

Doctor's Cloud

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Abstract: As we know, appointments with doctor's is really a very big deal these days. Also keeping the track of all the appointments along with all the prescriptions, tests, reports is again a big issue. By moving towards the new technology, we are making a web portal, which will help to keep the track of all these records safely, in the Doctor's Cloud. Doctors and patients both will have an open interface between them which will give the information regarding the patient and his/her disease. Clinical data describing the phenotypes and treatment of patients represents an underused data source that has much greater research potential than is currently realized. Mining of electronic health records has the potential for establishing new patient stratification principles and for revealing unknown disease correlations. Information technology has transformed the way health care is carried out and documented. Presently, the practice of health care generates, exchanges and stores huge amounts of patient-specific information. In addition to the traditional clinical narrative, databases in modern health centres automatically capture structured data relating to all aspects of care, including diagnosis, medication, laboratory test results and radiological imaging data.

Keywords: Cloud computing, Image compression, graphic file format, predictive coding

I. INTRODUCTION

Doctor's Cloud is a web portal that will keep a record of the patients, digitally in the cloud, allowing the doctor's to access it anytime required. A patient database consists of name, address disease, prescriptions, appointments, etc. All the above information these days is stored in paper format, which eventually gets torn, wet, or is misplaced. If any of such things happen, it's very difficult for the doctor as well as the patient to continue the treatment. Also if a doctor refer us to any other doctor, in very rare cases the other doctor gets about the actual condition of the patient. If we use Doctor's Cloud here, it'll be more easy for the doctor and the patient as well, to continue the treatment. There are various such problems regarding the manual work, the solution of mentioned above is Doctor's cloud. The doctor's will have to create their own account, as soon as the account is created, they can attend the patients and maintain their record. Cloud Computing is shared pools of configurable computer system resources that can be rapidly provisioned with minimal management effort, on sharing of resources. Third party clouds enable organizations to focus on their core business instead of expending resources on computer infrastructure and maintenance. Cloud technology will help the project to store all the information, along with this Image Compression plays an important role, there will be a lot of medical images, with various reports, which will consume a lot of cloud space if stored without compression. Also these images will take time to traverse if stored without compression. Image compression may be lossy or lossless. Lossless compression is preferred for archival purpose and also for Medical Imaging.

II. METHODS USED FOR IMAGE COMPRESSION

Run-length encoding – used in a default method in PCX (a graphic file format for running graphic programs on computer) and as one possible in BMP, TGA etc

- Area image compression
- DPCM (Differential Pulse Code Modulation) and Predictive coding.
- DPCM is used for image compression as well as video signal compression.

III. IMPLEMENTATION

Doctor's Cloud is an online web portal which can be accessed with any device having internet connection. Home page consists of sign in and sign up options, for the registered ones to login to the cloud and for the new ones to register. By providing the basic information whether the doctor or patient can register.



Fig.1 : Login Page

There is an admin for each organization who will look over all the registered doctors and patients, their information about treatment and all other activities including appointments, prescriptions, visits etc. Admin will have access to all the doctors and their activities along with the patients in the particular organization, but the doctors can access to the patients registered with them and no information will be accessible about other patients or other doctors' activities.

