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Online Medicine shopping in India: Anticipating Trends Post-Pandemic

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Abstract: ***In the fast-moving world of digitalization, everything is going online. Almost all the products or services used by a human is put online for sale or use. In the era of the pandemic, the speed of this online system is enhanced exponentially. However, in the same pandemic, it was noticed that the medical system is not up to the requirement. There are many websites or applications available in the market that provides the option of buying the medicines online and get delivered at the home step. Nevertheless, this platform limits the purchase of medicines. Therefore, in the present work, a platform is built up that can provide services like online medicines purchase, online booking of appointments to the doctor where the patent can also get the option to get the prescription online. The use of the technology can be made by store owners or managers to check the stocks and can take care of the procurement requirements. Every individual in society can take the advantage of this E-health facility.***

I. INTRODUCTION

Technology has emerged as a drive to make our daily lives easier. Technological transformation has emerged in the medical sector through various platforms such as e-health, m-health and telemedicine. E-Health technology can be used to disseminate information or services related to the health sector between health professionals, patients and clinics. The wireless connection equipped with mobile phones has made the communication process faster for patients who have also increased the use of healthcare. Mobile technology enables patients with restricted mobility, but continuous clinical intervention, to receive remote monitoring advantages. It can increase the chances of preventing an emergency by detecting its essential signs and biosignals. Comprehensive healthcare studies are carried out to detect new equipment and to develop applications for clinical practical applications. The ultimate objective of eHealth is to ensure that treatment for all patients is rationalized and patient safety and disease results improved[1, 2].

For each task, a shortcut is needed to save time. Therefore, different applications and techniques are developed in several fields needed to achieve the work quickly and accurately. The development of e-health services for the same purpose is done in the present work. There have now been a lot of medical apps, but a full application that could manage a medical store has not been produced. Many aspects of the medical centre require improvement. In a medical store, a large stock of medicines is kept. It's out of context for a normal person to manage the supply alone. A lot of medicine is wasted as the products expired and the store owner doesn't know.

Also, often a customer comes to the shop and returns without the drug because there is no medicine. These are some of the factors that need to be cured in the store. To eradicate these problems from the root, the development of an application is done. Both customer and storekeeper are beneficial. The shop will always have access to its shop using this application. Without being present in this region, it can efficiently manage stock, expired products, and other things. There are many applications that have been developed and designed for a wide variety of medical applications, such as 1Mg, Medscape, Pharmeasy etc. These applications are mainly intended to order medicines online. So, few features of the above-mentioned applications are considered that would help both general people, store owners, and students for information.

II. LITERATURE REVIEW

A country like India which are in the developing stage is heading towards digitalization in most of the segments, which include healthcare too. The Indian healthcare system still differs widely from the developed countries, with low government spending of 1% of GDP and 71% of out-of-pocket payments. In terms of high infant mortality and high maternal mortality (212/100,000 live births) India even lagged in neighbouring countries like Bangladesh and Sri Lanka. The decline rate in these two has been observed in the previous two decades[3]. However, major reforms in the healthcare sector are still necessary to improve the provision of Indian health services. Improved IT use can lead to an increase of healthcare facilities accessible in remote areas. To improve the overall healthcare sector in India, an integrated initiative, which involves several stakeholders including Central Government, State Government, healthcare providers and IT industry is needed[4].

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The use of ICTs in the area of health (e-health) is capable of improving various health-related fields. It can improve access to good healthcare facilities and information on health[5]. E-Health has been coined for at least 1999 for a relatively recent period. It is used for ICT in the areas of health and health, including health services, health surveillance, literature on health, health education, knowledge and research[6].

Electronic health services like e-consultations are a fast, direct and well-documented route for primary and specialist consultation. These electronic consultations were an efficient and practical way to improve access by specialists [7]. In addition, e-consultations are especially useful when specialist appointments have long waiting periods[8].

