Telemedico Portal for Booking Consultation with Best Doctors

Asst. Prof. Bhagyata Mhatre, Sneha Khollam, Kirti Patil, Snehal Patil, Pratiksha Bhosale
Department of Information Technology,
Siddhant College of Engineering,
Sudumbre, Pune

Abstract- It is a real challenge when we try to move through an unknown environment and can't rely on our own health. As during this COVID-19 pandemic many peoples are facing problems to visit the clinics and take the consultations with the doctors. As the condition is notbeing good so it is not suitable for a person to take the physical consultation with the doctors. This paper focuseson developing online portal names as 'Telemedico' tomake audio or video consultation with doctors online. This portal is the distribution of health related services and information via electronic information and telecommunication technologies. It allows long-distance patient and clinician contact, care, advice, reminders,education, intervention. Telemedico is sometimes used asa synonym, or is used in a more limited sense to describe remote clinical services, such as diagnosis and monitoring. When rural settings, lack of transport, a lackof mobility, conditions due to outbreaks, epidemics or pandemics, decreased funding, or a lack of staff restrict access to care. Online information and health data management and healthcare system integration. Telemedico could include two clinicians discussing a caseover video conference.

Keywords- conference, audio, video, healthcare, consultation..

I. INTRODUCTION

Telemedico is the delivery of health-relatedservices and information via electronic communication.The terms telemedico and telemedico can be used interchangeably, but they have different definitions. Telemedico refers specifically to the remotedelivery of healthcare services and clinical information using telecommunications technology, such as internet, wireless, satellite and telephones. Telemedico is definedas the use of electronic communications to share medical information from one place to another with the intentionof improving a patient's health.

Telemedico is an expansion of telemedicine, butunlike telemedico (which focuses on curative aspects of health) it encompasses preventive, promotive andcurative aspects of health and many different healthcare professions are involved in its delivery. Telemedico is not a new concept. There arereports of its use since the early 20th century whenproviders used two-way radios for communication.

Then from the 1960s, health professionals usedtelephones to provide advice and guidance to patients. However, with the introduction of various newtechnologies, telemedico is now challenging the wayhealthcare is delivered. Over time, new telemedico terminology hasdeveloped based on the field of health care (teleradiology and telepsychology) or the purpose of the intervention (telerehabilitation or telecare).

II. EXISTING SYSTEM

In the existing technology the patients used tomake an appointment with the doctor physically, or thepatient used to call the doctor and used to take theconsultation but not too deeply. Here is the problem arisethat is any patient is infected to the virus also he/she caninfect to the other patients who are sitting for taking anappointment in a queue. Also if there is too much crowdthen there is the possibility that the other can get theinfection. Also there is some online consultation portalwhich offers patient consultation but at the expensiveprices also the user-interface is difficult to handle by the normal users.

Advantages:
* It is light and portable.

Disadvantages:
* Mush expensive.
* Complicated user-interface

III. PROPOSED SYSTEM

In our system the patient can take the onlineconsultation through video or audio call as per their need.They can find the doctors and take the consultation fromwhere ever they want. In this case it is easy for the patientto find the best doctors might be the doctor stays too farfrom the patients location it doesn't matters. Our system is a website which is built using django framework it has very simple user interface that anyone can use it. The patient can register and login to thesystem using the forms and

can find the doctors using search bar, and can book the appointment with them via zoom link if the doctor accepts the appointment then the link will get generated via zoom api. In this system if the users register to the system then their user credentials will get encrypted by the password has hing algorithm provided by the django itself which is best password hashing technique and it is secured.

The admin can check that the doctor is genuineor fake while viewing their certificates, licence which is compulsory to upload for the doctor's registration form.If the doctor is successfully registered then. They can access the doctors dashboard in which the appointment booked by the patients will get displayed.

The doctors can make the choice that they want to acceptor reject the appointment, if they accepts then the zoomlink will get created via zoom api and the same will get reflected In the patients my-appointments tab throughwhich the patients can check the status of their appointment.

Advantages:
* Light weight and easy to use.
* Cheaper than the existing system.
* Much secure as it uses SHA-256 which is thelatest secured password hashing algorithm.

Disadvantages:
* It will not work in the areas which has lack ofinternet connectivity.
* It needs internet connection.
* User needs to wait for the doctor response afterbooking the appointment.
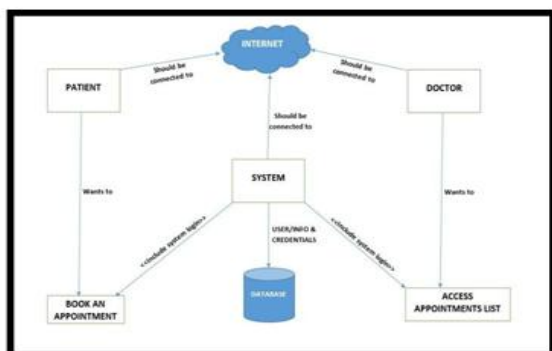
IV. ARCHITECTURE OF THE PROPOSED SYSTEM

Fig 1. System Architecture of Telemedico .

