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Web Based Medicine Availability and Pharmacy Locator

Siva M, Sunil kumar S, Dr. N .Parvin

Student, Department of Computer Science BS Abdur Rahman Crescent Institute of Science and Technology,
Chengal Pattu, Tamil Nadu, India

Student, Department of Computer Science, BS Abdur Rahman Crescent Institute of Science and Technology,
Chengal Pattu, Tamil Nadu, India

Assistant Professor, Department of Computer Science, BS Abdur Rahman Crescent Institute of Science and Technology,
Chengal Pattu, Tamil Nadu, India

ABSTRACT: Web based medicine availability and pharmacy locator is an online application designed to aid users to find the necessary medications within the closest medical stores quickly and effectively. When it comes to emergencies and patients with some chronic diseases, looking for a certain medication within a number of pharmacies may be quite frustrating and time-consuming. The application makes it easier for users to find the necessary medications almost instantly within the closest pharmacies with the use of a single online interface.

The platform allows pharmacy owners to monitor and update their stocks in real time. The system also enables viewers to search medicines by name, view prices, store information, as well as directions to the closest pharmacy. The services are supplemented by functions such as medication reservations, stock notifications, and reviews, which improve overall system usability. Location-Based Service (LBS) Application Uses location (area, city, GPS) to show nearby pharmacies.

Built with current web technologies including HTML5, CSS3, JavaScript, and a secure backend system, this system is mobile and web-friendly. These features provide ease and efficiency in handling medicine, pharmacy, user, and transaction information through an efficiently structured database.

In general, It provides a beneficial effect for both patients as well as pharmacists. This contributes to a well-organized health system.

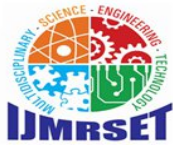
KEYWORDS: hypertext markup language (HTML), cascading style sheets (CSS) and java script.

I. INTRODUCTION

Access to medicines is one of the most important parts of maintaining good health and treating diseases. Medicines help people recover from illnesses, control health conditions, and prevent complications. Whenever someone becomes sick or faces a medical emergency, obtaining the correct medicine quickly becomes a top priority for both the patient and their family members. However, many people experience difficulties when trying to find the required medicine in nearby pharmacies. [1].

In real-life situations, it is very common for patients or their family members to visit several pharmacies in search of a specific medicine. If the medicine is not available in one pharmacy, they must go to another store and ask again. This process may continue until they finally find a pharmacy that has the medicine available. Such a process can be frustrating and time-consuming, especially when the medicine is urgently needed. [2].

The problem becomes even more serious during emergency situations, such as sudden illness, accidents, or critical medical conditions. In these situations, even a small delay in obtaining the required medicine can cause additional health risks. People may feel stressed and worried when they cannot find the medicine quickly.



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Another challenge occurs during late-night hours or holidays when only a few pharmacies are open. During these times, it becomes even more difficult for patients to locate the required medicine. People may have to travel long distances just to find an open pharmacy that sells the medicine they need. [3].

This issue is more noticeable in rural and semi-urban areas. In such areas, pharmacies are usually located far from each other, and information about medicine availability is not easily accessible. Many people do not know which pharmacy has the medicine in stock. As a result, they may waste valuable time visiting different stores without success [4]. Because of these challenges, there is a need for a system that can help people easily find medicines without visiting multiple pharmacies. A digital platform that provides information about nearby pharmacies and medicine availability can greatly improve the healthcare experience for patients.

To address this problem, the Web-Based Medicine Availability and Pharmacy Locator system has been proposed. The main aim of this project is to help users quickly locate pharmacies where a specific medicine is available. This system provides a simple and convenient way for users to search for medicines using an online platform.

The proposed system works through a web-based application that can be accessed from any device with an internet connection, such as smartphones, tablets, or computers. Users only need to enter the name of the medicine they are searching for in the search box provided on the website.

Once the medicine name is entered, the system searches the database that contains information about pharmacies and available medicines. The application then displays a list of pharmacies that currently have the medicine in stock.

The results provided by the system include useful details such as the pharmacy name, address, contact number, and availability status of the medicine. In addition, the system can also show the distance between the user and the pharmacy so that users can choose the nearest option.

