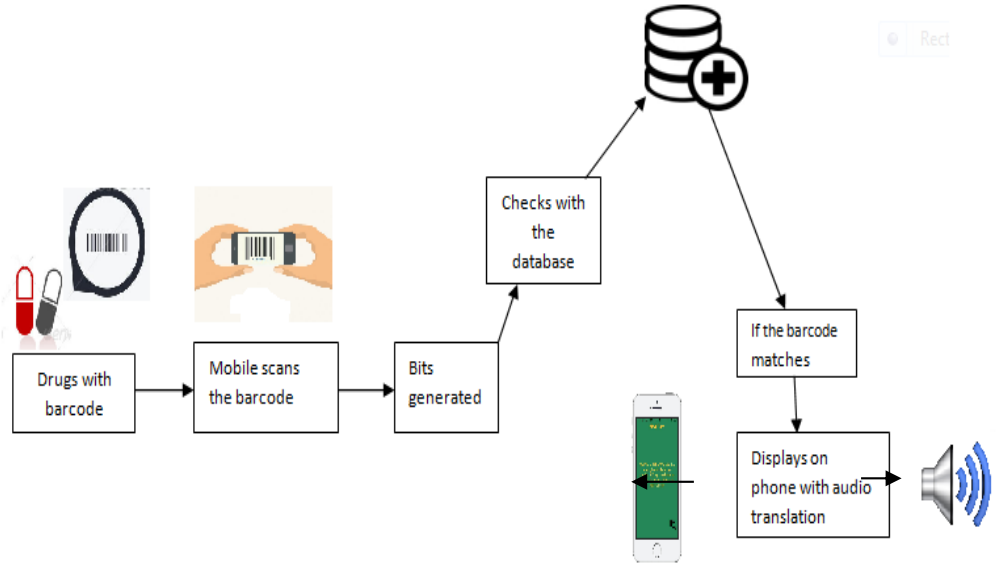

Figure 2: System Architecture

Initially, the user chooses the medicine he wants to get the required information. The application uses the camera from the smart phone to scan the barcode on the medicine. The obtained barcode value from this scan is taken and cross-checked for a match in the database. If there is a match in the database, the knowledge and prescribed data of the medicine is displayed on the application for the user. If there is no match, then it is displayed that the product is not a verified one.

4. Implementation Medicare application

Implementation of the application is divided into 5 parts

1. UI Building.
2. Adding Barcode Scanner.
3. Connecting with Firebase Database.
4. Adding Speech Recognition.
5. Checking Internet Status.

4.1 UI Building

UI building is a visual element that you can see in your application. Some of these elements respond to user interaction such as buttons and text fields, while others are useful such as images and labels. There are two screens, LaunchScreen.storyboard (non-editable screen) and Main.storyboard (editable screen). Shown in the Fig 3.

Figure 3: Launch Screen

4.2 Adding Barcode Scanner

Barcode Scanner is a simple wrapper for your camera with barcode capture capabilities and a great user experience. Barcode scanners are added from the Barcode Scanner pod via the Cocoa pod.

[x] Barcode scanning.
[x] State modes: scanning, processing, unauthorised, not found.
[x] Handling of camera authorisation status.
[x] Animated focus view and custom loading indicator.
[x] Torch mode switch.

4.3 Controller

Controller is used to control the process of barcode scanner. Since the start of capturing barcode and delegates present in it.

