Aarogya Margdarsh- Medical Camp Related Mobile App

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Abstract:- In few Rural Areas, people don't have access to the better medical treatment for the diseases and most of the people can't afford to get treatment in private hospitals. Even though several free Medical Camps are being conducted, most of the people are unaware of these Medical Camps' Venues and timings. So, many people are ending up without utilizing the resources. To Overcome this problem, this EPICS Project proposes a novel, a Mobile Application called "Aarogya Margdarsh", which provides an interface between patients and medical camp organizers and provides the information about the Free Medical Camps provided by Hospitals, Medical Colleges, NGOs etc. The project is divided into various modules like database collection, message alerts. The details of date, time and venues of free Medical Camps organized by all these Organizations is collected and it is provided to the users through the Mobile Application. The App satisfies the user in such a way that the user gets the detailed information about Medical Camps well in advance. This is also useful to Medical Camp organizers such that their humanitarian efforts will be well utilized by patients.

Keywords:- Mobile Application, Medical Camps, Database, Hospitals, NGOs.

I. INTRODUCTION

Health care professionals' (HCPs') usage of mobile devices has changed several facets of clinical practice. Due to the widespread use of mobile devices in healthcare settings, the number of medical software applications (apps) on these platforms has increased dramatically.

HCPs can now get help with a wide range of crucial tasks with the help of numerous apps, including time and information management, access to and maintenance of health records, communications, consultation, ref-erence and information gathering, patient management and monitoring, clinical decision-making, and medical education and training. Between consumers and medical camp providers, this application serves as an interface. The application informs the user about the specifics of the medical camps that various institutions host at various locations. The app's information cuts down on the time it takes to look up or learn about different medical camps. HCPs gain greatly from mobile de- vices and apps, but probably most notably from the easier access to point-of-care technologies that have been demonstrated to enhance clinical decision-making and patient outcomes. Some HCPs, meanwhile, are still hes-itant to employ them. Notwithstanding their advantages, mobile medical apps require improved standards and val-idation procedures to guarantee their appropriate usage and incorporation into medical practice. By implementing these measures, the entrance barrier into the medical app industry will be raised, hence improving the quality and safety of the apps that HCPs can currently utilize.

II. LITERATURE REVIEW

Insufficient access to quality healthcare is a problem in rural Himachal Pradesh. A group of physicians, nurses, and technicians had been conducting medical camps at the hospital. NGOs, other professionals, and local panchayats had little to no involvement. Few patients returned to the hospital for follow-up, and the number of patients who attended the camp was limited. The purpose of this research is to ascertain whether run-ning these camps with inter professional collaboration enhances camp outcomes and promotes the health of rural patients. Methods: Inter professional participation in medical camps that had been held in the same villages was present at these camps. A cross-disciplinary team was formed. Along with medical examinations, campers were encouraged to practice good cleanliness and healthy living. A follow-up was conducted after camp. These camps contributed to the rural population's access to healthcare. The health of these rural communities has improved as many of them are cut off from larger cities by difficult terrain. Multidisciplinary cooperation was another outcome of these camps. This has the potential to improve society's overall health and fulfill the ambition of integrated healthcare with a patient-centered approach in the future. All IP members joined the camp team and worked together equally as a result of the challenges they faced during the study. Pre-camp meetings made it possible to put in the considerable amount of work that this required. blunders and enhance network weights. [1]. The use of smartphone applications to screen pa-tients for signs of anxiety, depression, mania, psychotic disorders, substance abuse, and post-traumatic stress disorders is currently being studied. These programs have already been widely available for primary care specialties8. Oftentimes, these gadgets may offer even more patient-reported information than traditional paper tests. With additional sensors worn as jewelry, in smartwatches, or even integrated into clothing, wearable gadgets are already beginning to expand the capabilities of smartphones. More quantitative data that can

identify movement and gait abnormalities can be obtained from these additional sensors9. Three general categories can be used to group applications related to mental health. Firstly, applications can function as a communication tool that connects patients with other patients, caregivers, physicians, or other social support networks. Second, with features like symptom tracking, self-monitoring, psychoeducation, and journaling, apps can supplement traditional in-person mental health treatments like med-ication management, psychotherapy, and other mental health therapies. Finally, they can function as a smart watchdog by employing algorithms that could automat-ically forecast a recurrence or worsening of symptoms. [2].

