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'IMMUNIZE'- A CLICK FOR BETTER HEALTH CHECKING

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Abstract: This study is to minimize the complications, difficulty, time consumption of health workers and also the ordinary people, and to make safe environment. In the prescribed mobile app 'IMMUNIZE' we are introducing mainly four options to make ASHA workers job to become easy. This will give an idea to support ASHA workers to fulfill their responsibilities. By these four options Parents, ASHA workers, Supervisors, Pregnant women can easily register and login to "IMMUNIZE". Here we focus on computerizing the effort taken ASHA workers by organizing the details of people in each ward. The main objective of this mobile app is to build an effective co-ordination between ASHA workers, People and Officials. "IMMUNIZE" also focus on the importance of pregnant women, thus the ASHA worker can understand the pregnancy situations and help them with their service. Thus, using this application ASHA workers can use this opportunity and help each people who are in need and collect necessary information

***Index Terms* – ASHA worker, IMMUNIZE, Mobile app**

1. INTRODUCTION

In our populated society, day by day the number of people is increasing, thus the diseases are also increasing. The presence of different viruses is become difficult in our world. To prevent viruses, we usually depend on vaccines. By using vaccines, it prevents most of the viruses including the covid-19. In Our society, especially in remote villages each ward is having an assigned ASHA worker. Through Asha Workers we get the vaccines; including the newborn child vaccines, covid-19 vaccines etc. ASHA workers gave instructions to pregnant women. Mainly the service of ASHA workers is through WhatsApp groups and through direct phone calls. Thus, the job of Asha workers is always difficulty, complicated and time consume by lots of enquiries and service request. Usually, ASHA workers personally visit each house in their ward and collect the data as well as give instructions if need. Due To the current social disturbance, it is not safe to visit each house in ward personally. To minimize these complications, difficulty, time consumption, and to make safe environment we introduce a new interesting factor through the app "IMMUNIZE

In this mobile app we introduce more options to make connection between people and ASHA worker. Through this app we can easily schedule vaccinations, show available vaccines, and also, we can set reminder about vaccines. Here we introduce special options for pregnant women and through this feature, ASHA workers can easily approach them. The app is specifically designed for ASHA workers who play a crucial role in supporting and promoting health in their communities. With our app, you can easily schedule your vaccines, receive reminders when it's time for your next shot, and keep track of your vaccination history. We also offer a range of features for pregnant women, including a food chart to help you make healthy choices during pregnancy and a weight gain calculator to help you monitor your weight gain and ensure you are on track for a healthy pregnancy. Our app is user-friendly and easy to navigate, making it accessible to individuals of all ages and technological abilities. Whether you're a first-time mother or an experienced ASHA worker, our app is here to support your health and wellbeing

2. EXISTING DESIGN AND PROPOSED DESIGN

We all know there are only few app for ASHA workers existing, but by the view of our point we introducing few features other than every apps. The common characteristics of the existing application has not classified by the user's experience. We cannot see the vaccine status option and vaccine reminder option. And there are no special options for ASHA worker service request for pregnant women. It only provides common information like vaccines names and vaccine details.

Drawbacks Of Existing System

- ➢ The existing application doesn't contain Vaccine status.
- ➢ The existing doesn't contain special option for ASHA worker service request for pregnant women.
- ➢ The existing doesn't contain option for vaccination reminder.
- ➢ The existing applications is not user friendly.

In the app "IMMUNIZE" we are introducing mainly four options to make ASHA workers job done easily. This will give an idea to support ASHA workers to fulfill their responsibilities. The four options are mentioned as below.

- PARENTS
- ASHAWORKER
- SUPERVISOR
- PREGNANT WOMEN

By these four options Parents, ASHA workers, Supervisors, Pregnant women can easily register and login to "IMMUNIZE".
In Parents homepage, we have four options we can add child details, also viewing recommended vaccines, showing vaccine status, view parents' profile
In ASHA worker homepage, we have four options we can view profile, see vaccination record of child, vaccine reminder, vaccination and schedule
In Supervisor homepage, the supervisor can able to see Asha workers details which are used to approve, delete, edit and also supervisor can see vaccination records.
In Pregnant Women home page, we have three options, first one is viewing the profile pregnant women second one is showing the food chart of pregnant women The third one is the request a home service to ASHA Worker and the fourth one is pregnancy weight gain calculator.

Here we focus on computerizing the effort taken by the ASHA workers for organizing the details of people in each ward. The main objective of this mobile app is to build an effective co-ordination between ASHA workers, People and Officials. "IMMUNIZE" also focus on the importance of pregnant women, thus the ASHA worker can understand the pregnancy situations and help them with their service. Thus, using this application ASHA workers can use this opportunity and help each people who are in need and collect necessary information.