The system also uses location-based services to identify the user's current location and suggest nearby pharmacies. This feature helps users find the closest pharmacy quickly without spending time traveling to far locations.

By providing real-time information about medicine availability, the system reduces unnecessary travel and saves valuable time for users. Patients and caregivers can easily identify where the required medicine is available before leaving their homes. This platform can be especially useful for elderly people, patients with serious illnesses, and caregivers who need medicines urgently. It can also help healthcare professionals quickly locate medicines for their patients.

Another advantage of this system is that pharmacies can update their medicine stock information regularly. This ensures that users receive accurate and up-to-date information about medicine availability. Overall, the Web-Based Medicine Availability and Pharmacy Locator system offers a practical solution to the common problem of searching for medicines. It simplifies the process of finding nearby pharmacies and helps users obtain medicines more efficiently. In conclusion, this system improves accessibility to essential medicines by connecting patients with pharmacies through a digital platform. It reduces stress during emergencies, saves time, and supports better healthcare services for the community.

II. LITERATURE REVIEW

In recent years, technology has played a major role in improving healthcare services. Many researchers and developers have focused on building digital systems that help patients access medical services quickly and efficiently. One of the important areas of research is the development of systems that help users find medicines and locate nearby pharmacies.

Several studies have highlighted the difficulties faced by patients when searching for medicines. In many places, people still depend on traditional methods such as visiting different pharmacies one by one to check whether a medicine is available. This process is time-consuming and often frustrating, especially during emergencies. Researchers have therefore suggested the use of web-based and mobile technologies to improve the process of locating medicines.

One research study proposed the use of online pharmacy management systems that allow pharmacies to maintain



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digital records of medicines and their availability. These systems help pharmacies manage their inventory more efficiently and provide better services to customers. However, many of these systems are designed only for internal pharmacy management and do not provide direct access for patients to check medicine availability.

Another study focused on the development of medicine search platforms that allow users to search for medicines online. These platforms provide information about medicines, including their uses, dosage instructions, and possible side effects. While these systems provide useful medical information, they often do not include real-time pharmacy location services or stock availability.

Researchers have also explored the use of location-based services (LBS) to help users locate nearby healthcare facilities. Location-based services use technologies such as GPS and mapping systems to identify the user's location and display nearby services such as hospitals, clinics, or pharmacies. These systems help users quickly find the nearest healthcare facilities. However, many of these systems only provide the location of pharmacies and do not indicate whether the required medicine is available.

Some recent research has introduced mobile applications for pharmacy search and medicine delivery services. These applications allow users to order medicines online and receive home delivery. Although these applications are useful in urban areas, they may not always be available in smaller towns or rural regions. In addition, some platforms focus mainly on online purchases rather than helping users locate nearby pharmacies.

Another important area of research involves healthcare information systems that integrate pharmacy databases with digital platforms. These systems aim to connect pharmacies and users through centralized databases where medicine availability information can be stored and updated. Such systems help provide accurate information to users and improve communication between pharmacies and customers.

Despite these developments, many existing solutions still face certain limitations. Some systems lack real-time updates about medicine availability, while others do not provide location-based search features. In some cases, systems are too complex for users with limited technical knowledge. As a result, there is still a need for a simple and efficient platform that allows users to quickly search for medicines and locate nearby pharmacies.

The Web-Based Medicine Availability and Pharmacy Locator system proposed in this project aims to address these challenges. The system combines medicine search functionality with location-based pharmacy identification. By integrating pharmacy data with a web-based interface, the system allows users to easily search for medicines and find nearby pharmacies that have the required medicine available.

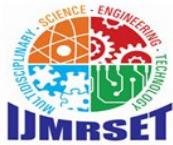
The proposed system also focuses on providing a simple and user-friendly interface, which ensures that users of different age groups can easily use the platform. In addition, the system uses modern web technologies to ensure fast performance and reliable results.

In summary, previous research has shown that digital healthcare systems can significantly improve access to medical services. However, there is still a need for systems that specifically focus on medicine availability and pharmacy location services. The proposed system builds on the ideas from earlier studies and aims to provide a practical solution that helps users locate medicines quickly and efficiently.