Assessing the impact of e-health on patient outcomes in developing countries, such as India, is extremely difficult due to different infrastructure constraints and a lack of research. Although electronic health record assessments (EHRs) have shown eHealth benefits in the advanced countries, such as a 5-9% decrease in visit rates, improved results for patients with renal disease, a five-year benefit of US$86,400 per supplier in a large academic hospital and an increase in efficiency of 6-6% per year in a major hospital network [9]. There is an absence of EHR in India which makes it difficult to evaluate e-health and other different programmes for health improvement [10].

It was observed in the several applications that are already available. After looking at our project we added some features and changed some features. We can analyse which features are already implemented using the search for prior art and, if we can modify them better, we can. Before art, ideas and analysis of their characteristics are important to the project [11, 12].

III. METHODOLOGY

Current technology will contribute to the flow of supplies as economically and reliably as possible from source to user without substantial waste, loss of quality or robberies. A store's primary objective is to receive, stock and stock. Make doctor-patient communication more convenient. Send patient emotions and health reports online (for example, readings of glucose from diabetics to your primary doctor) Maintain accurate online health records, 24/7, and mobilise all information.

The technology is divided into three modules/aspects, i.e., 1. Store owner, 2. Customer, and 3. Students. The shop owner can manage the example of the store: customer information addition, shop management, billing generation, profit analysis. The app can be used by the customer for timely reminders of medication, medication orders online, laboratory or doctor appointments. To provide the customer with anytime-anywhere service. To lower the number of the Store employees. Reduce shop manager's workload.

E-Health is a people's website. This application supports people who want to use this facility and want to learn how e-health can be used in their daily lives. People running health stores can use this site easy to manage their products, they can also contact their suppliers and facilitate their tasks and keep updated. Students can gain sufficient knowledge of medicine and its treatment by maintaining their physical routine. The health outcomes of ordinary people can be updated. You can also keep your health routine on this website. This application can be used to manage your store, maintain your health routine, and even receive information about medicines and their procedure. We have developed a simple UI to help people access and get the results from the site most. The interface is also clean and cool that will not irritate or complicate the user's use.

Certain tools requirements are utilized in the present work. The following are those tools:

1) Wi-fi (Wireless Fidelity) or Internet Connection
2) Mobile or Tablet
3) PC (Personal Computer)

IV. DESIGN

A. ER Diagram

The word ER diagram refers to Entity Relationship Diagram (ERD). The relations between the entities in a database are shown in an Entity Relationship Diagram. An object, a component of data, is an entity in this context. A collection of similar entities is a set of entities. The attributes that define the properties of these entities can be. The ER diagram illustrates the logical structure of databases in defining the entities and their attributes and showing the relationships between them. To design the database, ER diagrams are used. Figure 1 depicts the ERD of the current work.

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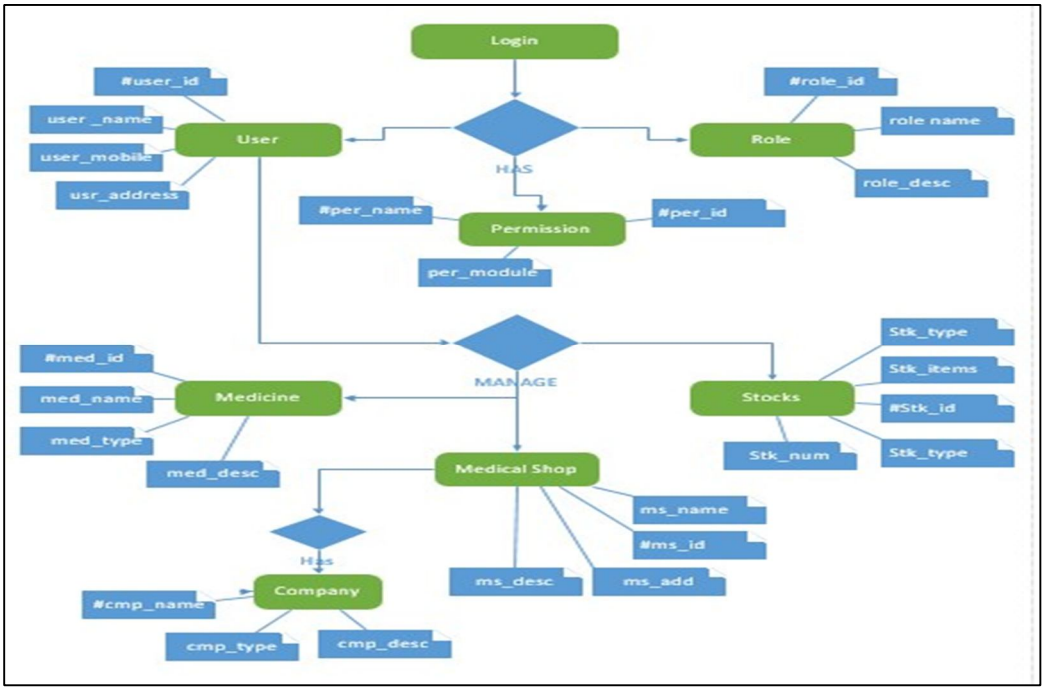