3. PROBLEM FORMULATION

OBJECTIVES

- ➢ "IMMUNIZE" will show the users recommended vaccines and schedule them.
- ➢ "IMMUNIZE" will provide better user experience and accurate connection between user and ASHA workers
- ➢ This application provide information about Vaccines, Asha workers, Users (Parents, Pregnant women)

We can analyze each module thoroughly

PARENTS

The parents have to register first in the application to use the features. The parents have to fill a simple registration and then login to the app. After registering the valid information, the parents can login with their phone number and password. A forgot password option in the login screen will send an OTP to the b registered mobile number, thus the parents can change the passwords. After login, will direct towards parents' homepage. Here we have four options in the navigation; we can add child details, viewing recommended vaccines, showing vaccine status and also viewing parents' profile

ASHA WORKER

The ASHA worker has to register first in the application to use the features. The ASHA worker has to fill a simple registration form and then login to the app. After registering the valid information, the ASHA worker can login with their username and password. A forgot password option in the login screen will send OTP to registered mobile number, thus the ASHA worker can change the passwords. After login, will reach ASHA worker homepage. Here we have four options- we can view profile, see vaccination record of child, vaccine reminder, vaccination and schedule

SUPERVISOR

The supervisor has to register first in the application to use the features. The supervisor has to fill a simple registration and then login to the app. After registering with the valid information, the supervisor can login with their username and password. A forgot password option in the login screen will send OTP to registered mobile number, thus the supervisor can change the passwords. After login, will reach supervisor homepage. Here we have two options - supervisor can see Asha worker's details to approve, delete, edit and also supervisor can see vaccination records.

PREGNANT WOMEN

The pregnant women have to register first in the application to use the features. The pregnant women have to fill a simple registration and then login to the app. After registering the valid information, the pregnant women can login with their username and password. A forgot password option in the login screen will send OTP to registered mobile number, thus the pregnant women can change the passwords. After login, it will reach pregnant women homepage. Here we have three options - first one is viewing the profile of pregnant women second one is showing the food chart of pregnant women and third one is a request for the home service to ASHA Worker.

ADVANATAGES

➢ User friendly system.

➢ Showing vaccination status and vaccination records.

➢ Parents can easily login and add child details, thus ASHA worker can see them.

➢ In IMMUNIZE, ASHA worker can easily schedule vaccines thus by reducing large time and headaches.

➢ ASHA worker can also set a vaccine reminder.

➢ ASHA worker can also see the vaccination record of added child and registered pregnant women in a ward; thus, they can approach them easily.

➢ The app also provides pregnant women food chart and ASHA worker service request option.

4. METHODOLOGY

The methodology used for designing the app is 'spiral model'. The spiral model is a software development methodology that is well suited for this mobile app "IMMUNIZE" for scheduling vaccinations, providing special options for pregnant women, ASHA worker option for viewing vaccination records of child, vaccine reminder etc. and supervisor option for approve or delete ASHA worker. The spiral model is an iterative approach that involves repeated cycles of planning, designing, testing, and evaluating the software product.

In the context of our app development, the spiral model would be helpful because it would allow us to refine and improve the app with each iteration. For example, in the planning phase, we could identify the specific needs of pregnant women and children and use that information to design features that cater to their needs. In the design phase, you could create prototypes of the app and test them with pregnant women, parents, ASHA worker and supervisor to get feedback on usability and functionality. During each iteration, you would evaluate the progress of the project and make necessary adjustments to ensure that the app meets the requirements of our target audience. The spiral model would also allow us to identify and address any potential issues early on in the development process, reducing the risk of major problems emerging later on.

5. DEVELOPMENT OF THE ENVIRONMENT

The software environment for the development of this mobile app is 'Android Studio' . Android studio is the official integrated development environment for Google's android operating system builds on Jet Brains IntelliJ IDEA software and designed especially for android development. It is available for download for on windows, macOS and Linux based operating system.
Android Studio's Apply Changes features lets you push code and resource changes to your running app without restarting your app--- and, in some cases, without restarting the current activity.

➢ The code editor helps you write better code, work faster, and be more productive by offering advanced code completion, refactoring, and code analysis.

➢ The Android Emulator installs and starts your apps faster than a real device and allows you to prototype and test your app on various Android device configurations.

➢ You can also simulate a variety of hardware features such as GPS location, network latency, motion sensors, and multi-touch input.

