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Real Time Online Healthcare Application

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ABSTRACT :

The online industry is growing quickly and has revolutionized different aspects of everyday life. It has simplified online shopping, encouraged consistent cash exchanges, empowered online rentals, ticket booking and much more. The pharmaceutical and healthcare division has too grasped this stage, tending to challenges faced by conventional drug stores and making strides get to drugs and healthcare services. The rapid growth of e-commerce has significantly transformed the healthcare sector, making it easier for individuals to purchase medicines online. The system is designed to provide a user-friendly platform where customers can browse, compare, and order medications with verified prescriptions while ensuring compliance with regulatory standards. This research paper explores the development and impact of an online medicine purchasing system, focusing on its benefits, challenges.

Keywords: Medicine, PHP, MySQL, Online health, E-commerce, HTML, CSS.

Introduction :

In the digital era, online medicine shopping has rapidly gained acceptance as a convenient and efficient business model, transforming the healthcare industry. E-Pharmacies, which operate through the internet, provide both prescribed and over-the-counter (OTC) medicines, delivering them directly to customers' homes. The growing adoption of e-commerce in healthcare has made online medicine purchasing a commonplace practice, significant advantages such as time and cost savings, reduced travel hassles, and improved accessibility, particularly for individuals in remote areas. This transformation addresses key challenges, including long waiting times at traditional pharmacies and the need for better medication management. Despite its benefits, the system also faces challenges such as security concerns, prescription verification, and regulatory compliance. Payment options while purchasing include credit/debit card transactions and cash on delivery. This research explores the development, implementation, and impact of online medicine purchasing systems, analyzing existing models, technological advancements, and potential improvements to enhance user experience and healthcare outcomes.

OBJECTIVE:

- Time Saving
- Cost efficient
- Easy access to medicines
- Reduce paper Work
- User Authentication & Security

Review Literature :

“Web Application for Online Pharmacy” by Ashita S. Patil, Rutuja S. Patil, Snehal P. More, Sonali S. Sankpal (2019). This paper discussed 3-layer approach for ordering medicine through online. This system aims to protect consumers from the risks associated with self-medication by ensuring that only valid prescriptions are accepted and reviewed by medical professionals [1]. “Website-Based E-Pharmacy Application Development to Improve Sales Services Using Waterfall Method” by Suhirman, Ahmad Tri Hidayat, Wahyu Adjie Saputra, Shoffan Saifullah (2021). This paper discussed creation of a web-based e-pharmacy application designed to improve sales services through Waterfall model. This model contains 5 phases includes requirements, design, implementation, verification and maintenance. This explains about the payment gateway, how they created the web application and languages used [2]. “Online Pharmaceutical Management System” by Onuiri Ernest E., Oyeibanji Inalegwu G., Fayehun Solomon A., Chukwujiokwe Sam- David (2016). In this paper, various mobile application for medicine purchasing is discussed. It also explained about how to find medicine, order medicine, payment and receiving medicine [3]. “Secure Online Medicine Delivery System” by Mohammad Waqar Bhat, Veerabhadrapa Sondkere Thippeswamy, Himanshu Bhushan, Kartik Shrivastava, Ashish Kumar Sahoo (2020). This paper focuses on developing a secure method for delivering medication to customers while safeguarding their information through biometric verification and advanced encryption techniques [4]. “Online