Utilizing mobile healthcare devices, the software ar-chitecture was developed to offer healthcare solutions for small clinic and home settings. It also goes into how the device data was put into a general Internet of Things (IoT) backend and then fetched via web services to create an interactive site that presents patient data uniformly. The method is unusual in that it applies to the health- care vertical by using a mobile device as a gateway to the backend IoT platform that facilitates application deployment. As a result, the mobile device has become a ubiquitous healthcare gateway, gathering data from medical devices via Bluetooth or Wi-Fi and uploading it to the back-end server in the format of choice. As a result, the edge platform is the mobile application. [3]. A summary of the literature on mutual-information- based registration in medical image processing is given. The three objectives of the survey are to serve as a resource for individuals seeking literature on a particular application, an introduction to the field for those who are unfamiliar with it, and an overview for those who are already employed in it. The many attributes of mutual information-based registration are used to categorize the techniques. The distinction is primarily based on appli-cation variables and technique. The choices made for image preprocessing, grey value interpolation, optimiza-tion, adjustments to the mutual information measure, and several types of geometric transformations are detailed in the techniques section. A bibliography of available materials on various modalities, interpatient registration, and anatomical objects can be found in the applications section. Studies of comparison using mutual information are also considered. The paper starts out by explaining mutual information and entropy. It ends with a review of past successes and possible future issues. [4].

The market for mobile app development is constantly expanding. When a developer makes an app, they are aiming it for a specific platform, such as iOS or Android. This is known as native app development. The creation of mobile apps can be done in any language, including Java, Objective-C, Kotlin, and Swift. The research was directed by these objectives: the effect of resource alloca-tion on the success of medical camp projects in hospitals; the impact of stakeholder involvement on the perfor-mance of medical camp projects in hospitals; the effect of the monitoring and evaluation team's skills on the performance of medical camp projects in hospitals; and, finally, the investigation of the effect of the adoption of a monitoring and evaluation system on the

performance of medical camp projects in hospitals. 1,005 patients and 220 key stakeholders, such as project directors, coor-dinators, project field officers, sponsors, patients, and partners engaged in supporting and collaborating with hospitals and medical centers to provide free medical checkups in Embu County, made up the study's total target population of 1,225 participants. [5].

Application development on the Android platform is explained in SHAO Guo-hong's research on application development based on the Android platform. Based on Linux, Android is an open-source and free operating system that is mostly used for mobile terminals, like smartphones and panel computers. The Open Handset Alliance, which is made up of more than 30 IT and cellular businesses, is developing it. Android aims to give consumers the greatest possible service quality and give developers more flexibility to create software that is more comfortable. With Android, therefore, mobile applications with more practical features can be created. Then, in order to introduce Android program design and development, covering classes application, program design, development, and analysis, audio/video file pro-curement is used as an example. [6].
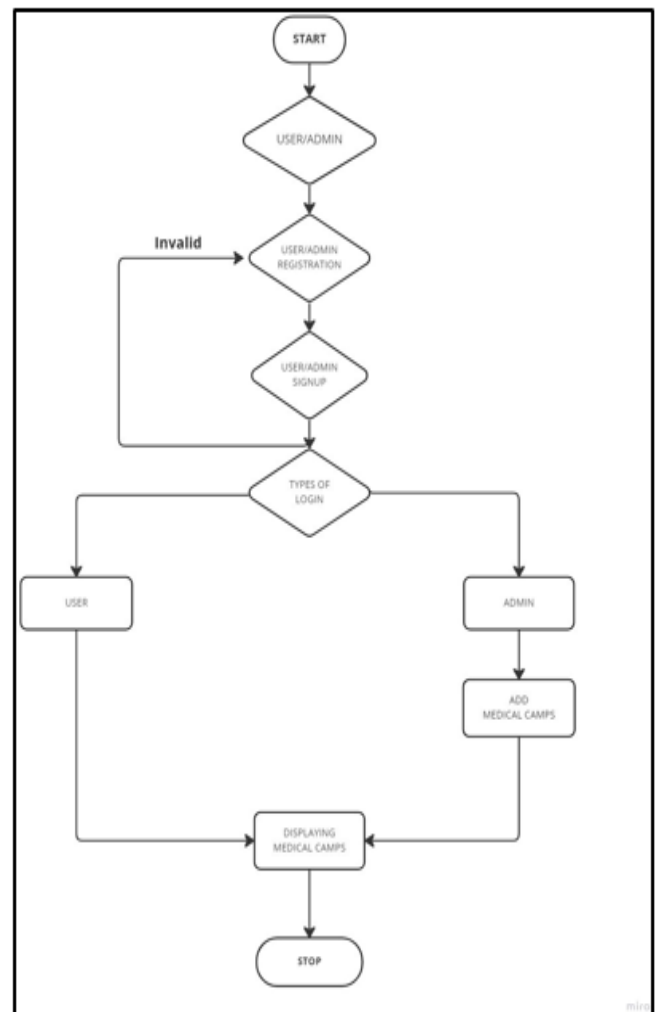
A. Algorithm

