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## SURVEY ON: ONLINE DOCTOR CONSULTATION

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### ABSTRACT

Online medical discussions offer a digital platform for individuals to seek healthcare advice, opinions, and treatment from licensed healthcare providers. This virtual service enables users to engage from the convenience of their homes, providing an effective and accessible alternative to traditional in-person visits. Through internet-based platforms, individuals can consult with doctors or healthcare professionals, discussing their medical concerns and receiving guidance remotely. This mode of healthcare delivery leverages technology to bridge the gap between patients and providers, promoting convenience and accessibility. By accessing medical expertise online, individuals can receive timely assistance for their health needs without the constraints of geographical distance or scheduling conflicts. Overall, online medical discussions represent a modern approach to healthcare delivery, offering patients the flexibility to manage their health proactively while benefiting from professional guidance and support.[1]

**Keywords:** Croaker, Online, CPU, MONGODB, MERN, Consultation, Etc.

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### I. INTRODUCTION

Online Medical Consultation (OMC) involves remote discussions between patients and healthcare providers conducted through web-based platforms. With the widespread availability of broadband and video conferencing technologies, more people are opting for online platforms to seek medical advice. This innovation brings several advantages for both patients and providers, including cost savings, convenience, accessibility, and enhanced privacy and communication.

Patients can access medical guidance from the comfort of their homes, potentially saving time and money on travel expenses. Furthermore, online consultations enable swift access to healthcare professionals, particularly benefiting those in remote or underserved regions. Virtual consultations also create a discreet and comfortable environment for discussing sensitive health matters.

In summary, OMC represents a significant advancement in healthcare delivery, leveraging technology to improve patient care and provider efficiency. By harnessing the capabilities of web-based platforms, medical consultations become more accessible and convenient for patients, while healthcare providers can reach a broader audience and deliver timely assistance. This shift towards online medical consultations reflects a promising trend in modern healthcare, enhancing the overall patient experience and optimizing resource allocation within the healthcare system.[2]

### II. PROBLEM FORMULATION

Today's period has dramatically changed how inpatient care is delivered in healthcare practices, numerous cases don't want to leave their homes and threat exposure. People living in remote or pastoral areas warrant good quality of croaker 's discussion because croakers that are specialized in their field are located in the civic area and to reach out to them is really a tough task for people in pastoral area. The hospitals would noway have the capacity to give in-private discussion since you have to be available intimately in the crowd to see the croaker. latterly, though medical records are kept undisclosed in word defended systems an computer.

### III. LITERATURE REVIEW

A Introduction: Online doctor consultations have emerged as a transformative aspect of contemporary healthcare delivery, driven by advancements in technology and changing patient preferences. This literature review synthesizes existing research findings, theories, and concepts related to online doctor consultations, exploring their benefits, challenges, and implications for healthcare systems and patient care.

**1. Benefits of Online Doctor Consultations:** Research suggests that online doctor consultations offer numerous benefits, including improved access to healthcare services, particularly for individuals in remote or underserved areas. Studies have also demonstrated potential cost savings for patients and healthcare systems through reduced travel expenses and optimized resource allocation. Additionally, virtual

consultations provide convenience and flexibility, enabling patients to seek medical advice without the constraints of traditional office hours.