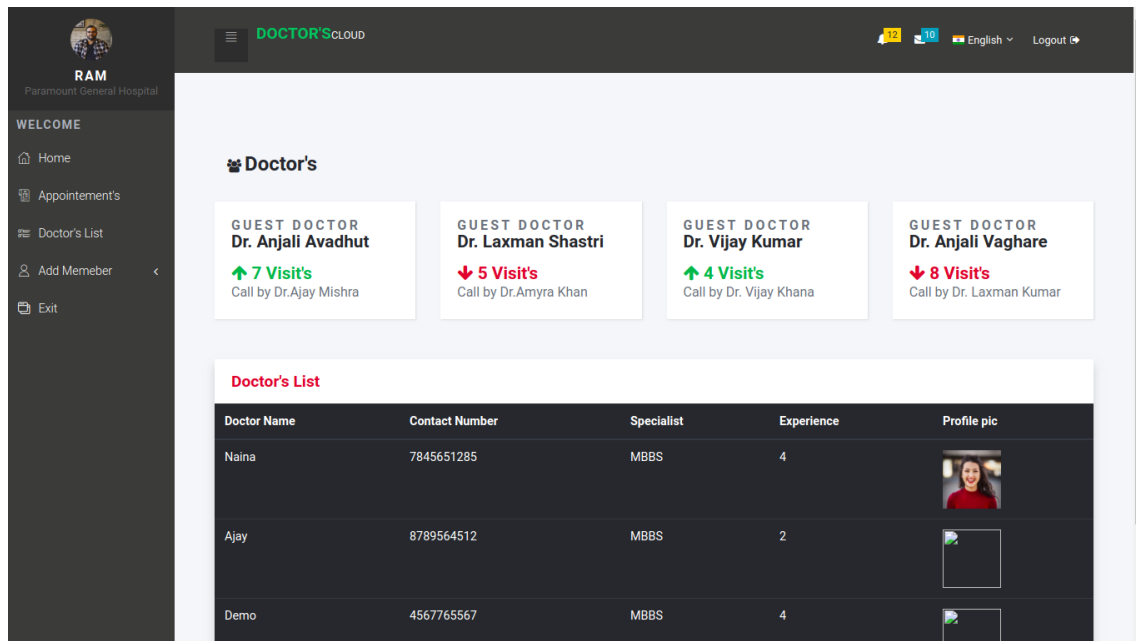
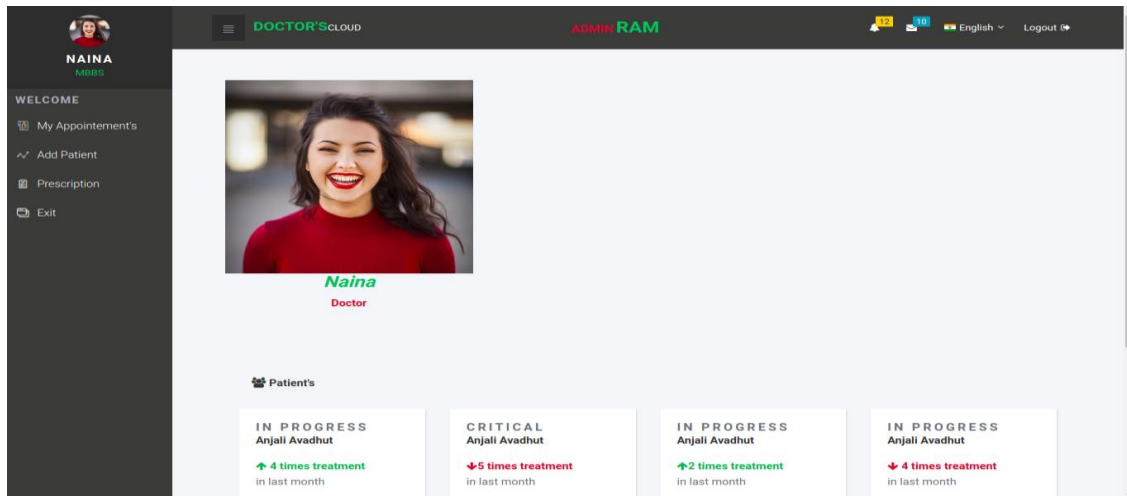


Fig.2 : Admin Page

Fig.2 shows the interface of the admin page where the list of doctors is available along with their name, contact info, experience, etc. Admin has the authority to add new members to the cloud; also, an admin can remove a particular data from the cloud. This data can be a registered ID or any other information regarding the users in the organization. The doctor interface is shown below in Fig.3, which shows the ongoing treatments of the doctor. Patients and their names appear also; it shows the patient condition whether critical or normal as per the data entered by the doctor for the doctor's reference purpose.