4.4 Delegates

Delegation is a simple and powerful pattern in which an object works on behalf of or in conjunction with another object in one program. When this object encounters an event programmatically. Delegate can respond to messages by updating the appearance or state of itself or other objects in the application..(Shown in fig 4)

begin
// Code delegate
when barcode button is Tapped the layout is view to scan the barcode
capture the barcode B of the drug
// Error delegate
It handles session errors before capturing the barcode
set the session as processing or product is not found

// Dismissal delegate
after the barcode B is captured the dismiss( )function is called
end

Figure 4: Barcode Recognition

6.5 Actions

Actions are functions that takes place when the user taps on the barcode scanner button. when the button gets tapped the barcode scanner function gets called to capture and process the barcode. (Shown in fig 5)

Input: B is the code captured by barcode scanner. D = (D1 , D2 , D3 , ….. , Dn) be the barcodes act as a key in the database.
Output: The specification and useful information about the drugs with speech.
Initially it capture and process the barcode.

if B == D && isInternetAvailable( ) then
display the product found.
retrieve and splash the specification and useful information about the drugs with speech from the database.
end
if B != D && isInternetAvailable( ) then
display no product found with speech.
end

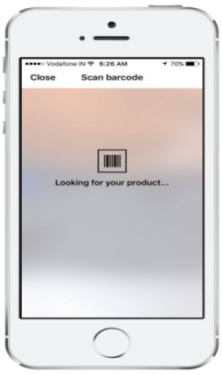

Figure 5: Barcode Analyzer

6.6 Connecting with Firebase Database

Firebase is a mobile and web application platform with tools and infrastructure to help developers build high-quality Figure 1 : purposeapplication data between clients and store it in the Firebase cloud. (Shown in fig 6).

Adding Firebase to the Medicare App:

step 1 : Creating a Firebase Project in Firebase console.
step 2 : Click Add Firebase to your iOS app.
step 3 : Copy the bundle ID of Medicare Application and paste it in the project setup.
step 4 : Download the GoogleService-info.plist file.
step 5 : Copy the GoogleService-info.plist into the Xcode project root.
step 6 : Add the pod 'Firebase/Core' and pod 'Firebase/Database' into your pod file.
step 7 : Relaunch the Xcode with xcworkspace.
step 8 : Import Firebase in the UIApplicationDelegate subclass.
step 9 : Add FIRApp.Configure() in the application:didFinishLaunchingWithOptions: method.

Read Data from Firebase Realtime Database:

begin
change the rules to get worked with database
{
"rules": {
".read": true,
".write": true
}
}
get the information of the drugs through barcode D present in the database.
set the barcode D as key and information P as value
create an instance of FIRDatabaseReference

```
if  B == D && isInternetAvailable( ) then
    Information P is fetched through key D
    retrieve information P and splash it to the label L in the Main.storyboard
end
if  B != D && isInternetAvailable( ) then
   display no product found with speech.
end
end
```

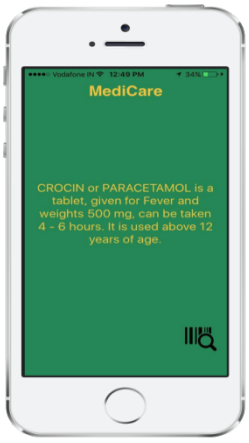

Figure 6: Medicine Info

6.7 Adding Speech Recognition

iOS 10 introduces a new API that supports continuous speech recognition and helps you build apps that can convert text to speech. Use the API in the Speech framework (Speech.framework).

step 1 : To add speech to the app add AVfoundation.framework.
step 2 : Import the AVfoundation and SystemConfiguration.
step 3 : By using AVSpeechSynthesizer() method the speech is added to the Medicare App.

Checking Internet Status:

If Internet is available the app works fine otherwise it displays an error message saying “No Internet Connection Please turn on your Mobile data or WiFi”.

5. CONCLUSION

The purpose of this work was to define the prevalence of Smartphone and app use among all the users in the world. The results demonstrate that a majority of users and physicians currently have Smartphone and use apps with a trend towards increasing app which defines their strength of their relationship. This app has huge applications on personal identification with our any puzzlement on the drugs, it can be perfectly reviewed whether it is properly prescribed. From this app the limit age of the usage of the drugs are also been specified. It will play vital role in rural areas where the app contains the feature of providing speech translation of the information. It is also very applicable in

middle class households who seek to reduce the time spend on doctor consultations, also Relevant in households where wrong intake of medicines is prevalent.

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