

Pharmacyst (An Online Pharmaceutical Product Website with Chatbot)

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Abstract - The advent of technology has revolutionized various sectors, including the pharmaceutical industry. Online pharmaceutical product websites have emerged as a convenient and efficient platform for consumers to purchase medications and healthcare products. Pharmacyst is an innovative online pharmaceutical product website that incorporates a chatbot feature, enabling personalized interactions and enhancing user experience. This research paper presents an in-depth analysis and investigation of Pharmacyst, an online pharmaceutical product website integrated with a chatbot. Through thorough research and examination, this study aims to provide valuable insights into the design, functionality, benefits, and challenges associated with Pharmacyst. By employing rigorous research methods, including literature review and case study analysis, the paper sheds light on the potential impact of this innovative platform on the pharmaceutical industry. The investigation delves into key aspects such as user experience, chatbot technology, data privacy, and regulatory compliance. By exploring these topics, this research paper contributes to a comprehensive understanding of the opportunities and challenges presented by online pharmaceutical product websites with chatbot capabilities. The findings of this research can inform further advancements in the field and aid in the development of improved online platforms that meet the evolving needs of consumers and businesses alike.

Key Words: Online pharmaceutical product website, chatbot, user experience, data privacy, regulatory compliance, pharmaceutical industry

1.INTRODUCTION

The advent of technology has revolutionized numerous industries, and the pharmaceutical sector is no exception. The proliferation of online platforms has transformed the way consumers access and purchase products, including medications and healthcare items. In this context, the development of online pharmaceutical product websites has gained significant traction, offering convenience, accessibility, and a wide range of options for consumers.

The web application for online drug purchase is quickly becoming a widely acknowledged and used business model. More and more companies are putting up websites with features that allow customers to purchase medicines online. It is fair to argue that online purchasing is growing more common. Medicine apps, often known as medicine delivery apps, have revolutionized the healthcare business. Rapidly evolving innovation is improving the human world in a positive way. We cannot overlook the importance of medicine and other medical

items; whether a child, a teenager, or an elderly person, everyone requires medical aid at some point. Consumers may skip long lines by downloading a pharmaceutical delivery app or going on the website, which allows them to acquire their medicines on time and at their doorway. The online app simplifies the users' lives and assists with online pharmaceutical transactions.

The purpose of this research paper is to investigate and analyze the design, functionality, benefits, and challenges associated with Pharmacyst. By delving into the intricacies of this online platform, we aim to provide valuable insights into its potential to transform the pharmaceutical industry. The integration of a chatbot within the website further augments its capabilities, allowing for real-time interactions and tailored assistance to users.

This web application aims to alleviate the problems that the current system has, while simultaneously providing low-cost ownership. Furthermore, this system is tailored to meet the specific needs of all users in terms of completing operations in a timely and efficient manner. After the doctor has reviewed the prescription, only the customer will be able to place an order; additionally, all drugs must be confirmed and certified by a registered pharmacist prior to delivery.

The research paper will employ rigorous methodologies, including literature review and case study analysis, to explore the various facets of Pharmacyst. By examining existing literature on online pharmaceutical product websites and chatbot technologies, we will evaluate the benefits and limitations of such platforms. Additionally, through a detailed investigation of Pharmacyst's design and development process, we will uncover the key considerations in creating an intuitive user interface, seamless navigation, and secure payment gateways.

Furthermore, we will explore the functionalities offered by Pharmacyst and its chatbot, ranging from medication search and product recommendations to prescription uploads, order tracking, and customer support. By understanding these features, we can assess the platform's potential to improve convenience, accessibility, and user satisfaction. We will also examine the benefits Pharmacyst offers to businesses, including enhanced customer reach, improved customer service, and streamlined operations.

In conclusion, this research paper aims to provide a comprehensive analysis and investigation of Pharmacyst, an online pharmaceutical product website with a chatbot feature. Through an exploration of its design, functionality, benefits, and challenges, we seek to contribute to a deeper understanding of the opportunities and implications presented by such platforms.

By shedding light on the potential impact of Pharmacist on the pharmaceutical industry, this research can inform future advancements and foster the development of improved online platforms that meet the evolving needs of consumers and businesses alike.