As the doctor starts the treatment of a particular patients, he fills a small form regarding the patient info and visit date and gives the prescription in a data entry box present. This information is the saved online into the cloud automatically. For the patient database there appears the list of appointments and also the no. of visits to the doctor for the patient reference. The patient portal has the facility to book an appointment with a doctor he wants treatment from.

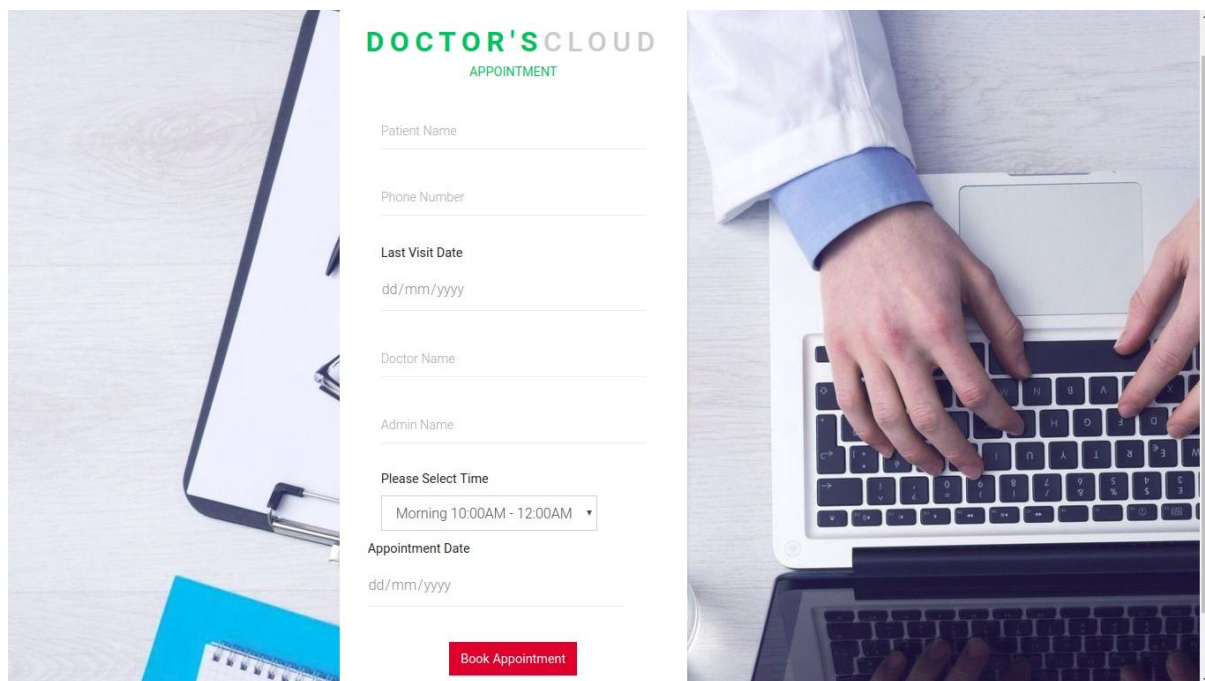


Fig.4: Booking Appointment

CONCLUSION

With the cloud technology, medical organisations can improve quality, outcomes, safety, efficiency, service, productivity, and lower budget. With the large consumer demand cloud technology allows health care organisations to treat and care for a patient faster with any health provider. Personal health records are private and should remain private with the appropriate privacy rules of and implementing such rules can reduce legal issues. The cloud technology made everything very easy and comfortable also entered data and information more accurate and safely. Due to its benefits many physicians will adopt it and also will provide satisfaction to patients by participating in the process of his situation and he/she with the medical provider can take the right decision, the patient also, have a quite awareness about his/her status.

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