

Telemedico Portal for Booking Consultation with Best Doctors

Asst. Prof. Bhagyata Mhatre, Sneha Kholam, 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 not being good so it is not suitable for a person to take the physical consultation with the doctors. This paper focuses on developing online portal names as 'Telemedico' to make 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 as a 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 lack of 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 case over video conference.

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

I. INTRODUCTION

Telemedico is the delivery of health-related services and information via electronic communication. The terms telemedico and telemedicine can be used interchangeably, but they have different definitions.

Telemedico refers specifically to the remote delivery of healthcare services and clinical information using telecommunications technology, such as internet, wireless, satellite and telephones. Telemedico is defined as the use of electronic communications to share medical information from one place to another with the intention of improving a patient's health.

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

Then from the 1960s, health professionals used telephones to provide advice and guidance to patients. However, with the introduction of various new technologies, telemedico is now challenging the way healthcare is delivered.

Over time, new telemedico terminology has developed 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 to make an appointment with the doctor physically, or the patient used to call the doctor and used to take the consultation but not too deeply. Here is the problem arises that is any patient is infected to the virus also he/she can infect to the other patients who are sitting for taking an appointment in a queue. Also if there is too much crowd then there is the possibility that the other can get the infection.

Also there is some online consultation portal which offers patient consultation but at the expensive prices also the user-interface is difficult to handle by the normal users.

Advantages:

- It is light and portable.

Disadvantages:

- Much expensive.
- Complicated user-interface

III. PROPOSED SYSTEM

In our system the patient can take the online consultation through video or audio call as per their need. They can find the doctors and take the consultation from where ever they want. In this case it is easy for the patient to find the best doctors might be the doctor stays too far from the patients location it doesn't matter. 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 the system 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 hashing algorithm provided by the django itself which is best password hashing technique and it is secured.

The admin can check that the doctor is genuine or 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 accept or reject the appointment, if they accept then the zoom link will get created via zoom api and the same will get reflected in the patients my-appointments tab through which 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 the latest secured password hashing algorithm.

Disadvantages:

- It will not work in the areas which has lack of internet connectivity.
- It needs internet connection.
- User needs to wait for the doctor response after booking the appointment.

IV. ARCHITECTURE OF THE PROPOSED SYSTEM

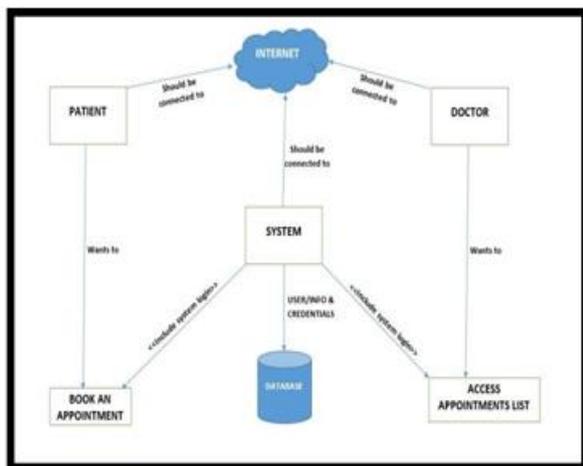


Fig 1. System Architecture of Telemedico .

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 be logged 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.

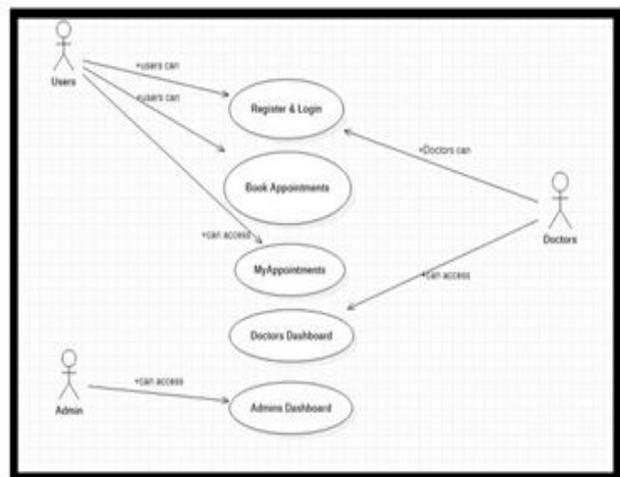


Fig 2. Use case diagram.

In the above given use case diagram it is defining that the users, doctors can register and login to the system by putting their user credentials.

Users can book the appointments and can access the 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 incremental development for a system, with more emphasis placed on risk analysis. The spiral model has four phases: Planning, Design, Construct and Evaluation. A software project repeatedly passes through these phases in iterations.

Why we have used spiral model?

- The spiral model enables gradual releases and refinement of a product through each phase of the spirals as well as the ability to build prototypes at each phase.
- The most important feature of the model is its ability to manage unknown risks after the project has commenced; creating a prototype makes this feasible.

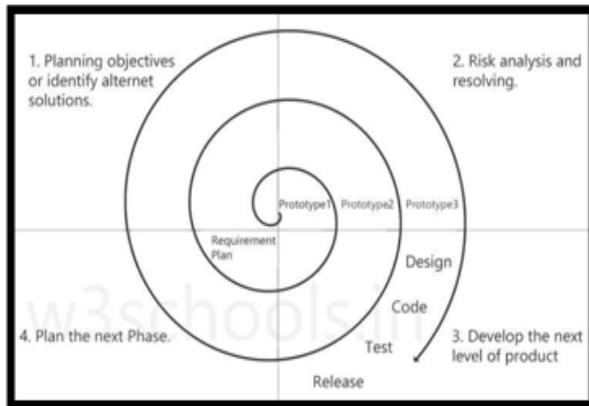


Fig 3. Methodology used.

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 grow at 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 be able to "visit" the patients under their care anytime from anywhere without having to physically travel, and those requiring continuous monitoring cared for with proactive 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 costs and 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 stakeholders to learn the optimal ways and means of harnessing the technology, which will in turn ease 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 Telemedico 2020 and the next decade".

- [4] Shujing Sun,^a Susan F. Lu,^b Huaxia Ruia, "Does Telemedico Reduce Emergency Room Congestion".
- [5] John Craig* and Victor Patterson, "Introduction to the practice of telemedico".
- [6] Morgan Waller¹ & Chad Stotler¹, "Telemedico: a Primer".
- [7] Shashi Bahl, Ravi Pratap Singh, Mohd Javaid, Ibrahim Haleem Khan, Raju Vaishya, Rajiv Suman, "Telemedico technologies for confronting COVID-19 pandemic".