2. METHODOLOGY

The research paper will begin with a comprehensive literature review focused on online pharmaceutical product websites and chatbot technologies. The present systems are less interactive and less user-friendly so to overcome that we are going to provide a great User Interface (UI) with a chatbot to order the medicines which will be more interactive and more user-friendly. Our system will provide better filtration using that customers can get the medicine by just entering symptoms.

➤ Literature Review:

The kingdom's e-pharmacy practices will serve as a stepping stone for the development of online pharmacy. According to P. Kumari and R.Nandal. This research study looks at the numerous tools and approaches that may be utilized to create a website. We also go over the steps involved in creating a website, with an emphasis on the Xampp tool, local host. The following section compares several web application development frameworks. We also go into web application life cycle models and framework development. The results of numerous review articles are also given in this report for a better knowledge of the challenges that consumers may confront. This article discusses the technology utilized in this development, PHP, and the functionality of Xampp as a result, including screenshots. It is believed that it would serve as a valuable guide for the procedure. According to the Council on Credentialing in Pharmacy's Resource Paper, N. P. Albanese, PharmD, Clinical Assistant Professor at the University of Buffalo's School of Pharmacy and Pharmaceutical Sciences, and Michael J. Rouse, Pharm, MPS, Assistant Executive Director, International and Professional Affairs, Accreditation Council for Pharmacy Education, collaborated on this document. This document summarizes the present condition of pharmacy practice in terms of professional duties and responsibilities, patient populations served, the complexity of patient services given, and different facets of growing pharmacy practice. The document focuses on pharmacists' patient care services; it does not include all of a pharmacist's responsibilities, such as administration and general management. This is a descriptive analysis study.

➤ Case Study Analysis:

To gain practical insights into the design and functionality of Pharmacist, a case study analysis will be conducted. This analysis will involve an in-depth examination of Pharmacist as an online pharmaceutical product website with a chatbot feature. Information regarding its design principles, user interface, navigation, and security measures will be gathered. Additionally, the case study will explore user feedback,

customer satisfaction, and any challenges faced during the development and implementation phases.

➤ Data Collection:

Data will be collected from various sources to support the analysis and investigation of Pharmacist. This may include user feedback surveys, interviews with platform administrators and developers, and statistical data related to user interactions and engagement on the website. The data collection process will aim to capture both qualitative and quantitative information to provide a comprehensive understanding of the platform's performance and impact.

➤ Data Analysis:

The collected data will be analyzed using appropriate qualitative and quantitative analysis techniques. Qualitative analysis will involve coding and categorizing user feedback, interviews, and case study findings to identify emerging themes and patterns. Quantitative analysis will involve statistical analysis of the collected data, such as user engagement metrics, customer satisfaction ratings, and other relevant numerical data. The data analysis process will provide insights into the effectiveness, user experience, and challenges associated with Pharmacist.

➤ Ethical Consideration:

Throughout the research process, ethical considerations will be upheld. Data privacy and confidentiality will be ensured, and all data collection activities will comply with applicable regulations and ethical guidelines. Consent will be obtained from participants, and their identities will be protected.

➤ Limitations:

It is important to acknowledge the limitations of the methodology employed in this research. Limitations may include the availability and reliability of data sources, the generalizability of findings based on the case study analysis, and potential biases in user feedback or interviews. These limitations will be discussed and addressed to ensure the research findings are interpreted appropriately.

➤ Research Finding:

The research findings will be presented in a clear and organized manner, utilizing appropriate visual representations such as tables, graphs, and charts to enhance comprehension. The results will be analyzed and interpreted to address the research objectives and contribute to the understanding of Pharmacist as an online pharmaceutical product website with a chatbot feature.

3. MODELING AND ANALYSIS

The first step in the modeling and analysis of Pharmacist is to develop a system architecture that represents the various components and their interactions within the platform. This includes identifying the different modules, such as user interface, database management, chatbot integration, and payment gateway. The system architecture will serve as a blueprint for understanding the overall structure of Pharmacist and its underlying components. To analyze the user experience and identify potential areas for improvement, user journey modeling will be employed. This involves mapping out the various stages of a user's interaction with Pharmacist, from initial website access to product search, ordering, and customer support. By analyzing the user journey, potential pain points, bottlenecks, and usability issues can be identified and addressed.