Fig 1: Structure of the Mobile Application

➢ *At User's Side:*

- Step 1: If the user doesn't have an account, then the user has to sign up by giving Username, Email, Mobile Number, City, City's Pin Code, Password.
- Step 2: Receives an SMS about Medical if a new Medical Camp is added in their locality of same Pin Code given by user during Sign Up.
- Step 3: Then he/she clicks on various organizations like NGO, Hospitals, Clubs, College, Clinics.
- Step 4: Then the user can view all the details about a Medical Camp.

- Step 5: After viewing the details the user can logout by clicking on logout button.

➢ *At Admin's Side:*

- Step 1: If the user doesn't have an account he/she has to sign up by clicking on register button and then by giving Username, Email, Mobile Number, City, City's Pin Code, Password.
- Step 2: Now admin can login with their valid credentials. Step 3: After successfull login the Admin can Add a new medical camp by clicking on Add Medical Camp button.
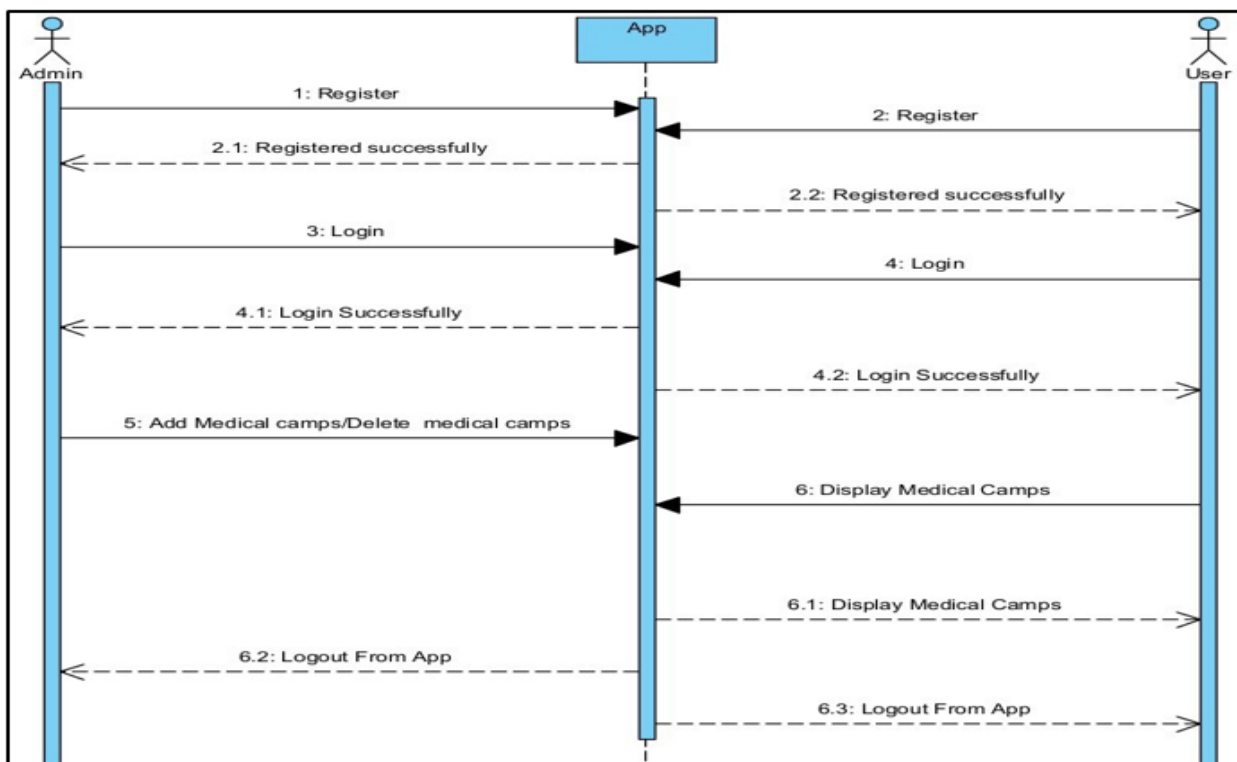

Fig 2: Interaction with the Mobile Application

The above diagram provides a better understanding of the algorithm used.