Medicine in India” by S. Bharathi, Dr. S. Gopalraju (2019). This paper discussed the rapid growth of the online pharmacy in India, highlighting its evolution following digitalization and government support. The paper emphasizes the convenience and cost-effectiveness of online medicine shopping, alongside the regulatory landscape that aims to ensure safety and compliance. This also stated some leading companies offering online medicine system [5]. “An E- Commerce portal for online Medicine trading” by Sumanta Chatterjee, Somsubhra Gupta, Tanusree Saha (2017). This paper discussed the development of an e-commerce portal specifically designed for online medicine trading, which allows customers to search for and purchase medicines from nearby medical shops at any time. It highlights the importance of Business-to- Business (B2B) and Business-to-Consumer (B2C) transactions in enhancing the efficiency of the supply chain and improving access to medicines, especially in remote areas [6]. “Online Medical Care: The Current State of “eVisits” in Acute Primary Care Delivery” by Ryan Hickson, Jeffery Talbert, William C. Thornbury, Nathan R. Perin, and Amie J. Goodin (2015). This paper discussed the current landscape of electronic office visits (eVisits) in acute primary care, highlighting their advantages and challenges. eVisits enhance healthcare accessibility and efficiency, particularly in underserved areas, and are associated with improved patient care quality and cost efficiency, potentially reducing the need for in-person visits [7].

“Online Pharmaceutical Management System” by Payal Kumari, Aarti shar, Suraj Kumar Singh (2023). This paper discussed important of online pharmacy system, software which help to achieve the online medicine purchasing and the module involved in the online pharmacy system [9]. “E-PHARMACY (Online Medical Store)” by Andrew Babyto Rai, Julia Gurung, Neha Giri, Pravish Rai, Manisha Tewari, Sujala Pradhan (2021). This paper discussed how E-Pharmacy work (operates over internet to sell medicine). It also stated the benefits and challenges of E- Pharmacy [10]. “ONLINE PHARMACY APPLICATION USING SALESFORCE” by Varsha Yadav, Neeshu, Agrah Gupta, Shashank Singh (2023). This paper highlighted the effective use of online pharmacy based on cloud computing in the healthcare field [11]. “Medkwick - An E-commerce Mobile Application Based on Online Medicine Shopping” by Mehul Rane, Saurabh Patra, Umair Khan, Yashodhara Gutte (2019). This paper discussed android-based application for online pharmacy system and how chatbot play a major in medicine purchasing [12]. “ONLINE MEDICAL BOOKING STORE — A BRIEF STUDY” by Anjali Gupta, Raghuveer Sachan, Juhi Singh, Amisha Singh (2020). This paper discussed advantages, disadvantages and modules used in online pharmacy system [13].

Implementation :

For an online medicine system, you need to implement several core features such as user authentication, product catalog, cart management, payment gateway, order tracking, and admin management.

Authentication Module

- **Register:** Enables new users to create an account by providing basic details such as name, email, phone number, and password.
- **Login:** Allows registered users to securely log in using their email/phone number and password.
- **Logout:** Users can securely log out of their accounts to ensure data privacy and protection.

The screenshot displays the 'Authentication' section of a web application. At the top, a red navigation bar contains links for 'HOME', 'BABY CARE', 'WOMEN CARE', 'PERSONAL CARE', 'MEDICINE AND DEVICES', 'CONTACT US', and 'ADMIN LOGIN'. Below this, a breadcrumb trail shows 'Home / Authentication'. The page is split into two main sections. On the left, under the heading 'SIGN IN', there is a message 'Hello, Welcome to your account.', a 'Forgot your Password?' link, and a 'LOGIN' button. On the right, under the heading 'CREATE A NEW ACCOUNT', there is a message 'Create your own Shopping account.' and four input fields: 'Full Name', 'Email Address', 'Contact No.', and 'Password', followed by a 'Confirm Password.' field.

Figure:1 Shows the Register & Login Page

Customer Module

- **Profile Management:** Enables customer to view and update their personal information.
- **Track History:** User can view their previous ordering history.
- **View Medicine:** User able to view available medicine and order item.

Figure:2 Shows the user profile management



Figure:3 Shows the product list

Admin Module

- **Admin Authentication:** Secure login and logout functionality to ensure only authorized personnel can access the admin panel.
- **Order Management:** View and track user orders with details such as order ID, customer information, order status, and payment details.
- **Manage Customers:** Enable admin to manage customer logs.
- **Manage Products:** Allow admin to add, delete or update medicines.