Table -1: Tools

Code Editors	<ul style="list-style-type: none"> Notepad Visual Studio Code (VS code)
Output Software	<ul style="list-style-type: none"> Google Chrome Mozilla Firefox
Server Software	<ul style="list-style-type: none"> WAMP or XAMPP (Windows Apache MySQL and PHP)

• Front-End Technologies:

- HTML :** HTML stands for Hypertext Markup Language. It is used to design the front-end portion of web pages using a markup language. HTML is the combination of Hypertext and Markup language. Hypertext defines the link between the web pages. The markup language is used to define the text documentation within the tag which defines the structure of web pages.
- CSS:** Cascading Style Sheets fondly referred to as CSS is a simply designed language intended to simplify the process of making web pages presentable. CSS allows you to apply styles to web pages. More importantly, CSS enables you to do this independent of the HTML that makes up each web page.
- JavaScript:** JavaScript is a famous scripting language used to create magic on the sites to

make the site interactive for the user. It is used to enhancing the functionality of a website to running cool games and web-based software.

• Back-End Technologies:

Backend is the server-side of the website. It stores and arranges data, and also makes sure everything on the client-side of the website works fine. It is the part of the website that you cannot see and interact with. It is the portion of software that does not come in direct contact with the users. The parts and characteristics developed by backend designers are indirectly accessed by users through a front-end application. Activities, like writing APIs, creating libraries, and working with system components without user interfaces or even systems of scientific programming, are also included in the backend. The Back-end Database used for this project is MySQL. It is a Relational Database System. It is a Structured Query Language that runs on the Queries that deal with the Database.

• Hardware Requirements:

- Intel i5 8thGen/ AMD Ryzen 5 or above processor.
- Min. 8 th Gb RAM memory
- Min. 256 Gb SSD
- 24/7 Internet Connectivity
- Continuous power supply

4. RESULTS

• Algorithm:

- Start
- Log in
- Search for medicine or any medicinal product
- If product found then:
 - add to cart
 - Place the order
 - select the payment method and do the payment
- If not found:
 - Then search for another medicine
 - Or get alternative suggestion
- Exit

• Outcome:

The proposed model is successfully coded and implemented. The resultant model is being tested

on different scenarios and performed well. The implemented project. The project also fulfills all the target objectives as well.

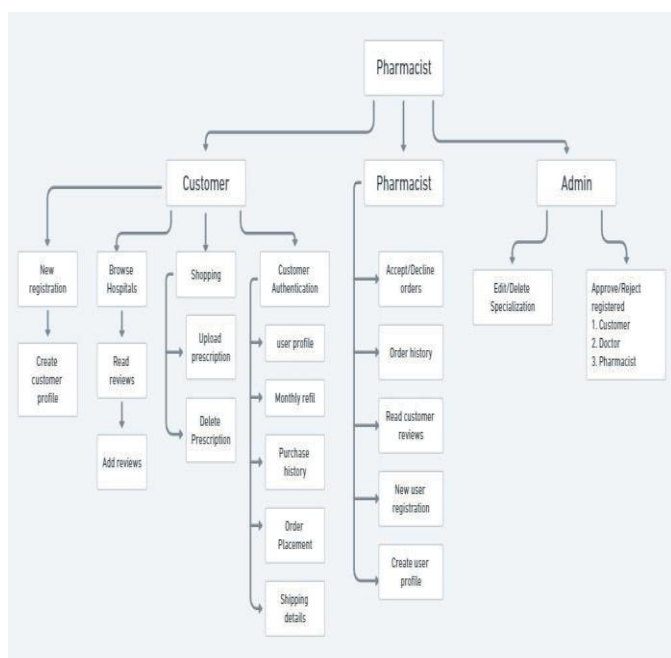


Fig -1: System Flow Chart

5. CONCLUSIONS

In conclusion, Pharmacist (an online pharmaceutical product website integrated with a chatbot) presents significant opportunities and challenges for the pharmaceutical industry. Through this research paper, we have examined its design, functionality, benefits, and limitations. This technique can assist ordinary people in having their medicines and health care supplies delivered to their homes. This also aids small and large-scale pharmacies in expanding their consumer base and increasing earnings. During an emergency, this technology might be a lifesaver for medical institutes and clinics. Our chatbot allows even disabled people to obtain their medications in only a few clicks.