Figure 1 ER Diagram

B. Use Case Diagram

A use case diagram (figure 2) in the Unified Modeling Language (UML) can summarise the details of the system's users (also known as actors) and their interactions with the system. It will be constructed using a set of specialized symbols and connectors. A good use case diagram can assist the team in discussing and representing:

1) Circumstances in which the system or application interacts with other people, organizations, or systems that cannot be controlled.

2) Objectives that the system or application assists those entities (referred to as actors) in achieving.

3) The scope of the system

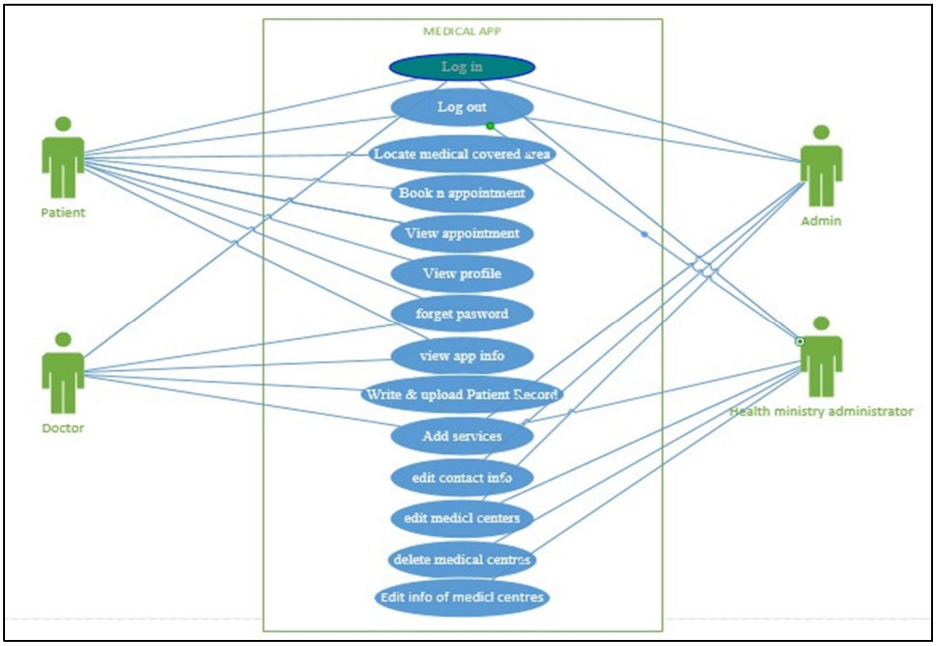


Figure 2 Use case diagram

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C. *Activity Diagram*

Another important diagram in UML for describing the dynamic aspects of the system is the activity diagram (figure 3). An activity diagram is essentially a flowchart that depicts the flow from one activity to another. The activity can be described as a system operation. The control flow is directed from one operation to the next. This flow can be sequential, branched, or concurrent in nature. Activity diagrams deal with all types of flow control by employing various elements such as fork, join, and so on.

