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### E-VACCINATION RECORD MANAGEMENT APP

Irum Naz Sodhar<sup>1\*</sup>, Azeem Ayaz Mirani<sup>1</sup>, Dua Noor<sup>1</sup>, Iqra Memon<sup>1</sup>, Mishal Malik<sup>1</sup>

<sup>1</sup>Department of Information Technology, Shaheed Benazir Bhutto University of Shaheed Benazir Abad

#### Article Info

\*Corresponding Author  
Email: [irumnaz@sbbusba.edu.pk](mailto:irumnaz@sbbusba.edu.pk)

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#### Abstract

Now a days everything should be easy access and available according to need but still facing issues in child vaccination system in rural areas of Sindh still no perfect system available for Parents to view how much vaccine was done on which date. E-Vaccination Record Management App of Child access from any location and time to get information easily for his/ her child. This app is based on android and run on android cell phones. The vaccination record is provided for each participant for future use. The future work can continue for the betterment of the results. In this regard number of vaccinations can be increased with few child diseases to enhance the databased strong for child diagnosis.



### 1. Introduction

Medical health science has increased number of applications with several new trends. The smart devices provide the facility of medical health applications with several features for user. The application such as blood pressure, diabetic control, health tracer and vaccination record management (Azad *et al.*, 2020; Amara, 2018). The health apps provide very simple and efficient source of information management. The blood donation app, games, music, record keeping and many other applications are introduced for better daily routine activities management. Smart phones and digital

electronic has changed the way of making things feasible in daily routine. The engagement of mobile phones in daily life brought many new applications. The mobile applications are growing day by day in every field of life due to ease of use and effectively managed resources. Mobile apps provide the point of access for daily access data resources and provide several new functionalities for better access (Sardi, L 2020). In these days' peoples in all over the world are using android applications due to ease of working experience. This attractive and reliable source of information management for regular activities. Android technology revolution

created many new applications in different fields of life. However, with this new trend of technology there few challenges are raised due to physiological effects on user and having some time wastage activities. The use of technology matters in these days because this not only for the betterment for professional development but also for normal user. The user exciting experience is one of key characteristic of android applications. The effective GUI and having limited access of Menus effects more than any other technology. The android applications are different nature and can be developed for different purposes. Most of the applications are developed for daily life use such as educational, health, transport, weather, inventory management and business accounts management. (Sodhar *et al.*, 2019)

These devices are used widely due to smart, easy to use and customizable nature. Android platform is one of efficient method to provide medical health related activities.

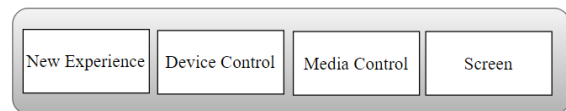
### 1.1 Android Framework

The android frame work are different in nature which are provided for different features and applications development. In this regard few of the important frame work for android applications development are Ionic, Webkit, PhoneGap, Mono, native android and native script are most famous frame work in these days. The developers are working on these frame works due efficiency and reliability of the android features for developers.

### 1.2 Android SDK features

The android SDK (System development kits) are most famous features of android development. These android SDK features are telemetry, Camera API, Map Padding, Improved API computability and Available now. These features are used for the effective development of android applications. Mobile apps provide the point of access for daily access data resources and provide several new functionalities for better access. In these days' peoples in all over the world are using android applications due to ease of working experience. This attractive and reliable source of information management for regular activities.

### 1.3 Features and API



**Figure 1:** Features of Android

### 1.4 New Experience

Android software development provide the new and exciting features for the user and as well as developer. The android features are every attractive GUI and having some important experience for the user. The developer has options for the different features for developing and importing the new exciting applications. (Sodhar *et al.*, 2019)

### 1.5 Device Controls

Android API provides the efficient features for the user with some good control of options. It is for the better API control for user. In this regard

device is provided for the better control and good experience. (Sodhar *et al.*, 2020)

### *1.6 Media control*

The media control provided by the Android features and applications control. The media such camera, memory card and built-in memory management. The media provide the exciting features for the user and developer.