1. System Architecture:
In the above given figure the system architecture of our telemedico project is designed. In this if the patients wants to book the appointment and access my

appointment lists then the patients should be logged in to the system and his/her device should be connected to the internet. If the doctors want to access the appointment lists means doctors dashboard then the doctors should belogged in to the system and their device should be connected to the internet. If they register to the system then the user credentials of the users / doctors will get stored into the postgres data in the encrypted format mostly password.
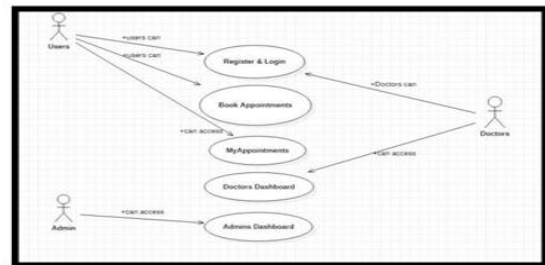

Fig 2. Use case diagram.

In the above given use case diagram it is defining that the users, doctors can register and login to the systemby putting their user credentials.Users can book the appointments and can accessthe my-appointments lists after being logged in to the system. Doctors can access the doctor's dashboard while being logged in to the system, and also the admin can access the admin dashboard the by-default dashboard provided by the Django framework.

2. Methodology used:
The spiral model is similar to the incrementaldevelopment for a system, with more emphasis placed onrisk analysis.
The spiral model has four phases: Planning,Design, Construct and Evaluation. A software projectrepeatedly passes through these phases in iterations

Why we have used spiral model?
* The spiral model enables gradual releases andrefinement of a product through each phase of the spiralas well as the ability to build prototypes at each phase.
* The most important feature of the model is itsability to manage unknown risks after the project hascommenced; creating a prototype makes this feasible.
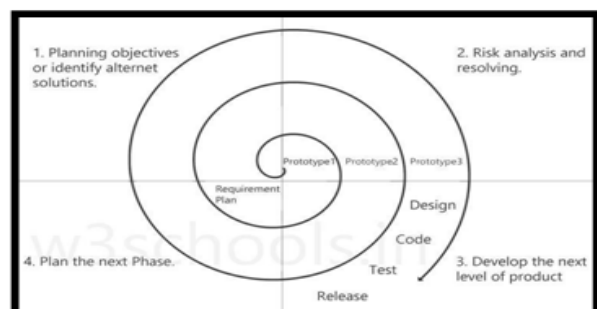

Fig 3. Methodology used.

V. CONCLUSION

Telemedico is an exciting technology and continues to hold the promise of being truly transformational in terms of healthcare delivery to everyone's benefit. As the population continues to growat a rate faster than the concomitant growth in the number of available qualified clinicians and facilities (institutional beds, investigation laboratories, day-care centres, etc.), this technology will need to be optimally harnessed to ensure that all those who need care are catered to at least at acceptable levels, if not the best possible.

As more persons are cared for without them having to crowd the institutions, the care providers will beable to "visit" the patients under their care anytime from anywhere without having to physically travel, and those requiring continuous monitoring cared for with pro active interventions, it will definitely lead to a situation where only those who actually need to have a physical encounter with their clinicians will need to travel and be attended to.This will help address many of the issues that currently challenge the system. The patient loads in the facilities will come down and clinicians will need to travel less and be able to devote more time and effort on those patients who actually need such attention.

Telemedico will definitely improve both communication and levels of satisfaction. Although costsand their reimbursements coupled with legal aspects will continue to remain a factor, the increased use of the technology will usher in a greater degree of confidence in it allowing all stake holders to learn the optimal ways andmeans of harnessing the technology, which will in turnease the underlying pressures that continue to limit its wide spread use.

REFERENCES

[1] https://en.wikipedia.org/wiki/Telehealth
[2] N M Hjelm, "Benefits and drawbacks of telemedico".
[3] Geoffrey Moore, "Digital medicine Telemedico2020 and the next decade".
[4] Shujing Sun,a Susan F. Lu,b Huaxia Ruia, "DoesTelemedico Reduce Emergency Room Congestion".
[5] John Craig* and Victor Patterson, "Introduction tothe practice of telemedico"
[6] Morgan Waller1 & Chad Stotler 1, "Telemedico: aPrimer".
[7] Shashi Bahl, Ravi Pratap Singh, Mohd Javaid, Ibrahim Haleem Khan, Raju Vaishya, Rajiv Suman, "Telemedico technologies for confronting COVID-19 pandemic".