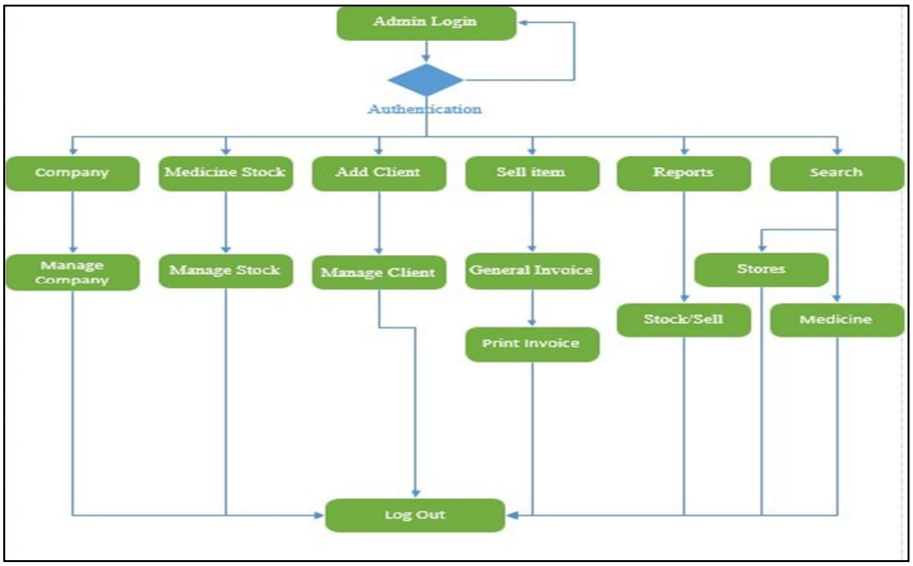


Figure 3 Activity Diagram

V. RESULTS

The homepage that is the interface users see at the instant the website is loaded is demonstrated in figure 4. The users need to register initially to access all the services of the website. By entering the name, email, phone number, and password, the user can get registered. Users can log in to the website successfully after the registration process. A Contact us page is also provided, by which the user can contact the technical team in case of any problem faced by the user. The user profile page allows users to update their name and change their password and keep their account. One can also check the payment history and the orders. The interface of the user profile page is demonstrated in figure 5. A shop page is provided on the website where users can order the medicines online. The user needs to log into the site and provide the information needed to continue shopping before ordering. The interface of the shop page is depicted in figure 6. A categorized search can also be made to find the particular product.