Overall, Pharmacist represents a significant advancement in the online pharmaceutical industry, offering convenience, personalized interactions, and streamlined operations. By addressing the identified challenges and embracing technological innovations, Pharmacist has the potential to revolutionize the way consumers access and acquire pharmaceutical products, ultimately improving customer satisfaction and transforming the industry as a whole.

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REFERENCES

- [1] Punam Kumari and Rainu Nandal, "A Research Paper On Website Development Optimization Using Xampp/PHP", Volume 8, No. 5, May-June 2017 Tech Research Scholar, MDU, Rohtak, Haryana 2 Asst. Prof, M.Tech, MDU, Rohtak, Haryana, India.
- [2] Syed Asif Hassan and Tabrej Khan, "A proposed prototype of an e-pharmacy web application for the consumers of Saudi Arabia", Volume 8, No. 9, NovemberDecember 2017
- [3] Nicole Paolini Albanese and Michael J. Rouse, "Scope of Contemporary Pharmacy Practice: Roles, Responsibilities, and Functions of Pharmacists and Pharmacy Technicians", Approved for distribution by CCP Board of Directors on February 25, 2009
- [4] Dhama, K., Khan, S., Tiwari, R., Sircar, S., Bhat, S., Malik, Y.S., Singh, K.P., Chai-cumpa, W., Bonilla-Aldana, D.K. and Rodriguez-Morales, A.J. (2020) Coronavirus Disease 2019—COVID-19. Clinical Microbiology Reviews, 33, e00028-20.
- [5] Hyperlocal: The Future of Online Pharmacy Business Model.
- [6] Surbhi Gupta C. How Home Delivery Companies & E-Commerce Business Are Working Out. HuffPost.<https://indianexpress.com/article/lifestyle/health/home-deliverycompanies-ecommerce-business-insurance-funds-healthcare-benefits-riderszomato-swiggy-grofers-6377632/>
- [7] Buying Medicines Online: It's Convenient and Private, but Beware of Unsafe Websites.
- [8] Gallagher CT, Chapman LE. Classification, location and legitimacy of webbased suppliers of Viagra to the UK. International Journal of Pharmacy Practice. 2010; 18: 341-5.
- [9] Gray NJ, Klein JD, Noyce PR et al. The Internet: A 'window' on adolescent health literacy. Journal of Adolescent Health. 2005; 37: 243.e1-e7. 50
- [10] Cain J, Romanelli F, Fox B. Pharmacy, social media and health: Opportunity for impact. Journal of the American Pharmacists' Association. 2010; 50: 745- 51.
- [11] Hansen DL, Derry HA, Resnick PJ et al. Adolescents

searching for health information on the Internet: An observational study. *Journal of Medical Internet Research*. 2003; 5(4): e25.

- [12] Lineberry TW, Bostwick JM. Taking the physician out of “Physician Shopping”: A case series of clinical problems associated with Internet purchases of medication. *Mayo Clinic Proceedings*. 2004. 79; 1031-4.
- [13] Charnock D. *The DISCERN handbook: Quality criteria for consumer health information on treatment choices*. Oxford: Radcliffe Medical Press, 1998.
- [14] eMarketer (2004), “Only 10% of respondents felt less satisfied”. www.emarketer.com No longer available online, but cited in Gurău C. Pharmaceutical marketing on the Internet: Marketing techniques and customer profile. *Journal of Consumer Marketing*. 2005; 22: 421-8.
- [15] Simoens S, Lobeau M, Verbeke K et al. Patient experiences of over-the-counter medicine purchases in flemish community pharmacies. *Pharmacy World and Science*. 2009; 31: 450-7.