III. RESEARCH METHODOLOGY

The development of the Web-Based Medicine Availability and Pharmacy Locator system follows a structured and systematic methodology. The main objective of this methodology is to design and develop a web application that allows users to search for medicines and locate nearby pharmacies where the medicines are available. The system is developed using modern web technologies and database management techniques to ensure efficiency, accuracy, and ease of use.

The first step in the methodology is requirement analysis. In this stage, the main problems faced by users when searching for medicines are identified. Many people struggle to find the availability of medicines in nearby pharmacies, especially during emergencies. Based on this problem, the system requirements are defined. These requirements include



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medicine search functionality, pharmacy location detection, user login and registration, and displaying pharmacy details.

The next stage is system design. In this stage, the overall architecture of the application is planned. The system is divided into two main parts: the frontend and the backend. The frontend is responsible for interacting with users, while the backend processes user requests and manages the database. The design phase also includes the creation of system diagrams, database structures, and user interface layouts.

The frontend development of the system is carried out using HTML, CSS, and JavaScript. HTML (HyperText Markup Language) is used to create the structure of the web pages, such as headings, forms, search bars, buttons, and result sections. CSS (Cascading Style Sheets) is used to design the layout and improve the visual appearance of the website. It controls colours, fonts, spacing, and responsive design so that the application works well on different devices such as smartphones, tablets, and computers.

JavaScript is used to add interactive features to the application. It allows the system to respond to user inputs, validate form data, and display search results dynamically. JavaScript also helps connect the frontend with the backend server to retrieve data from the database.

The backend development is implemented using frameworks such as Flask or Node.js. The backend handles the logic of the system, including processing user requests, searching the database for medicine availability, and returning the appropriate results. It also manages user authentication and ensures that the system functions correctly.

Another important component of the system is database management. A database is used to store information related to pharmacies, medicines, stock availability, addresses, and contact details. The database allows the system to quickly retrieve information when a user searches for a medicine. Each pharmacy record contains details such as the pharmacy name, location, contact number, available medicines, and stock status.

The system also incorporates location-based services to identify nearby pharmacies. The user's current location can be detected using location APIs or map services. The system then calculates the distance between the user and available pharmacies and displays the nearest options first. In addition to search functionality, the system may include a medicine filtering mechanism. This feature allows users to search for specific medicines and view pharmacies where those medicines are currently available. The results are displayed in a clear and organized format so that users can easily select the best option.

The final stage of the methodology is system testing and evaluation. During this phase, the application is tested to ensure that all features work correctly. Testing includes verifying the login system, medicine search functionality, database queries, and location services. Any errors or bugs found during testing are corrected to improve the performance of the system.

After successful testing, the system is deployed as a web application that users can access through their web browsers. The final system provides an efficient platform for locating medicines and nearby pharmacies quickly and conveniently.

Overall, the research methodology ensures that the Web- Based Medicine Availability and Pharmacy Locator system is designed in a structured and efficient manner. By combining web development technologies, database management, and location-based services, the system provides a reliable solution for helping users find medicines easily and quickly.

IV. EXISTING SOLUTION

In the current healthcare environment, most people still depend on traditional methods to find medicines. When a person needs a particular medicine, they usually visit the nearest pharmacy and ask the pharmacist if the medicine is available. If the medicine is not available in that pharmacy, they must go to another pharmacy and repeat the same process. This continues until they finally find the required medicine.

This traditional approach may work in some cases, but it is often inefficient and time-consuming. Patients or their



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family members may need to visit several pharmacies before they find the medicine they need. This process becomes more difficult when the medicine is rare or when demand for that medicine is high.

Another major issue with the existing system is the lack of real-time information. People usually do not know which pharmacy has the medicine available before visiting the store. Because of this, they may travel to different locations only to find that the medicine is not available there. This results in wasted time, effort, and transportation costs.

The problem becomes even more serious during medical emergencies. In emergency situations, patients require medicines immediately. However, the current system does not provide a quick way to check medicine availability in nearby pharmacies. As a result, valuable time may be lost while searching for the required medicine.