Figure:4 Show about the product insertion

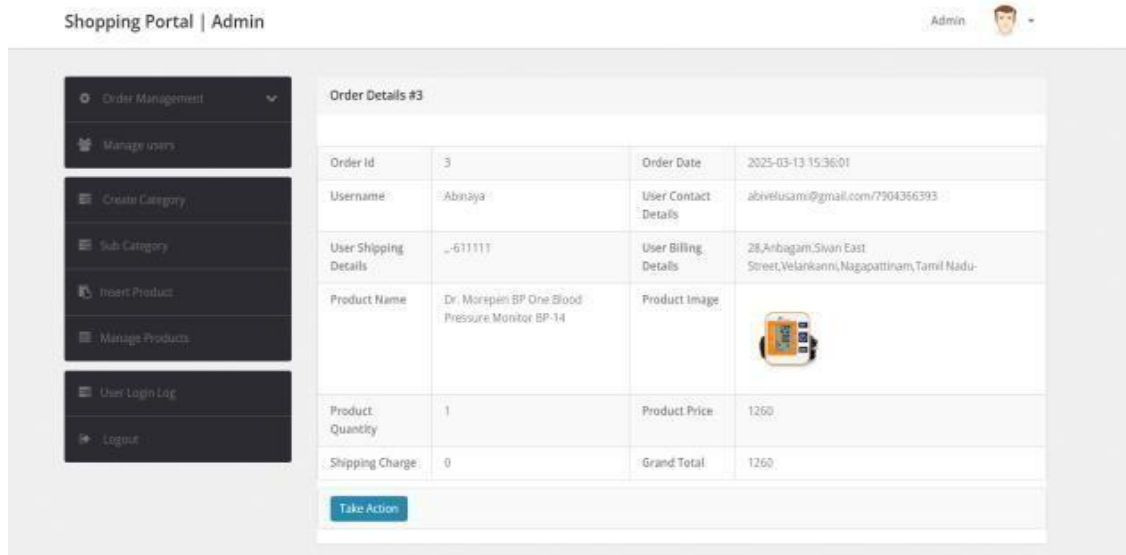


Figure:5 Show about the product details

Order and Payment Module

- **Search Medicine:** Customers can search for medicines based on name.
- **Make order:** Customers can add medicines to their cart and manage quantities before checkout.
- **Payment:** Supports secure payment methods like UPI, Debit card method, cash on delivery (COD).