### *1.7 Screens*

Screens are better appearance for the user experience and as well as developer point of view. Developer is used to develop screen for the user for better learning and involve with different applications on smart phone. There are different screens for the user which are appeared for the different experiencing and having attractive GUI representation. (Sodhar *et al.*, 2020)

## **2. Literature Review**

Medical health science is one of major area of study. There are number of factors for the developing android application development. Many of developer has proposed new and efficient android application for health management and vaccination schedules management. Few of important contributions are discussed in detailed below:

The android applications detailed review is presented in (Hameed, 2016). The detailed child vaccination scheduled are discussed for the different vaccination types. The significant factors are crucial for the health disease and diagnose with efficient management accordingly by applying computer-based technology. It is

easy to work with computer-based technology for the showing schedule of vaccination. The vaccination schedules are not only efficient for medical staff but also play effective role for parents. In this regard parents can see and update the vaccination schedules as per time. The vaccination date and day are displayed by efficient method for both parents and medical staff. (Azad *et al.*, 2020; Sodhar *et al.*, 2019)

Efficient vaccination control and record management is one of serious problem in the world. In many countries the vaccination records are usually managed manually and having some time weak authenticity (Odone, 2014). The systematic review is conducted for the vaccination record and having recommended target management for the vaccination. The attitude, willingness and perceptions are considered important parameters for vaccination. The common people are needed to investigated for the vaccination record management. This review provides a comprehensive detail of vaccination and schedules for the better management of the vaccination.

In these days' peoples in all over the world are using android applications due to ease of working experience. This attractive and reliable source of information management for regular activities. Smart phones and digital electronic has changed the way of making things feasible in daily routine. The engagement of mobile phones in daily life brought many new applications. The mobile applications are growing day by day in every field of life due to

ease of use and effectively managed resources. (Sodhar *et al.*, 2019; Sodhar *et al.*, 2020) Mobile apps provide the point of access for daily access data resources and provide several new functionalities for better access. (Azad *et al.*, 2020) The study is conducted in Bangladesh to highlight the important factors of vaccination coverage (Zaidi, 2020). The remote areas are not covered according to the vaccination record and hard to reach for the vaccination.

The rapid growth of technology has tremendously helped the people to use their social media accounts easily. Around the globe, the it has been surfing by the people with different ways. Every institution, organization, corporation and industry, across the globe, has been introducing itself by technology for a good deal of time. Technology is now being utilized within these rostrums. Social media comprises many of its types as Facebook, WhatsApp, LinkedIn, Twitter, Yahoo, Gmail, Hotmail, Skype, Messenger and many others too (Ham, *et. al.*, 2014). These all the social media tools help people in many purposes like sharing the videos and pictures, chatting for different purposes, getting in touch with news and updates and teaching as well as learning at most. In today's world technology plays a crucial role for the language learners. With the rapid development of Internet, Immediate Messaging (IM) facilities maintained by numerous Digital devices are conveying blast of connections among users. These all are leading

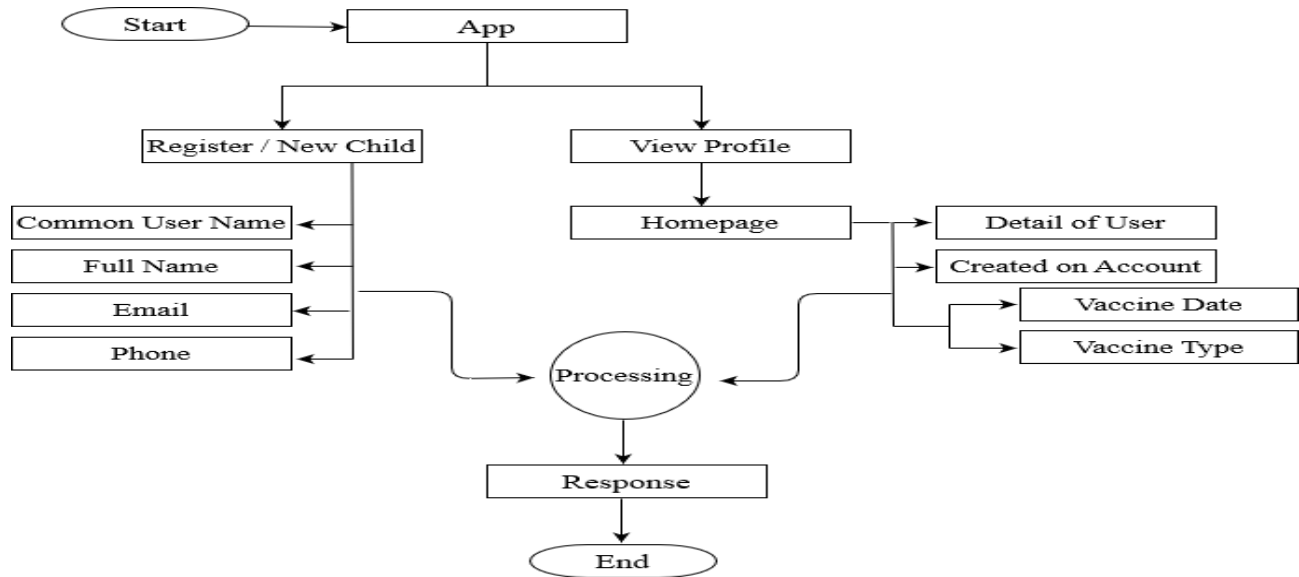
us towards the connecting and maintaining the relationships. The beginning of Instant mobile Messaging applications are firming the passion of social associations. Buchenscheit, & Neubert (2014)