➢ Android Studio includes project and code templates that make it easy to add well established patterns such as a navigation drawer and view pager.

Java is a widely used programming language expressly designed for use in the distributed environment of the internet. It is the most popular programming language for Android smartphone applications and is also among the most favored for the development of edge devices and the internet of things. Here in the development of this mobile app we use JAVA programming language to support Android environment

PHP is an open-source, interpreted, and object-oriented scripting language that can be executed at the server-side. PHP is well suited for web development. Therefore, it is used to develop web applications. In this app development PHP is used as a back-end supporter .

5.1 Developmental Stages of the System

The development of this new system contains the following activities, which try to automate the entire process keeping in the view of database integration approach. User friendliness is provided in the application with various controls provided by system rich user interface. The system makes the overall project management much easier and flexible. It can be accessed over internet. The user information can be stored in centralized database which can be maintained by the system.

1. Define the objectives: The first step in developing any system is to define the objectives. In this case, the objective is to create an Android app that schedules vaccinations for different groups of people, such as pregnant women, provide vaccination records of child to ASHA worker, vaccination reminder and children.

2. Identify the user requirements: The next step is to identify the user requirements. This involves understanding the needs of pregnant women, children, and other users who will be using the app. This information can be gathered through surveys, interviews, and focus groups.

3. Plan the app's functionality: Based on the user requirements, plan the functionality of the app. For example, the app should have a feature to schedule vaccinations, track vaccination records, and set reminders for upcoming vaccinations.

4. Design the app's user interface: Once the functionality of the app is planned, design the app's user interface (UI). The UI should be simple, intuitive, and easy to navigate. Use color schemes and icons that are visually appealing and make the app easy to use.

5. Develop the app's backend: The backend of the app should be developed to store and manage user data. This includes vaccination records, appointment schedules, and user profiles Integrate with external services: The app should integrate with external services, such as healthcare providers, to obtain accurate information about vaccinations and appointments.

6. Integrate with external services: The app should integrate with external services, such as healthcare providers, to obtain accurate information about vaccinations and appointments.

7. Test the app: Before releasing the app, it should be tested thoroughly to ensure that it works properly on different devices and under different conditions. This involves testing the app's functionality, performance, and security.

8. Release the app: Once the app is tested and all the bugs are fixed, release the app on the Google Play Store. Promote the app on social media and other channels to increase its visibility and encourage users to download and use the app.

9. Maintain and update the app: The app should be regularly maintained and updated to ensure that it continues to function properly and meet the changing needs of users. This involves fixing bugs, adding new features, and improving the app's performance and security

6. RESULTS AND DISCUSSION

6.1 Sample Screenshots of the Mobile App Development

Fig1: Home Page

Fig2: Vaccination

Fig 3: Vaccination Selection

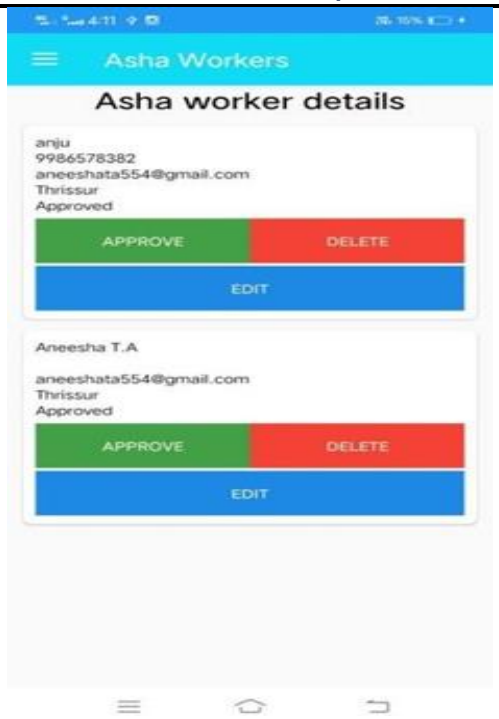

Fig 4: ASHA worker details

7.CONCLUSION

The main focus area is on computerizing the effort taken by the ASHA workers for organizing the details of people in each ward. Through this mobile app we can easily build an effective co-ordination between ASHA workers, People and Officials. "IMMUNIZE" also focus on the importance of pregnant women, thus the ASHA worker can understand the pregnancy situations and help them with their service. Thus, using this application ASHA workers can use this opportunity and help each people who are in need and collect necessary information. This mobile app has great advantage such as showing vaccination status, vaccination reminder, and vaccination schedule, pregnancy food chart and ASHA worker service request.

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