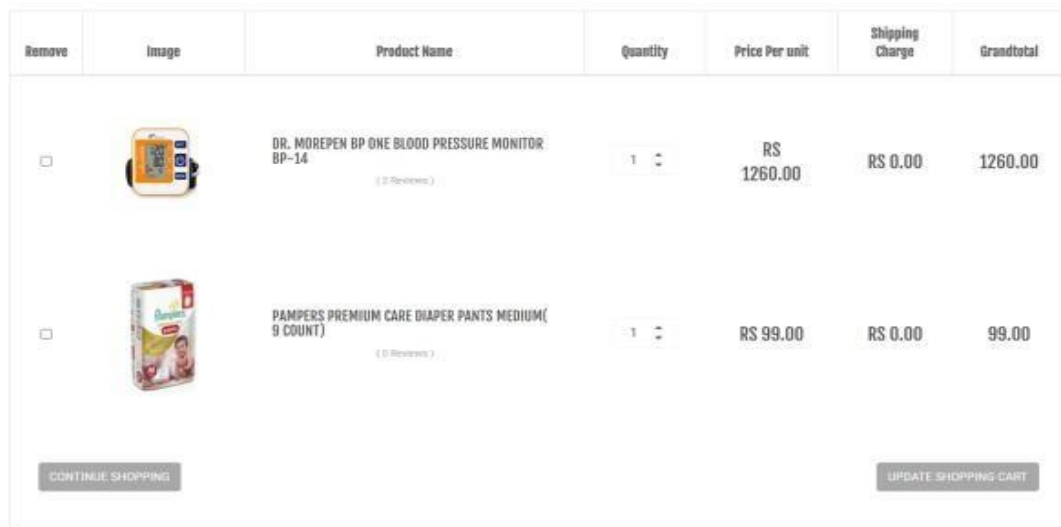
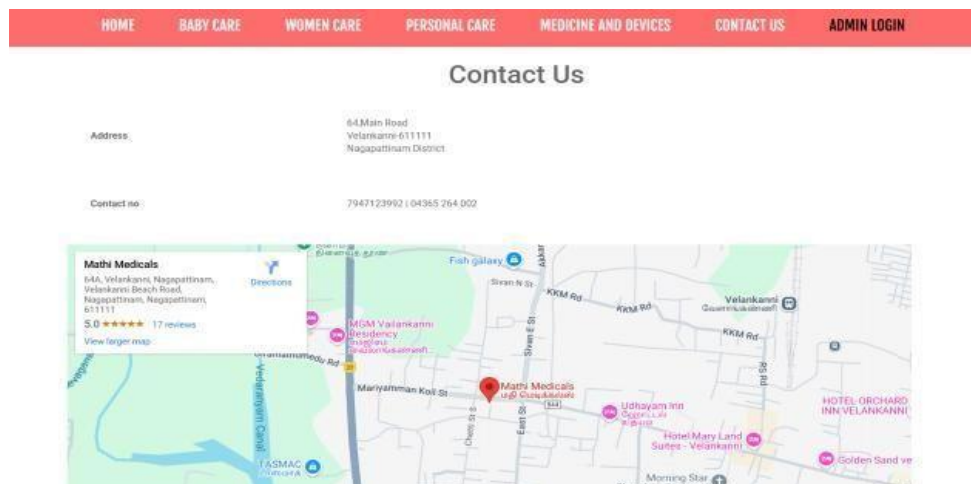


Figure:6 Show the cart where user added their products

Contact Module

Contains the address, contact numbers and the location of the medical shop.

Figure:7 Show about the contact details



Popular Online Medicine Purchase System :

PharmEasy

PharmEasy is one of India's leading online pharmacies, providing a platform for users to order medicines, healthcare products, and diagnostic tests from the comfort of their homes. It operates across major cities and towns in India, offering prescription and over-the-counter (OTC) medicines, lab tests, and doctor consultations. PharmEasy was founded in 2015 by Dharmil Sheth and Dhaval Shah.

Netmeds

Netmeds is a leading online pharmacy in India, offering a convenient platform to purchase prescription medicines, over-the-counter (OTC) drugs, healthcare products, and wellness essentials. With a strong presence in the Indian pharmaceutical e-commerce market, Netmeds provides users with a seamless way to order medicines online and get them delivered to their doorstep. Netmeds was founded in 2015 by Pradeep Dadha, part of the Dadha Pharmaceuticals group.

Apollo Pharmacy

Apollo Pharmacy is a leading pharmacy chain in India, operating both online and through physical stores. It is part of Apollo Hospitals, one of India's largest healthcare providers. With a strong reputation for quality medicines, healthcare products, and professional pharmacy services, Apollo Pharmacy offers both e-commerce and offline pharmacy solutions across India.

Tata 1mg

Tata 1mg is a prominent online pharmacy and digital healthcare platform in India, offering medicines, lab tests, doctor consultations, and health information. It is owned by Tata Digital, making it a trusted brand backed by the Tata Group. Tata 1mg was founded in 2015, originally known as 1mg Technologies. It was acquired by Tata Digital in 2021, making it a part of the Tata Group.