According to Global Messaging Results, WhatsApp is utmost used messaging service in United Kingdom with 59%. Since last couple of years there has been fast growth in online communication, particularly in mobile communication as 69% of all the users of Internet did so by the mobile device. In current years, the latest technology of mobile phone application reformed number of radical variations transferred from communication of interpersonal device to software groups (Sardi, L., 2020). Previous, only for the purpose of making calls all people used to use mobile phones, for the purpose of sorting information like as, calendars and contacts, personal computers achieved tasks such as, reading emails, accessing the internet, playing games and editing documents as well.

In this regard learning the participants can learn and apply the practical work in lab whereas adding some aspect can reduced the efforts. It can enhance the time which provided learning process and reduced being physically appeared in class. Most of the applications of life is now purely dependent of technology which is actually good progress. In this regard human civilization is now can be termed as digital commercialization (Mooney, 2020). This is how the world of technology has changed the world

trends. This is actually worked as the main idea of the life which can improve the life.

### 3. Research Methodology



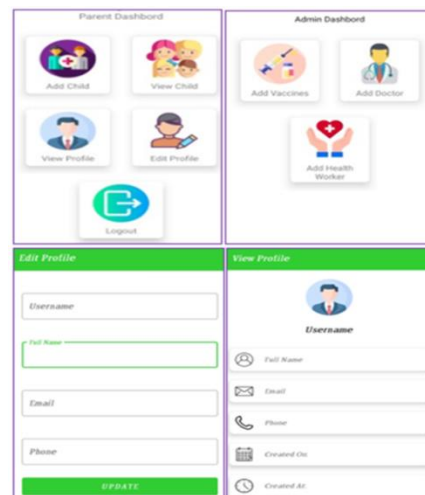
**Figure 2: Research Methodology**

Figure 2 shows the research methodology of this research. This methodology depends on two modules of android app such as: one is Register and second View profile. The register depends on four steps (1. Common user name, 2. Full Name, 3. Email, and 4. Phone) and view profile also depends on five steps (1. Homepage, 2. Detail of users 3. Created on Account, 4. Vaccine date 5. Vaccine type). Those steps perform the task on this app to fulfil the requirement of users according to users need.

#### 3.1 App

This android app we develop a many advanced facilities according to the user need. This app provides the facilities with the help of smart phones / devices and also provide accessibility

of data and store the details of data according to the medical department's rules.



**Figure 3: View of App**

### 3.2 Modules

This app consists two modules one module for register one module for Register/ new child record and second for viewing new profile.

#### 3.3 Register

To register for the new user to get information of the user for better management of data base for future use. Register is for both user and health worker.

- i. Common user name:** Common user means user which is going to register
- ii. Full Name:** Full name means a user name which is needed to record over the database.
- iii. Email:** Email is needed for the new updated data or vaccination schedule for the user
- iv. Phone:** Contact number is for the communication.

#### 3.4 View Profile

View profile is option for the viewing the profile detail. In this regard some of the detailed is required for the viewing profile option. View profile option is used for the viewing the detail of user.

- i. Homepage:** Homepage is front page which appears when user logins in app
- ii. Detail of users:** Provide the complete detail of user
- iii. Created on Account:** the account creation for the user and individuals
- iv. Vaccine date:** this shows the complete schedule of vaccination of child
- v. Vaccine type:** This shows the type of vaccination for the child schedule

### 3.5 Processing

Processing is the status of the applications or schedule which is processed over time by time. This will help parents and other user can watch the child vaccination record.

#### 3.6 Response

Response is to provide the immediate response to user or individual user for the vaccination record or request for the visit of health worker. This can be via call or message.

## 4. Results and Discussion

This app fulfils the need of users according to wish, and also provide addition information for parents how much vaccine are done on which date and time and how much are remaining all information available on app. This help provides the community based detailed data base management and also provide ease of usage over different time by time. This app will provide complete data base and will help to provide data for long term use.

## 5. Conclusion and Future work

On the whole this study is about provide the computerized database for the parents and health works for managing the child health record. However, this app will provide complete child e-vaccination record for the better management of the future use. The vaccination record is provided for each participant for future use. The future work can continue for the betterment of the results. In this regard number of vaccinations can be increased with few child diseases to enhance the databased strong for child diagnosis.

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