Late-night situations also create difficulties in the existing system. Many pharmacies close at night, and only a few remain open. During these hours, people may struggle to locate an open pharmacy that has the required medicine. Without proper information, patients may need to travel long distances just to find a pharmacy.

In rural and semi-urban areas, the situation can be even more challenging. Pharmacies may be located far away from residential areas, and transportation options may be limited. People living in these areas may not know where the nearest pharmacy is located or whether it has the medicine they need. This makes the process of finding medicines even more difficult.

Another limitation of the existing system is the absence of a centralized database for medicine availability. Each pharmacy manages its own inventory independently, and this information is not shared with the public. Because of this, users cannot check medicine availability online before visiting a pharmacy.

The existing system also lacks digital integration and automation. Most pharmacies rely on manual processes to manage their medicine stock and customer interactions. Without a digital system, it becomes difficult to provide accurate and updated information to users.

In addition, elderly people and patients with serious illnesses may find it difficult to travel to multiple pharmacies. This can create inconvenience and additional stress for both patients and their caregivers.

Because of these limitations, the traditional method of searching for medicines is not always efficient or reliable. Patients often spend unnecessary time and effort visiting multiple pharmacies without knowing whether the medicine is available.

Therefore, there is a need for a more efficient and technology-based solution that can help users easily locate nearby pharmacies and check medicine availability before visiting the store.

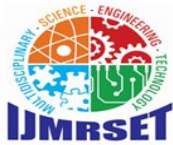
V. PROPOSED SOLUTION

The proposed system, Web-Based Medicine Availability and Pharmacy Locator, is designed to solve the problems found in the traditional method of searching for medicines. The main goal of this system is to provide a fast, simple, and reliable way for users to check medicine availability and locate nearby pharmacies through an online platform.

In this system, a web-based application is developed where users can easily search for medicines and find pharmacies that have the required medicine in stock. The system allows users to access the platform using any device with an internet connection, such as a smartphone, tablet, or computer. This makes the system highly accessible and convenient for users.

The proposed system begins with a user registration and login module. Users can create an account using their mobile number or email address. This helps maintain secure access to the application. After registering, users can log in to the system and start searching for medicines.

Once the user logs into the system, they can enter the name of the medicine in the search bar provided on the website. The system then processes the request and searches the database for pharmacies that currently have the



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medicine available. This process happens quickly and provides accurate results to the user. The system maintains a database that contains detailed information about pharmacies and medicines. This database includes information such as pharmacy name, address, contact number, available medicines, stock status, and working hours. When a user searches for a medicine, the system checks this database and retrieves the relevant information.

One of the important features of the proposed system is location-based pharmacy search. The system can detect the user's current location using location services or GPS-based technology. By using this information, the system can identify nearby pharmacies and calculate the distance between the user and each pharmacy.

The search results are then displayed in an organized format. The results include useful details such as the pharmacy name, location, contact information, and availability status of the medicine. The distance between the user and the pharmacy may also be displayed to help users choose the nearest option.

The system may also provide navigation support through map integration, which allows users to easily find directions to the pharmacy. This feature helps users reach the pharmacy quickly without confusion. Another important part of the proposed system is the pharmacy management module. Pharmacy owners or administrators can update the availability of medicines in the database. This ensures that the information shown to users is accurate and up to date.

The proposed system also improves efficiency by reducing the time required to search for medicines. Instead of visiting multiple pharmacies, users can simply check the availability online and go directly to the pharmacy that has the medicine.

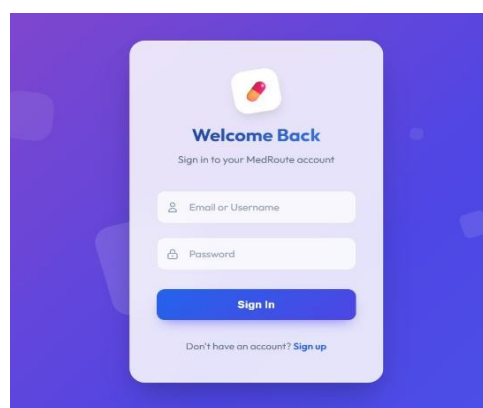
The system is designed with a simple and user-friendly interface, so that even people with limited technical knowledge can use it easily. The website layout includes clear search options, simple navigation, and well-organized results.