Flipkart Health+

Flipkart Health+ is an online pharmacy and healthcare platform launched by Flipkart, one of India's leading e-commerce companies. It offers a range of medicines, healthcare products, and wellness items with the convenience of online ordering and home delivery. Flipkart Health+ launched in 2022 after Flipkart acquired SastaSundar.com, a leading Indian online pharmacy. It operates under Flipkart Health Limited, a part of Flipkart Group.

Benefits of Online Medicine Purchasing System :

Convenience

One of the most significant advantages of an online medicine purchase system is the ability to order medicines from anywhere, anytime, without the need to visit a physical pharmacy. This is particularly beneficial for individuals with mobility challenges, such as the elderly, disabled, or those suffering from chronic illnesses. It provides a doorstep delivery, remote area accessibility and 24/7 availability.

Time Saving

Due to their technology-driven infrastructure, online pharmacies offer faster and more efficient medication delivery than traditional pharmacies, significantly saving time. Unlike conventional pharmacies, where you may need to travel and wait in long queues, online medicine stores deliver your medications directly to your doorstep.

With an online pharmacy, there's no need for extended waiting periods or even stepping out of your home. The ordering process is completed in just a few simple steps, making it much quicker and more convenient than purchasing from a traditional pharmacy.

Cost Efficient

Medicines in online pharmacies are generally more affordable than those in local medical stores, as they operate with lower overhead costs and eliminate intermediaries. This allows them to offer competitive pricing and attractive discounts on medications.

Another advantage of purchasing medicines online is the flexibility in pricing. Unlike traditional pharmacies, which require upfront payment, online pharmacies provide a cost estimate before finalizing the purchase. Customers can review and approve the total amount before the order is processed, ensuring transparency in pricing.

Accessibility

One of the primary benefits of online pharmacy services is the accessibility they offer. Online pharmacies greatly enhance healthcare accessibility by providing essential medications to individuals, no matter where they are located. This is particularly advantageous for people living in remote or rural areas, where physical pharmacies may be limited or non-existent. Additionally, online pharmacies offer access to rare or specialized medications that might not be available in local stores, ensuring that patients receive the treatment they require without unnecessary delays.

Privacy

Many people prefer purchasing medication online because it offers a private and discreet experience. Certain medicines are associated with social taboos, making it uncomfortable for individuals to buy them from traditional pharmacies, where they may feel judged or observed by others. Online pharmacies resolve this issue by providing secure doorstep delivery in discreet packaging.

Moreover, online pharmacies provide a confidential shopping experience, allowing customers to purchase medications without the worry of others overhearing their medical information or noticing their purchases while waiting in line. This ensures that personal health details remain private and secure.

Environmental Benefits

Online pharmacies not only enhance convenience and accessibility but also contribute to environmental sustainability by reducing carbon emissions, minimizing waste, and optimizing resource usage. They help lower fuel consumption through fewer individual trips and optimized delivery routes while promoting digital prescriptions and electronic billing to cut down on paper waste. Advanced inventory management prevents overstocking and medication disposal, while eco-friendly packaging solutions and bulk shipments reduce plastic waste. Additionally, online pharmacies operate from centralized, energy-efficient warehouses, some of which utilize green energy solutions. By adopting sustainable practices, they play a crucial role in minimizing the environmental footprint of the pharmaceutical industry.

Challenges of Online Medicine Purchasing System :

Legality and Regulatory Compliance

This poses significant challenges for online pharmacies, as different countries and regions have strict laws governing the sale and distribution of medicines, making it difficult to operate across multiple locations. Additionally, certain medications, such as narcotics, tranquilizers, and other controlled substances, are often restricted from online purchase due to regulatory concerns. Ensuring the authenticity of prescriptions is another critical issue, as fraudulent prescriptions can lead to drug misuse and illegal distribution.