B. Working

Patients and Medical camp organizers are considered as the users in the society. Initially, they need to register in order to use the application with the emails they have. While Registering, the users need to provide Mobile Number, City/Village name, Pin Code of their respective location in order to get the Medical camp details initially via SMS. Users receive a verification email after regis- tration. The user won't be able to access the app until the verification is complete. Following email verification, the user will access the app's main page by logging in with the email address and password they provided during registration. There they can be able to check various orgaizations that conduct the Medical Camps and details of those Medical Camps. Regarding the Admin, initially he/she needs to register with their email and by giving a password. After logging in, the Admins can add the Medical Camp details in their respective domains like NGO, Hospitals, Clubs, Medical College and Clinics. Admin can

provide the details like Date, Doctor/Doctors name, Doctor's specialisation, Camp Location, Phone Number and Medical Camp Description. Soon after the Medical Camp details are added by the Admin, the User(Patient) gets an SMS containing the primary details of the Medical Camps only when the users' Pincode matches with the Pincode of specified Medical Camp Location. The user can also check for upcoming Medical Camps in the application.

III. DISCUSSION

This mobile application is designed to be beneficial to patients from economically disadvantaged backgrounds as well as to the Medical Camp organizers, allowing their hard work to be appreciated. Users are taken to the home screen after logging in, where they may see the specifics of the Medical Camp. The registration page that the administrator and user attempt to register is seen in the following image.
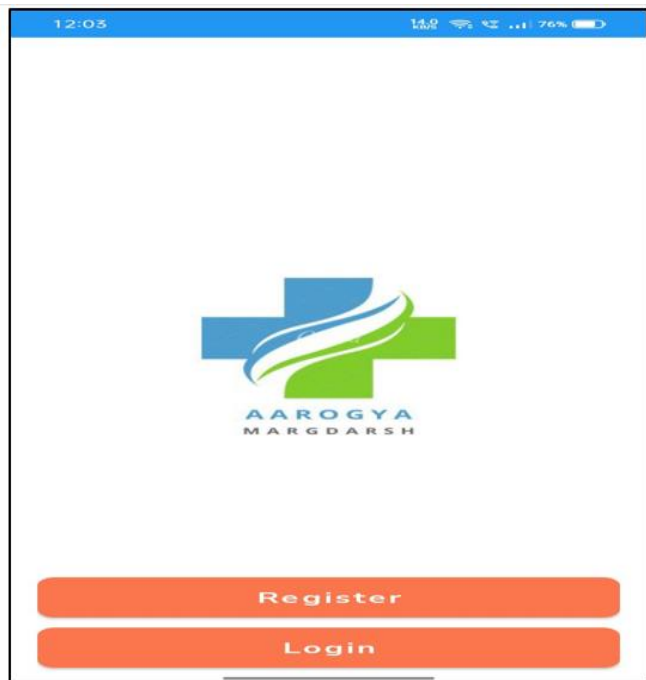
Fig 3: Registration Page

If a person wants to sign up he/she can register by entering details as of below figure. The below image represents the sign up page for User.
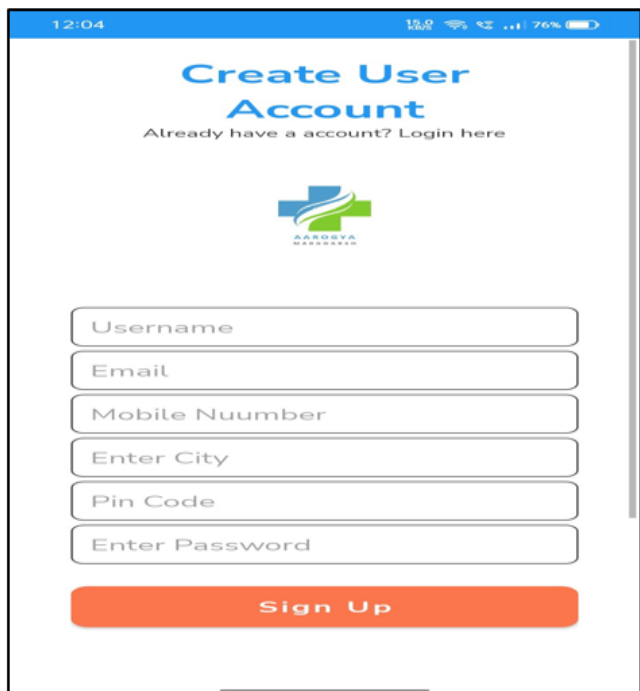

Fig 4: Registration Page for User.