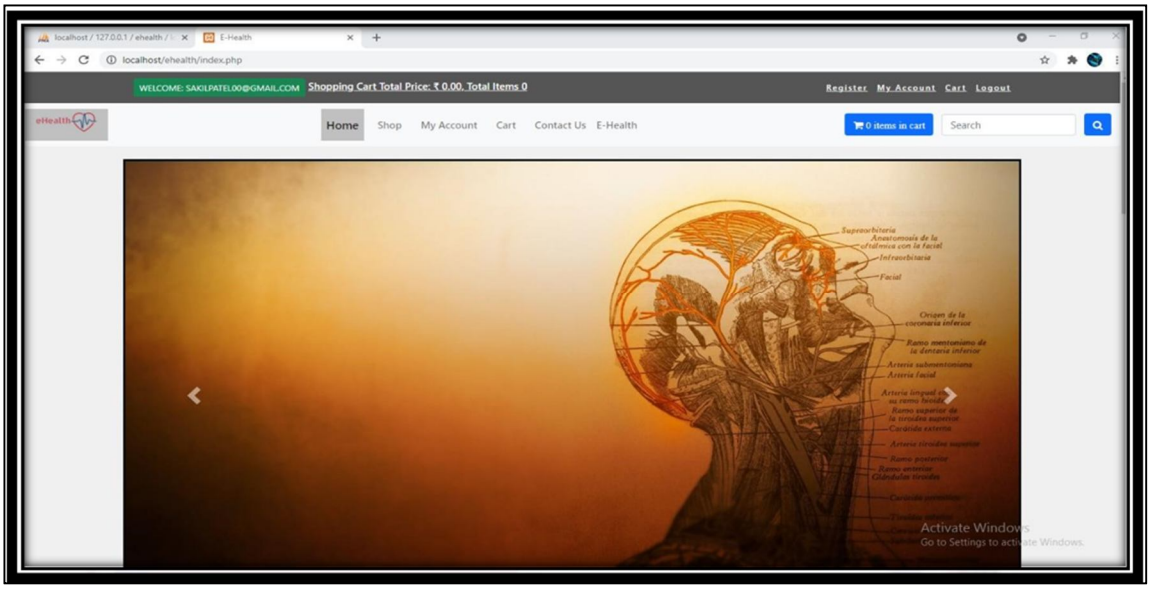


Figure 4 Homepage

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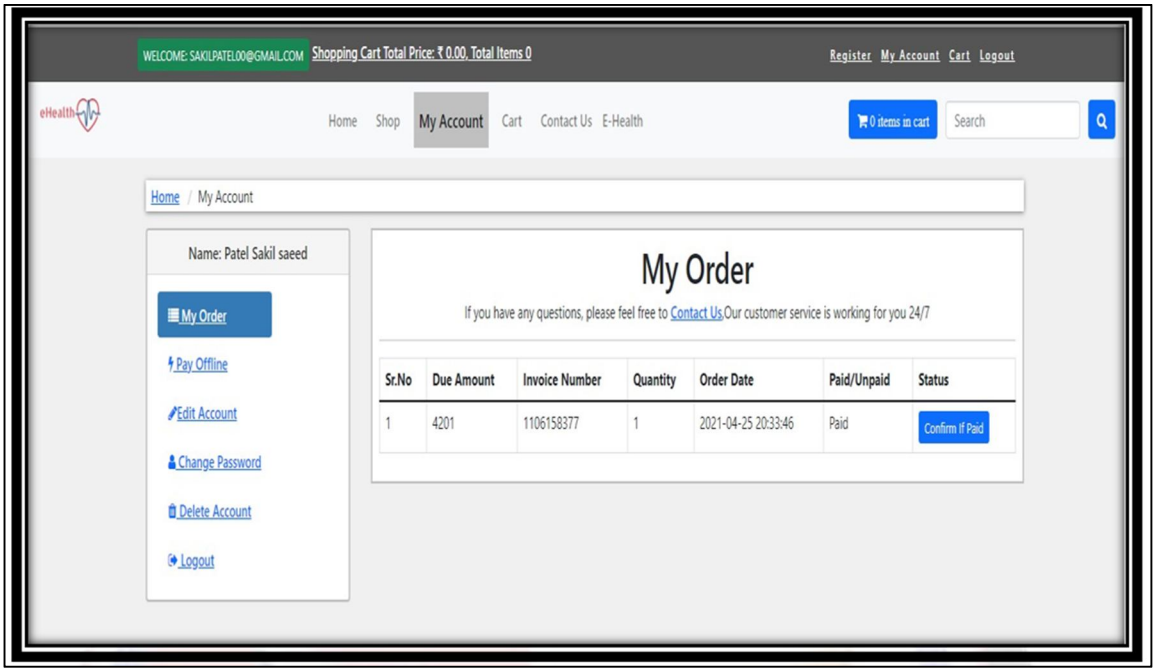


