

Patient Perspectives and Satisfaction with Telemedicine Consultations for Primary Care

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Abstract- The "Doctor's Appointment Booking and Consulting System" is a modern healthcare application developed using the Flutter framework. This digital platform is designed to simplify the process of scheduling medical appointments, enabling patients to connect with healthcare professionals seamlessly. The system leverages the power of Flutter's cross-platform development to provide a user-friendly and accessible experience for both patients and doctors. The "Doctor's Appointment Booking and Consulting System" built with Flutter enhances the healthcare experience by providing patients with a convenient and efficient means to access medical services. At the same time, healthcare providers benefit from improved appointment management, broader visibility, and the ability to conduct remote consultations, expanding their reach and impact in the medical field. This system represents a modern approach to healthcare service delivery, benefiting both patients and healthcare professionals alike while harnessing the capabilities of the Flutter framework.

Keywords- Doctor's Appointment, Flutter App, Healthcare, Telemedicine, Mobile Health

I. INTRODUCTION

All sorts of businesses, from large multinational corporations to tiny service-based firms, depend on appointments and scheduling for daily operations. Although the method of scheduling appointments has changed over time, moving from taking phone appointments and noting them in a paper appointment book to using an electronic calendar like those that are provided by Google or Microsoft Outlook, the task itself still necessitates a sizable amount of time and effort for organizations that continue to rely on these antiquated and ineffective methods. Enter Flutter, a cross-platform mobile application development framework that allows businesses to create modern, user-friendly appointment scheduling apps. Easy Book, a Flutter-based medical appointment app, is a prime example of how this technology can be used to streamline the appointment scheduling process. With Easy Book, patients can easily make appointments with their preferred doctor at their preferred clinic or hospital at any time of day or night, relieving pressure on the front desk and phone system. Additionally, medical services personnel are more

accommodating when appointments are scheduled, as they are aware of any scheduling constraints. For patients, Easy Book allows them to include some basic information about the reason for their appointment (for example, stomach aches, headaches, travel evaluations, pregnancy screenings, and medication refills), ensuring that they receive the appropriate care. Patients can make appointments with their preferred doctor at their preferred clinic or hospital at any time of day or night, relieving pressure on the front desk and phone system for that we can easily book appointment using this flutter based application.

II. ADVANTAGES

Advantages for patients:

1. Convenience: Patients can book appointments online or over the phone at their convenience, 24 hours a day, 7 days a week. This eliminates the need to wait on hold or make a trip to the doctor's office during business hours.
2. Reduced wait times: When patients book appointments in advance, they can help to reduce wait times in the waiting room. This means that they can get in and out of their appointments more quickly and efficiently.
3. Improved communication: Online appointment booking systems often allow patients to communicate with their doctors online, which can help to improve communication and coordination of care.
4. Access to a wider range of providers: Online appointment booking systems often allow patients to search for and book appointments with providers outside of their immediate area, which can be helpful if they are looking for a specialist or for a doctor who speaks their language.

Advantages for healthcare providers:

1. Reduced administrative burden: Online appointment booking systems can help to reduce the administrative burden on healthcare providers by automating the process of

- scheduling appointments. This frees up staff to focus on other tasks, such as patient care.
2. **Improved patient satisfaction:** When patients are able to book appointments easily and conveniently, they are more likely to be satisfied with their healthcare experience. This can lead to better patient outcomes and higher patient loyalty.

3. **Increased revenue:** Online appointment booking systems can help to increase revenue by making it easier for patients to book appointments, which can lead to more appointments being filled.
4. **More efficient use of resources:** Online appointment booking systems can help to make more efficient use of healthcare resources by reducing the number of no-show appointments.

III. MOTIVATION:

1. **Enhancing Accessibility:** Access to healthcare services is not always easy for everyone, especially for those in remote areas or with limited mobility. FlutterMed aims to bridge the gap by providing a digital platform that enables anyone with a smartphone to access healthcare services conveniently.

2. **Reducing Waiting Times:** Traditional doctor's appointments often involve long wait times, both for scheduling an appointment and at the clinic itself. FlutterMed streamlines the process, reducing wait times and making healthcare more efficient.

3. **Improving Patient Experience:** Visiting a healthcare provider can be stressful and intimidating for many patients. FlutterMed's user-friendly interface and telemedicine features make it more comfortable and less intimidating to seek medical advice, thereby improving the overall patient experience.