SUGGESTION:

To address legality and regulatory compliance challenges in online medicine purchasing, online pharmacies should adhere to strict licensing requirements and comply with regional laws to ensure lawful operations. Governments and healthcare authorities should work towards establishing standardized global regulations to minimize inconsistencies across different locations. Implementing advanced prescription verification systems, such as blockchain technology or AI-driven authentication, can help detect fraudulent prescriptions and prevent drug misuse. Additionally, online pharmacies should only source medications from licensed manufacturers and regularly undergo audits by regulatory bodies to ensure compliance with safety and quality standards.

Risk of Counterfeit Medicines

Some online platforms may sell counterfeit, expired, or low-quality medications due to the absence of strict quality control measures, posing serious health risks. Unlike traditional pharmacies, where pharmacists verify medicines before dispensing, certain online pharmacies may lack proper quality assurance. Additionally, customers may find it difficult to differentiate between legitimate online pharmacies and fraudulent ones that sell fake or substandard drugs.

SUGGESTION:

Online pharmacies should obtain certifications from regulatory bodies and display their licenses for transparency. Implementing QR code-based verification or blockchain tracking can help verify medication authenticity. Strict quality control measures, including sourcing from licensed manufacturers and regular audits, must be enforced. Governments should maintain official lists of verified online pharmacies for customer reference. AI-powered monitoring systems can detect and report fraudulent sellers, reducing the risk of counterfeit drugs.

Delivery and logistics challenges

This can lead to delays that disrupt a patient's treatment plan. Packaging and shipping errors may result in incorrect or damaged medications. Certain medicines, like insulin and vaccines, require strict temperature control, complicating transportation. Reliable logistics and proper cold chain management are essential for maintaining medication safety. Accurate order fulfillment helps ensure patients receive the correct and undamaged products.

SUGGESTION:

Online pharmacies should collaborate with reliable courier services to ensure timely deliveries. Automated order verification and secure packaging can prevent errors and damage. Cold chain logistics with real-time temperature monitoring should be used for sensitive medications. Live tracking and responsive customer support can help address delivery issues. Establishing regional distribution centers can speed up shipments and improve efficiency.

Lack of Personalized Guidance and Medical Consultation

Online pharmacies often lack direct pharmacist interaction, limiting immediate professional advice. Without guidance, users may misuse medications, posing health risks. Virtual pharmacist consultations and user- friendly interfaces can improve accessibility and safety. Educational resources can help users make informed medication choices.

SUGGESTION:

Online pharmacies should offer virtual pharmacist consultations for real-time medical advice. AI-powered chatbots and telemedicine services can help prevent medication misuse. User-friendly interfaces and educational resources should enhance accessibility and safety. Dedicated customer support teams should assist users with orders and issue resolution.

Payment and Refund Issues

Limited payment options can be challenging for users without digital payment access. Refund and return issues arise as many pharmacies do not accept medication returns for safety reasons. Hidden costs like shipping, consultation, or packaging fees may increase overall expenses. Providing multiple payment methods and clear refund policies can enhance user experience. Transparent pricing structures help build customer trust and satisfaction.

SUGGESTION:

Online pharmacies should offer multiple payment options, including cash-on-delivery, to accommodate all users. Clear refund policies should address incorrect or damaged deliveries while maintaining safety regulations. Transparent pricing should display all costs upfront to avoid hidden charges. Strong customer support and financial partnerships can enhance payment accessibility and user trust.

Conclusion :

The online medicine purchasing system has revolutionized healthcare by offering convenience, accessibility, and cost- effectiveness. It allows users to order medications anytime, anywhere, benefiting those with mobility challenges and in remote areas. Additionally, it enhances privacy, provides competitive pricing, and supports environmental sustainability. However, challenges like regulatory compliance, counterfeit drugs, cybersecurity risks, and delivery issues remain concerns. Implementing strict legal frameworks, robust authentication, and enhanced cybersecurity can improve safety and reliability. Virtual pharmacist consultations and user- friendly platforms can enhance accessibility and guidance. As digital healthcare evolves, online pharmacies will play a crucial role in making healthcare more inclusive, secure, and patient- centric.

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