

PROPOSAL FOR SMART CITIES HOSPITAL BY USING DIFFERENT DOMAINS**Rajkumar N* & Roopini J****

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Abstract:

From a carrier perspective, there was a rapid shift in the health care. The care affected and the pleasure of the customer are more important than ever. The requirement to keep customers happy with the provider of the utility, has increased swiftly and can improve the experience of an affected person by integrating cloud, IoT, ML and AI. This would help the infrastructure develop customized solutions to better meet its customers' needs and provide personalized responses. In this article we have a new model which focuses on some smart cities that uses a hybrid cloud, IoT, ML, and AI management system. This device could no longer be beneficial for the health care, but also for the affected person. Patients and doctors would increase the efficiency and simplification of the entire process. Advances in AI and ML are extremely advantageous for the medical company, because of cloud-based, completely computing. Through the integration of such additives into IoT it is possible to install an intelligent gadget for statistical management of a multi-area of expert hospitals and an awesome distinctive health facility.

Introduction:

The development of the IT sector has revolutionized the whole company from the retail sector to even our homes. The knowledge of this paper is in the medical field, one of the key sectors which has changed enormously following its implementation. With the complex and dynamic changes in the medication field, a multi-uniqueness hospital and an outstanding hospital with a good management system are miles extremely difficult to achieve. Most of today's technology hospitals are prepared for the functioning of the health centre with a hospital facts gadget or HIS. This web-based system primarily enables them to keep the entire procedure paperless by integrating patient facts, employees, docs, administrative items etc into a single software application. [1]

There are currently numerous clinical data systems in the marketplace but maximum of them are focused on the health center's daily capacity. [2] These systems want to be more smoothly updated, to reduce or to automate reproductive evaluations and the guide technique. [3] This can be achieved by using the proposed machine where a hybrid cloud-based machine would assist in linking the cloud to the personal cloud i.e. the hospitals' on-site cloud server, which contains information about their patients. This system could help patients to have their scientific data available on a particular ID, thereby reducing the time-lap in providing prior information to doctors and also the doctors can identify the workable problem that can be addressed faster and more appropriately. [4]

The purpose of this paper is to propose an intelligent healthcare system that is independent and assists the management as well as patients with the help of the hybrid cloud, IoT, ML and AI. [5] This gadget would focus on the personalization and systematisation of the entire system by helping the affected person to provide smart help and accurate identification. Cloud-based systems have been seriously attempted and are currently used in many hospitals. But most of the systems are not used to their full potential, especially because they did not include IoT and ML to enhance the scope of AI. The entire administrative and management facet of the health centre can be automated by AI and hybrid cloud. [6]

It has been quite common recently to see doctors with hand-held display devices such as tablets and iPads containing personal information and treatment of the affected person. [7] The information on these handheld gadgets has been scattered and, as a consequence, is incompatible, but it is possible to clean and process these facts with AI and hybrid cloud when this large quantity of information is mixed and amassed. The machine can find the cleaning and filtering to be carried out automatically when algorithms are also performed for device study. [8] This way, hospitals might have access to a massive database that would severely assist them and the patients. [9] It will mainly help you tackle daily diseases within the network, virology status and medications by using the database for various examinations and experiments for walks. [10]

Research Gap:

The current scenario of this sector is the most effective one in which the clinic, insurance companies and the person concerned exchange their data on health comfortably [11]. Electronic fitness data have become an effective tool for improving security, exceptional fitness and an organised fitness system.

- It is very difficult to enlarge access to health services in a less costly way without the support of a hybrid cloud system. [12]
- Hospitals can reduce ordinary costs of healthcare and increase administrative efficiency through enforcement of this machine.
- In this quarter, the penetration rate for the clouds will increase. Telemedicine is soon to catch up in the market and the model proposed could make it even more consumer-friendly [13].
- The generated volumes of statistics are helpful to have current data to make the clinical demanding situations confronted with the U.S. as a whole known [14]
- The healthcare region's main boon may be the Public cloud. The facts of country-wide health would have to be analysed easily if it were able to combine data from hospitals, insurances and others. [15]
- The major advantage of this machine could be that, using the unique patient IDs, it would help to reduce the number of

scientific mistakes and increase precision and productivity and would also be centres for reducing the total procedural accuracy. [16]

- The proposed model is a speciality of the difficulties that could be addressed by powerful hybrid cloud, IoT, ML, and AI integration.

Proposed Model:

The draught version is designed for patients to be able to schedule appointments for medical care, see their doctors' results, examine previous evaluations, and the doctor could, with scientific inventory control, prescribe medicines to their sufferers and use intelligent aid for the examination. This is defined in the following element:

Patient Unique Medical ID:

Each patient is assigned a special medical ID for him or her. This ID could contain the sleeping patterns, a training schedule and various fundamental fitness statistics that could be provided by the smartphones and intelligent wearable tools of the affected person. This could also provide insights into the previous prescription of the patient, appointments, diagnoses, test consequences, hypersensitive reactions and also upgrading changes into the ID on a routine basis.