If any User wishes to Login, he/she must have legit login credentials. On entering the user can see a screen as below.

Fig 5: Login Page of User

After the user logins he/she can select any of the NGO, Hospitals, Clubs, College, Clinics to view the Medical Camp details as of below figure. The below image depicts various Organizations conducting Medical Camps.
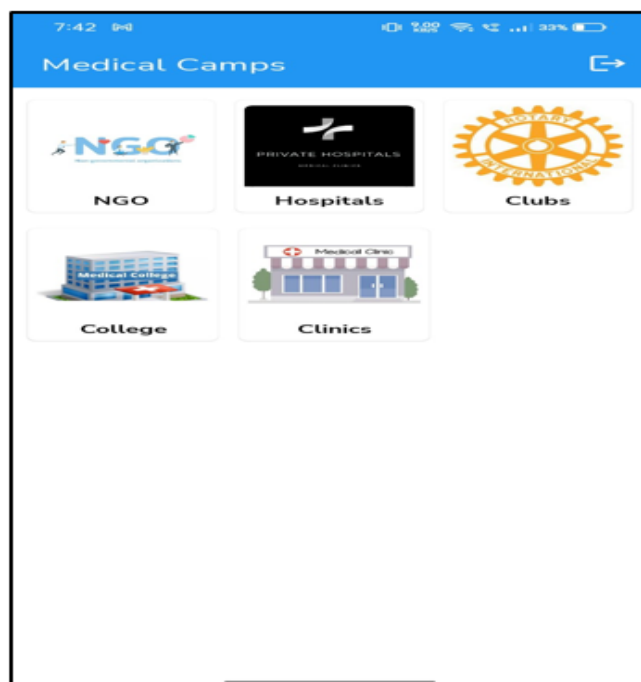

Fig 6: Various Organizations that can be Selected by Admin

The user can select any of the Camps Conducting Organizations After clicking on them, the details are visible as in below.

Fig 7: Details of a Medical Camp

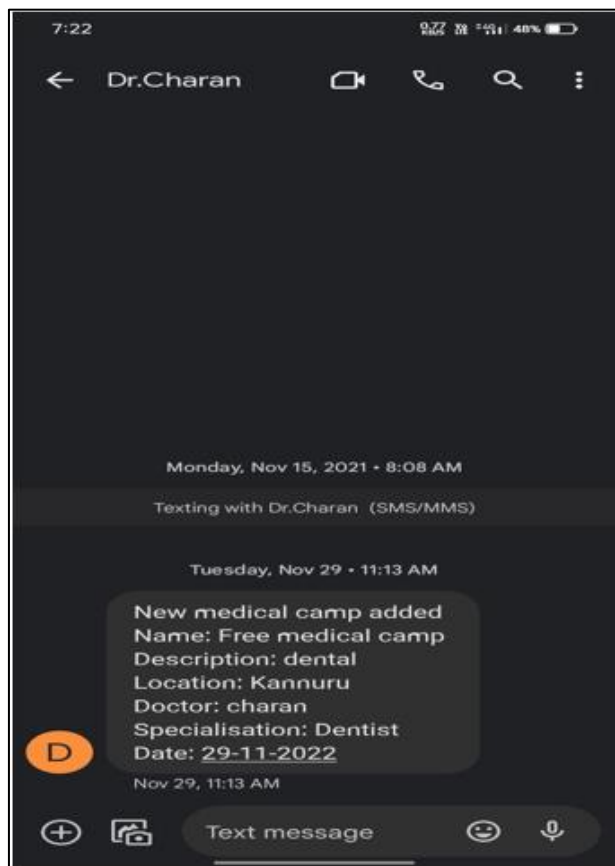The user gets an SMS to their mobiles soon after a new medical camp is added in the App, as shown in below image.

Fig 8: SMS Alert About Medical Camp

IV. CONCLUSION

In this project "Aarogya Margdarsh", we provide an efficient interface between the patients and the Medical Camp Organizers. Aarogya Margdarsh is made with the purpose so that the patients would be able to know Medical Camps' details well in advance. At the same time, this application helps the Medical Camp Organizers in such a way that their effort is maximum utilized by the patients. In the future, we plan to expand our initiative by adding a feature like every user could give their respective illnesses and diseases through the App and according to the data given, the camp organizers will be conducting the medical camps. We will also add the Geo location which will be more user friendly for users to locate Medical Camps.

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