Figure 5 User profile page

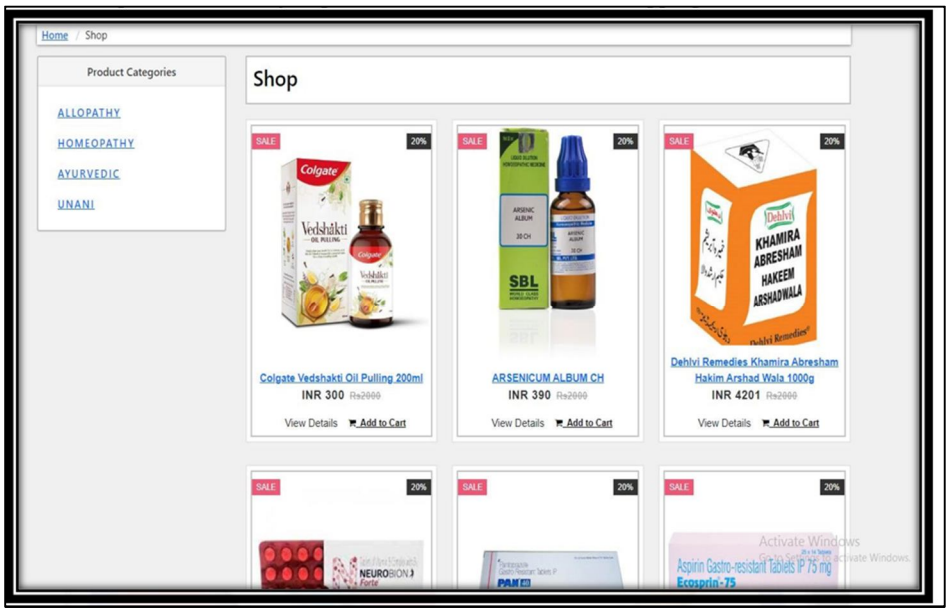


Figure 6 Shop page

A cart page is also given on the website. Upon completion of the required products, the user is adding them to this cart page. He/she will finalise the purchase by finishing the transaction by clicking on the Checkout button. The button takes to a new window in which the customer pays following the modes available. The “E-health” section is made that consists of two factors. 1. Appointment page, and 2. Nearby Hospitals or clinics. The interface of the “appointment page” is shown in figure 7. This page is for users who want to meet doctors for their health problems. The user can also be given a doctor's description online. The interface for nearby clinics or hospitals is depicted in figure 8. On this page, users can look for clinics or hospitals closer to it. The opening time and closing time can also be found. The admin panel is provided on the website where all the services can be managed. The activation and deactivation of all particular services can be controlled by the admin panel (figure 9).

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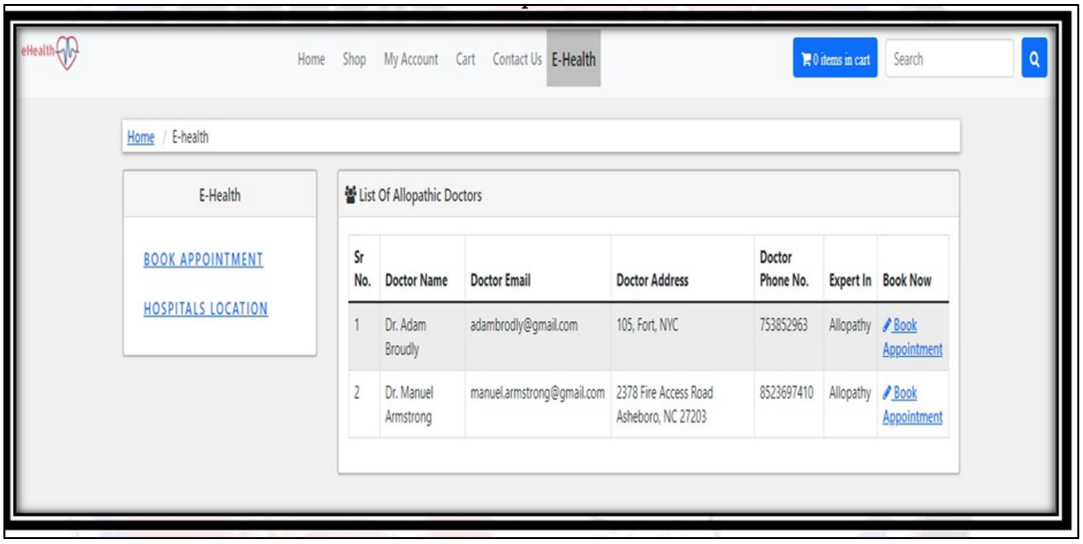