In addition, the system supports responsive design, which means it works well on different devices and screen sizes. Whether users access the system from a mobile phone or a desktop computer, they will have a smooth experience.

The proposed system also helps pharmacies improve their services. By sharing medicine availability information online, pharmacies can reach more customers and provide better support to patients. Overall, the Web-Based Medicine Availability and Pharmacy Locator system offers an efficient and modern solution to the problem of searching for medicines. It reduces the time, effort, and stress involved in locating medicines and helps patients obtain the required medicines more quickly.

By connecting patients with nearby pharmacies through a digital platform, the proposed system improves healthcare accessibility and supports better patient care. It provides a convenient and reliable way for users to find medicines and access pharmacy services when they need them. In the future, the system can be further enhanced by adding additional features such as online medicine booking, home delivery services, emergency pharmacy alerts, and mobile application support. These improvements can make the system even more useful and beneficial for users.

VI. RESULT



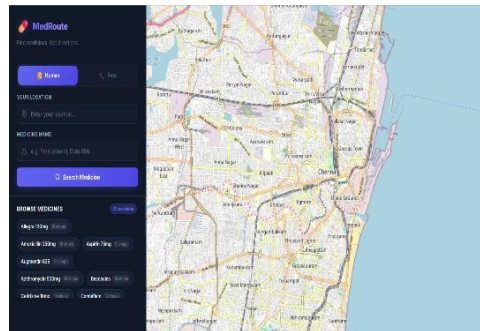


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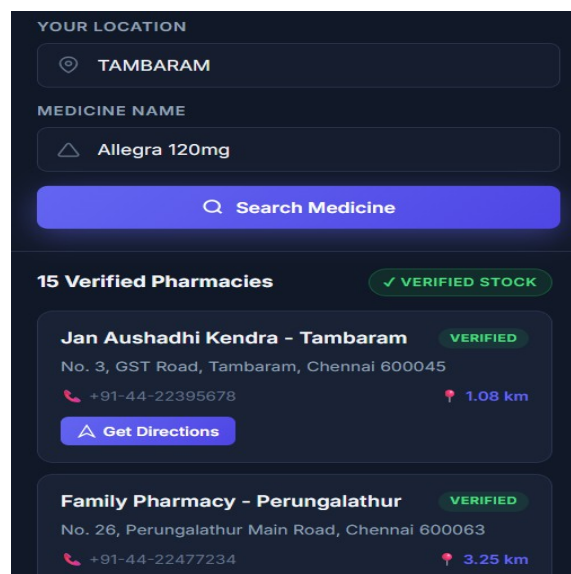
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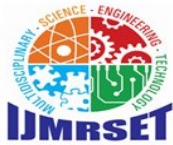
The Web-Based Medicine Availability and Pharmacy Locator system was successfully developed and tested to demonstrate how users can search for medicines and locate nearby pharmacies through a web-based platform. The main goal of the system is to simplify the process of finding medicines and reduce the time required to locate pharmacies that have the required medicine available. The developed system provides a simple and user-friendly interface that allows users to interact with the application easily. The system includes several modules such as user registration, login authentication, medicine search, pharmacy listing, and location-based search. The first part of the system is the user login and registration page. In this page, users can create an account by entering their details such as mobile number, email ID, and password. After successful registration, users can log in to the system securely. This login system ensures that user information is protected and that only authorized users can access the application.

After logging into the system, users are directed to the medicine search page. In this page, users can enter the name of the medicine they want to search for. The system then processes the request and searches the database to identify pharmacies where the medicine is available. Once the search is completed, the system displays the results in an organized format. The results page provides detailed information about the pharmacies that have the required medicine. This information typically includes the pharmacy name, address, contact number, and medicine availability status.



In addition to pharmacy details, the system also displays the distance between the user and each pharmacy. This feature helps users choose the nearest pharmacy so they can obtain the medicine quickly. The distance calculation improves the convenience of the system and helps reduce travel time. The system may also provide map-based navigation support, allowing users to view the location of pharmacies on a map. This helps users easily identify the route to the pharmacy and reach the location without confusion. The results generated by the system demonstrate that the application can successfully connect users with nearby pharmacies that have the required medicines. The search process is fast and efficient, allowing users to receive results within a short period of time.