4. **Optimizing Healthcare Provider Efficiency:** For healthcare providers, managing appointments, medical records, and patient communication can be time-consuming. FlutterMed automates many of these tasks, allowing healthcare professionals to focus more on patient care.

5. **Empowering Patients:** FlutterMed empowers patients by providing them with easy access to their medical

records, health information, and educational resources. Informed patients are more likely to make healthier choices and actively participate in their own care.

6. **Telemedicine and Pandemic Response:** The COVID-19 pandemic highlighted the need for telemedicine and remote healthcare solutions. FlutterMed's telemedicine integration ensures that healthcare services can continue even during times of crisis.

7. **Data Security and Privacy:** Ensuring the security and privacy of healthcare data is paramount. FlutterMed places a strong emphasis on data security, adhering to industry standards and regulations, giving patients and healthcare providers confidence in the platform.

8. **Efficient Payment Processing:** Simplifying payment processes within the app not only benefits users but also helps healthcare providers receive timely payments for their services.

9. **Multilingual Support:** Healthcare should be accessible to people from diverse backgrounds and languages. Multilingual support in FlutterMed ensures that language is not a barrier to healthcare access.

10. **Continuity of Care:** By providing tools for healthcare providers to access patient records and communicate effectively, FlutterMed supports the concept of continuity of care, where patients receive consistent and coordinated healthcare services.

IV. LITERATURE REVIEW:-

Fatma Poni Mardiah, Mursyid Hasan Basri (2019): This study aims to provide a study of the major causes of patients' length of time for medical treatment in an outpatient clinic at one of Indonesia's public hospitals, as well as recommendations on the best strategy for improving the appointment system to maximize the effectiveness and efficiency of resources and capacity.

Srividya Bhat, Nandini S. Sidnal, Ravi S. Malashetty, Sunilkumar. S. Manvi (2022) Using the Java platform, the paperwork integrates accessing remote healthcare services in a multi-agent environment to improve service quality. This creates a framework for scheduling meetings between patients and relevant clinicians in an efficient manner for routine and emergency services.

Dr. Sandesh Kumar Sharma, Dr. Sudhinder Singh Chowhan (2022): This study looked into a number of factors that lead to effective hospital management and sequential hospital operations. The study established reliable and valid scales and characteristics that influence hospital efficacy and revealed the difference between optimal and actual outpatient performance observed by patients.

Ayanthi Saranga Jayawardena (2020): In this article, researchers describe a computer-based electronic information system for creating and maintaining a patient database for data analysis and facilitating evidence-based decision making. Some goals include having correctly preserved 3145 Ahospital health statistics, a paperless hospital information system, and reducing expenses while improving the quality and timeliness of the hospital information system.

Sr No,	Year	Auth name	File name	Key finding and Insight
1	2019	Fatma Poni Mardiah Mursvid Hasan Basri	Mobile-Based Patient Surgical Appointment System	Reduce patient waiting time.
2	2022	Srividya Bhat, Nandini S. Sidnal, Ravi S. Malashetty	Online doctor's consultation	One, perceived usefulness, social influence, health anxiety, offline consultation habit and perceived technology usage risk are significant predictors of perceived value.
3	2022	Dr. Sandesh Kumar Sharma, Dr. Sudhinder Singh Chowhan	Enhancing the healthcare system through mobile-based Doctor's appointment booking application	Minimize the time patients squander waiting for their appointment and save that time.
4	2020	Ayanthi Saranga Jayawardena	Factors affecting behavior of the use of healthcare mobile application	Based on the results of data processing and analysis, the aim is to determine the factors that influence the behavior of using mobile healthcare applications

V. Problem formulation/Objective:-

In today's fast-paced world, individuals frequently encounter challenges when scheduling, managing, and consulting with healthcare professionals similar as croakers. These challenges encompass colourful aspects of the healthcare system, including appointment booking, communication, access to medical records, and overall case experience. To address these issues and ameliorate the healthcare experience, we aim to develop a comprehensive result that simplifies croaker's appointment scheduling and enhances the discussion process. This result should palliate the following pain points :

1. **Difficulty in Finding Suitable Doctors:** Cases frequently struggle to find the right healthcare providers who meet their specific medical requirements, preferences, and vacuity.
2. **Long wait times:** Extended Staying ages for movables and in- clinic waiting apartments can beget vexation and discomfort to cases.
3. **Communication barriers:** Effective communication between croakers and cases is essential, yet it's occasionally hindered by language walls, limited discussion time, or Inadequate information exchange.
4. **Appointment Scheduling Hassles:** Cases face challenge in reserving movables, cataloging,

- Determine the scope of services you will offer, such as appointment scheduling,

Telehealth consultations, prescription management, etc.