Figure 7 Appointment Page

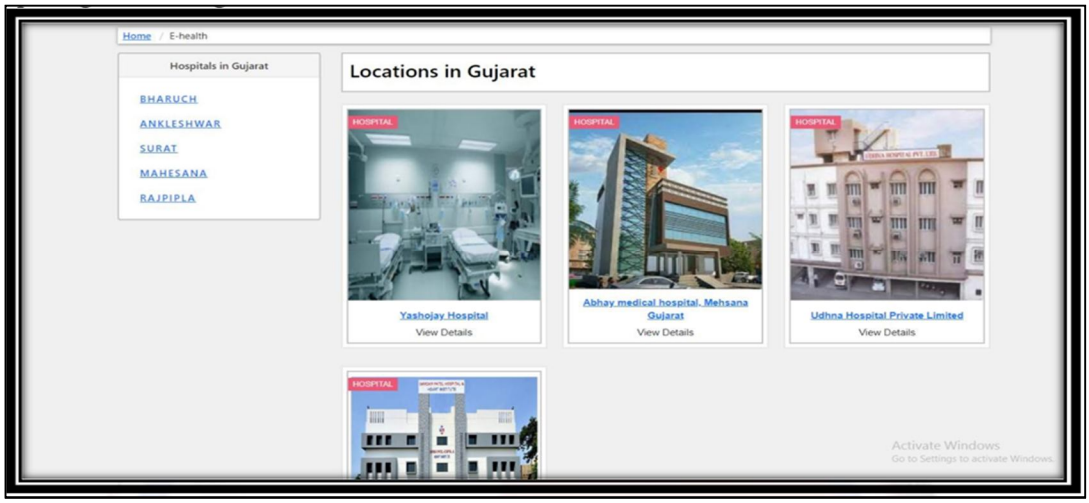


Figure 8 Nearby clinic

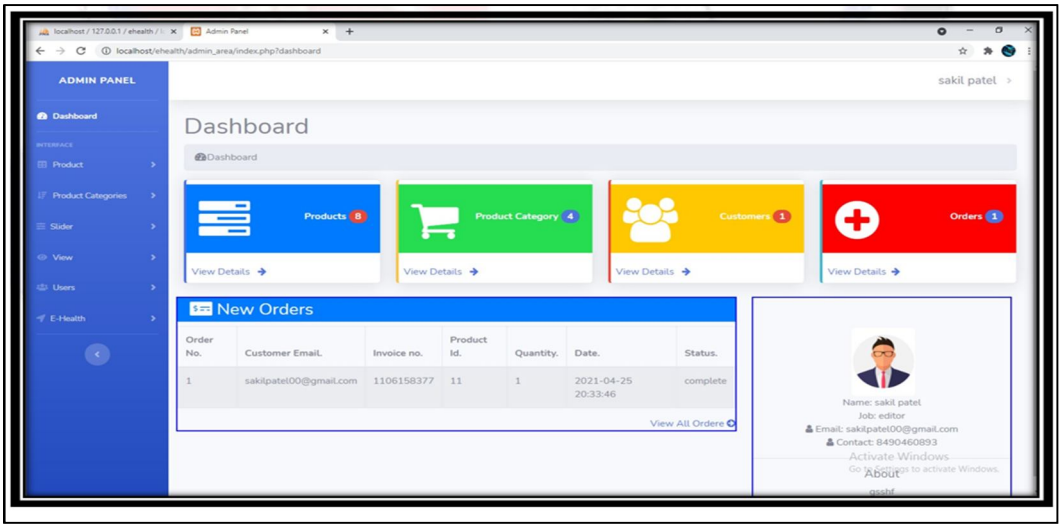


Figure 9 Admin Panel

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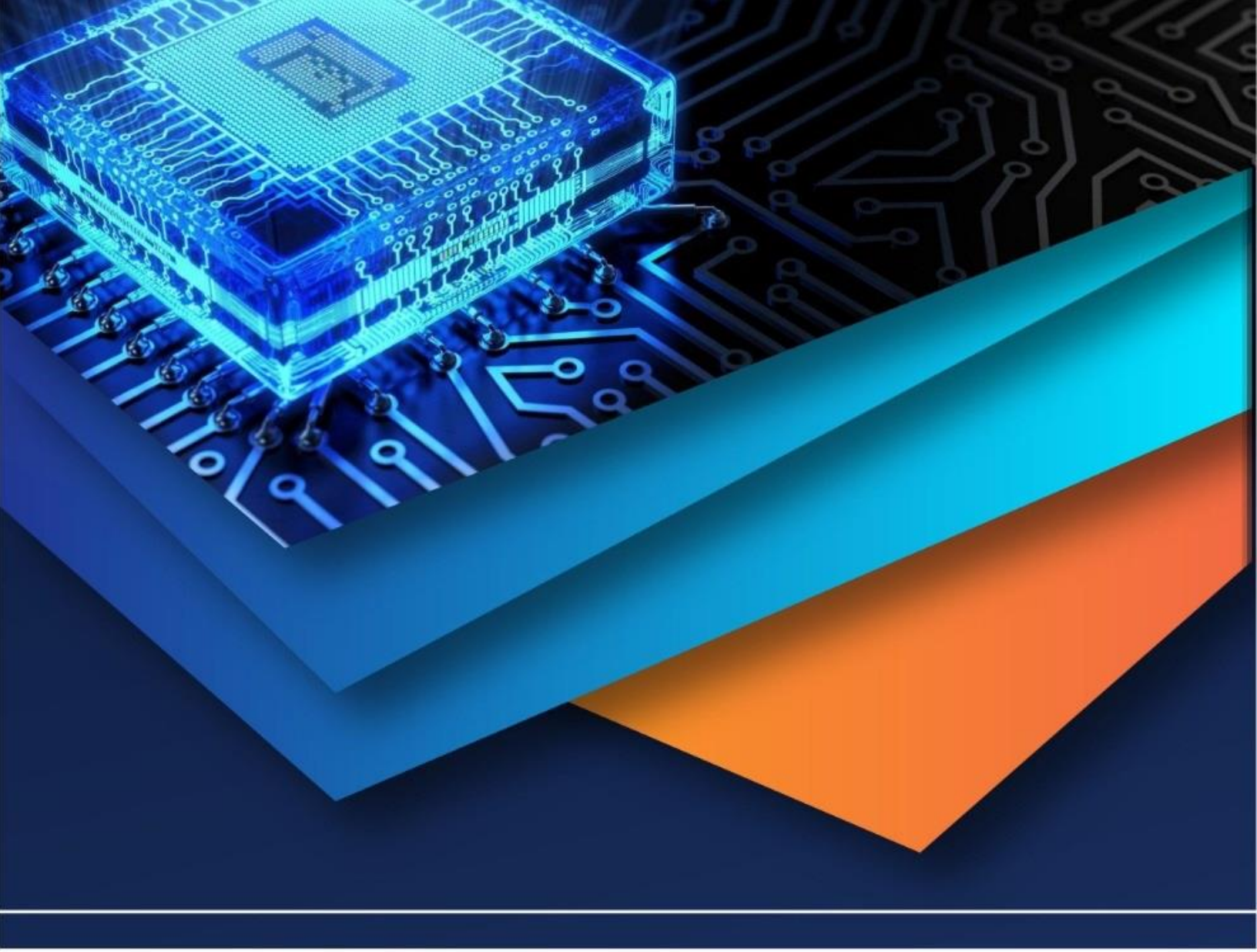
VI. CONCLUSION

After the application of the present work, it was found that the owner of the store using this technology will get continuous access to his shop. In the absence of the store manager or owner, the management of stocks and expired items or products can be done efficiently. There are many applications that have been developed and designed to be used for various medical applications such as 1Mg, Medscape, Pharmeasy, etc. These applications are mainly for online medicinal products. However, the current technology focuses on helping the general people getting their medicines online along with getting their appointments with the doctor and traction their applications. The application of the work is not limited to general people, the store owners, managers, and students can also take advantage of it. Hence, the current application or website to all group ages peoples, persons working in many professions and every human being in the society.

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