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Another important result of the system is that it reduces the need for users to visit multiple pharmacies. By checking medicine availability online, users can directly go to the pharmacy that has the medicine in stock. This helps save time, effort, and transportation costs.

The system also benefits pharmacies by allowing them to share medicine availability information with potential customers. Pharmacies can update their stock information in the system so that users receive accurate and up-to-date results. Testing of the system showed that the application works effectively across different devices such as mobile phones, tablets, and desktop computers. The responsive design ensures that users can access the system easily from any device with an internet connection.

During testing, the system successfully performed various functions including user login verification, medicine search operations, database retrieval, and pharmacy result display. The system responded quickly to user requests and provided reliable information. The developed system demonstrates how web technology can be used to improve healthcare accessibility. By providing real-time information about medicine availability, the system helps users obtain medicines more efficiently.

Overall, the results of the project show that the Web-Based Medicine Availability and Pharmacy Locator system is capable of providing an effective solution for locating medicines and nearby pharmacies. The system improves convenience for users, reduces unnecessary travel, and helps patients access essential medicines quickly. The successful implementation of this system shows that digital platforms can play an important role in improving healthcare services and providing better support for patients and caregivers.

VII. CONCLUSION

The Web-Based Medicine Availability and Pharmacy Locator system was developed to address the common problem of difficulty in finding medicines in nearby pharmacies. In many situations, patients and their family members spend a lot of time visiting multiple pharmacies in search of a particular medicine. This traditional method can be inconvenient, especially during emergencies when medicines are required immediately.

The main objective of this project was to create a web-based platform that allows users to search for medicines and find nearby pharmacies where the medicines are available. By using this system, users can easily check medicine availability before visiting a pharmacy. This helps reduce the time, effort, and stress involved in searching for medicines.

The developed system provides a simple and user-friendly interface that allows users to interact with the application easily. Users can register and log in to the system, search for the required medicine, and view a list of pharmacies where the medicine is available. The system displays important information such as the pharmacy name, address, contact number, and availability status of the medicine.

Another important feature of the system is location-based search. By using location services, the system can identify nearby pharmacies and display them to the user. This helps users choose the nearest pharmacy and obtain the required medicine quickly.

The project also demonstrates how web technologies such as HTML, CSS, JavaScript, and backend frameworks can be used to build useful healthcare applications. These technologies allow the system to provide fast search results, interactive features, and an efficient user experience. The use of a database in the system helps store and manage information about pharmacies and medicines. This ensures that the system can quickly retrieve accurate information whenever a user searches for a medicine. Pharmacies can also update their stock information, which helps keep the system up to date.

Testing of the system showed that the application works effectively and performs all the required functions successfully. The system is capable of processing user requests, retrieving pharmacy information, and displaying results in a clear and organized manner. It also works across different devices such as smartphones, tablets, and computers.

One of the major advantages of this system is that it reduces unnecessary travel for patients and caregivers. Instead of



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visiting several pharmacies, users can check medicine availability online and go directly to the pharmacy that has the medicine in stock.

The system also has the potential to improve communication between pharmacies and customers. By sharing medicine availability information online, pharmacies can better serve patients and provide faster support.

In addition, this system can be particularly useful during emergency situations when quick access to medicines is essential. It can help patients locate the nearest pharmacy quickly and reduce delays in treatment.

Although the current system provides basic functionality for searching medicines and locating pharmacies, there are many opportunities for future improvements. For example, the system can be enhanced by adding features such as online medicine booking, home delivery services, real-time inventory updates, and mobile application support.

These additional features can further improve the efficiency and usefulness of the system for both patients and pharmacies. Integrating map services and real-time notifications can also enhance the user experience.

In conclusion, the Web-Based Medicine Availability and Pharmacy Locator system provides an effective and practical solution for locating medicines and nearby pharmacies. It improves convenience for users, saves time, and supports better healthcare access.

By using modern web technologies and location-based services, the system helps connect patients with pharmacies in a faster and more efficient way. This project demonstrates how digital solutions can play an important role in improving healthcare services and making essential medicines more accessible to the public

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