Doctor ID:

The physicians can be assigned the same thing as each affected person with a unique ID. Each health practitioner can maintain a totally unique ID based primarily on the schedule that can be made in accordance with the appointments. This makes it easier for everyone to be efficient in applying medical doctor and patient time. The medical identity of the health care professional may also include the performance facts, views of previous patients, and rankings based on the performance through both the healthcare facility and the patients. This would provide the patient with sufficient information to make the reservation.

Scheduling and Appointments:

The system could go through the agenda of the individual in his/her mobile phone to test a date and time slot, and it could be provided to the health practitioner on the base. The maximum possible response could be scheduled sooner or later for each physician and individual. This could make sure that the doctor is present and that the patient is also free in no confrontations. Capable of appointing time-table and e-books could become a smooth business both for the hospital and for the patients. Patients could view the doctor's time table and can therefore be booked on the basis of a convenient time slot for both. The patient can make an appointment or the doctor can do the same on behalf of the person affected if the patient is going to be present for an observation or perseverance with his medical treatment. When an ultrasound scan, an x-ray, or an easy procedure takes place, the patient or physician may e-book the given room according to the availability and desire of the physician. If the patient is required to be hospitalised, he can check the beds and book them online. The computerization of the entire scheduler can do this. AI and ML will help to gather facts from the phone of the person concerned on the calendar or time table and will check the medical agenda. Once it was completed, it would be able to choose a slot that was pleasant both to the patient and to the doctor's supply.

Medical Inventory Management:

Intelligent dispensers are used to obtain the medications prescribed by the doctor. The patients can take the drugs in the dispenser by entering their specific ID and sell the medicines by identifying the ID and connecting it with the doctors' prescription. Doctors can test the supply in real time unless the supply is present AI may offer recommendations for the exchange of medicines and may also admire the dearth of the inventory control crew. AI will test the inventory on the basis of the operation or the technology planned to ensure that the supplies and medicines specified are available if an alert can no longer be ordered as a result. It can usually be done at a certain time. This may help to exponentially reduce inventory prices.

Smart Assistance for Test Results:

In the non-public hybrid cloud of the health centre and the patient's particular medical ID, X-rays, tests, EEGs, MRI and other checks or prognostic findings are automatically stored. The saved X-rays, scanned copies are analysed and sent to the doctors for testing using skilled ML and AI algorithms. Detailed assessment using each of the devices and the health care provider reduces errors in the detection of problems. This helps the healthcare professional and diagnosis and correction of the problem more quickly.

Treatment and Prescription Assistance:

AI will help identify the viable problems in the frame on the basis of the analysis of the test. After the problem has been identified, it will give the health practitioner suggestions for remedies and remedies. The doctor can then choose the high-quality remedy on the basis of the advantages and disadvantages. In light of the alternatives chosen by the physician from the AI recommendation, the device supported by ML examines what recommendations should be made for a specific remedy and is thus able to provide a more accurate, accurate treatment and a more accurate prescription.

Working Process:

The patient uses his scientific identity to schedule an appointment in the clever health facility system operations. This step includes the specific ID of the health practitioner and the unique ID of the patient connecting with the community. An appropriate time slot would be selected and the appointment booked by checking the patient's calendar on his phone. The doctor would be able to access the past clinical information of the patient right away and his basic medical statistics through the medical ID of the patient. This is available via the hybrid cloud server that could include an AI and ML-based general public cloud, and a non-public cloud controlled by the hospital database. The whole disease identification system is done smoothly with the help of the diagnosis assistant after the patient meets the physician. This would help the health practitioner to analyse the results of the different reviews. With this intelligent assistant, the physician could easily diagnose trouble and find the purpose and provide the affected person with a cure in no time at all. The inventory management device would help physicians to recognise the supply and appropriateness of the medications and would offer them an adequate remedy or prescription based entirely on it. With the help of

IoT and built-in sensors, drug supplies are up to date in real time. This could help to keep inventory levels throughout the sanatorium.

Future Work:

This system could help to get a lot of records entered by using this AI database, and could expand an algorithm that could help to boom procedural accuracy. [17] This would revolutionise the company as a whole, as it could help to detect diseases early and to treat it at low prices and correctly. The machine can help decrease the time to wait for the control effects of patients who could not wait days to detect the final test result. In a few hours, it may be known, so it could take little or no time to offer patients a cure. In the long run, this device could help the effectiveness of the clinic and its doctors, decrease the workforce and time taken for different tactics and reduce the operating value, which might lead to the complete sanatorium system automation.

Conclusion:

By developing its operation by using the hybrid cloud, IoT and AI, the proposed model can change the face of health IT by providing help to the whole health system. These elements could improve the entire operation of hospitals when introduced together. It can make it extra prepared and green and knowledgeable about the care of patients and help to reduce the overall value that hospitals and sufferers are able to achieve. Everybody can be benefited by reducing the variety of scientific errors, and this can be done with the help. The diagnostics assistant could analyse the hybrid cloud from the public pool with ML. The system can reduce patients' readiness and thus increase the large number of patients treated according to the day. Afterwards, the system could run alone with a manual guide. For both the sanatorium and the person concerned in the long run it is extremely useful.

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