3. Legal and Regulatory Compliance:

- Ensure that your app complies with healthcare regulations and data privacy laws

(e.g., HIPAA in the United States).

- Consult legal experts or regulatory specialists to navigate compliance requirements.

4. Technology Stack Selection:

- Choose the appropriate technology stack for app development, including programming languages, frameworks, and databases.

- Consider cloud hosting services for scalability and reliability.

5. User Interface (UI) and User Experience (UX) Design:

and managing multiple healthcare movables, learning to implicit detainments in treatment.

5. **Lack of access to medical information:** Cases may not have easy access to their medical records, test results, or treatment history, hindering informed conversations with healthcare providers.
6. **Cost and Insurance concerns:** Understanding healthcare costs, insurance content, and billing can be confusing, causing fiscal stress for cases.
7. **Patient Experience:** The overall case experience can vary extensively, from the ease of navigation within healthcare installations to the benevolence and effectiveness of staff.
8. **Prescription and Refill Management:** Cases encounter difficulties in managing and refilling conventions after a discussion, potentially affecting drug adherence.

VI. Methodology:-

1. Market Research and Analysis:

- Identify the target market and user personas for your app.

- Analyze competitors and existing solutions in the healthcare and telemedicine space.

- Conduct surveys, interviews, or focus groups to understand user needs and pain points.

2. Define Objectives and Scope:

- Clearly define the goals and objectives of your appointment and consulting app.

- Create intuitive and user-friendly interfaces that cater to both patients and healthcare providers.

- Focus on responsive design and accessibility to accommodate various devices an users.

6. Appointment Scheduling System:

- Develop a robust appointment scheduling system that allows patients to browse available time slots, select appointments, and receive confirmation.

- Implement real-time availability updates and waitlist management.

7. Telehealth Integration:

- Integrate secure video conferencing and communication tools for telehealth consultations.

- Ensure end-to-end encryption and HIPAA-compliant security for patient-doctor interactions

VII. Discussion

Patient Convenience: The introduction of online appointment booking has significantly improved patient convenience. Patients can book appointments at their preferred times and locations, reducing the need for long wait times and making healthcare services more accessible.

Accessibility: Online booking systems have opened up healthcare services to a broader range of patients. Those with mobility issues, busy schedules, or living in remote areas benefit from the ease of booking appointments and consulting with healthcare professionals via telemedicine.

VIII. CONCLUSION

The process of booking and consulting with a doctor has evolved significantly in recent years, thanks to advancements in technology and changes in healthcare practices. With the advent of online booking platforms and telemedicine services, patients now have more convenient and efficient ways to access medical care.

Online booking systems have streamlined the appointment scheduling process, reducing the need for long wait times and enabling patients to choose a suitable time slot that fits their schedule. These platforms also allow patients to browse through a list of available healthcare providers, read reviews, and make informed decisions about their care.

Efficiency: Digital appointment booking systems have streamlined administrative processes for healthcare providers, leading to more efficient use of their time and resources. This can result in shorter waiting times for patients and improved resource allocation.

Telemedicine's Role: Telemedicine has become increasingly prevalent, offering patients the opportunity to consult with doctors remotely. This is particularly beneficial during public health crises like the COVID-19 pandemic, as it reduces the risk of disease transmission.

Quality of Care: While telemedicine and online booking enhance accessibility and convenience, it's crucial to assess the quality of care provided. Studies should evaluate patient outcomes, satisfaction, and the effectiveness of telemedicine in managing various health conditions

Telemedicine has revolutionized the way patients can consult with doctors. It offers the flexibility to receive medical advice and treatment from the comfort of one's home, reducing the need for in-person visits and the associated inconveniences. This mode of consultation has become especially crucial during the COVID-19 pandemic, ensuring the continuity of healthcare services while minimizing the risk of virus transmission.

In conclusion, the combination of online appointment booking and telemedicine has made healthcare more accessible and convenient for patients. It has also contributed to improving the overall efficiency and effectiveness of the healthcare system. However, it is essential to ensure that patient data and privacy are safeguarded in the digital healthcare landscape and that the quality of care remains paramount in these technological advancements.

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