2. **Challenges and Considerations:** Despite the advantages, online doctor consultations present challenges and considerations. Data security concerns, regulatory complexities, and limitations in assessing certain medical conditions remotely have been highlighted in the literature. Moreover, ensuring the quality of care, maintaining patient confidentiality, and addressing disparities in digital access are critical considerations for healthcare providers and policymakers.
3. **Patient Perspectives:** Understanding patient perspectives is essential for the successful implementation of online doctor consultations. While some patients embrace the convenience and accessibility of virtual care, others express concerns about the quality of the patient-provider relationship, the lack of physical examination, and the potential for misdiagnosis. Factors influencing patient acceptance or reluctance towards online consultations, such as age, socioeconomic status, and health literacy, warrant further investigation.
4. **Provider Perspectives:** Healthcare providers play a pivotal role in the adoption and delivery of online doctor consultations. Studies have explored providers' experiences, attitudes, and challenges related to telemedicine, highlighting benefits such as expanded reach, improved workflow efficiency, and opportunities for interdisciplinary collaboration. However, concerns about technology proficiency, reimbursement policies, and liability issues persist and require attention.
5. **Clinical Outcomes and Effectiveness:** Evaluating the clinical outcomes and effectiveness of online doctor consultations is essential for assessing their impact on patient care. While some studies report comparable outcomes between virtual and in-person consultations for certain conditions, others emphasize the importance of context, patient selection, and follow-up care. Future research should focus on elucidating the clinical efficacy, safety, and long-term implications of telemedicine across different medical specialties.
6. **Technological and Regulatory Considerations:** The success of online doctor consultations hinges on technological advancements and regulatory frameworks. Studies have examined the features and functionalities of telemedicine platforms, interoperability with electronic health records, and compliance with telehealth regulations. Addressing technological barriers, ensuring data privacy, and navigating legal complexities are essential for the sustainable implementation of telemedicine services.[3]

#### IV. SURVEY OF VARIOUS APPLICATION RELATED TO DOCTOR CONSULTATION

Description of all application:-

##### 1. Lybrate

Another popular telemedicine app is Lybrate. Available on both iOS and Android, Lybrate has services like online consultation, appointment booking, lab test booking. Apart from these, there is an online Q&A forum and quizzes to create awareness. Lybrate provides access to a database of over 150,000 doctors with expertise in diagnosing and treating conditions across various medical specialties. With Lybrate, doctor consultations become effortless through a seamless appointment scheduling process, granting you quick access to highly experienced doctors in just a few clicks. At Lybrate, we are building the future of healthcare delivery by providing expert medical care on the go.

##### 2. Mfine

Mfine is a healthcare platform that offers professional diagnostics and telemedicine services. It has services like at-home lab tests, X-ray and scans booking, online consultation, delivery of medicines. The app also offers self-evaluation services for chronic medical conditions like diabetes, PCOD, cardiac health and others. Users can also avail the services of an AI-based assistant to know about their symptoms. Mfine is a leading healthcare app that connects users with qualified doctors for online consultations. With Mfine, users can conveniently access medical advice from various specialties through video calls, chat, or voice calls, all from the comfort of their own home. The app allows users to schedule appointments, access medical records, and receive prescriptions online, making healthcare more accessible and convenient.

##### 3. Practo

Practo is an online healthcare platform that connects patients with doctors for remote consultations. Users can book appointments with licensed healthcare professionals, describe their symptoms, and seek medical advice

via secure messaging or video calls. Practo also offers features like electronic prescriptions, medical records management, and access to a wide range of specialists. It aims to provide convenient and efficient healthcare services to individuals, especially those who may have difficulty accessing traditional healthcare facilities. Practo is a comprehensive healthcare platform providing online doctor consultations, appointment scheduling, and digital health record management. Users can access a wide range of medical services through the Practo app or website, including video, chat, or voice consultations with doctors from various specialties. Additionally, Practo offers features like medicine ordering, diagnostic test bookings, and health tips, all aimed at enhancing accessibility and convenience in healthcare management.

#### 4. Doctor24x7

Doctor 24x7 focuses on providing teleconsultation to patients with doctors and provides diagnosis along with a free follow up within 3 days of the consultation. The app has 24x7 support by doctors and claims to have treated more than 5 lakh patients. Doctor 24\*7 is a healthcare service that offers round-the-clock access to medical professionals. Users can consult with doctors online or over the phone at any time, day or night, without needing to schedule an appointment in advance. This service is particularly beneficial for urgent medical queries or emergencies when traditional healthcare facilities may not be readily available. Doctor 24\*7 aims to provide convenient and timely access to medical advice, ensuring that users can receive the care they need whenever they need it.

#### 5. Health Tap

HealthTap is an online platform where users can consult with licensed doctors remotely. Users can ask medical questions, describe symptoms, or seek advice on various health concerns. Doctors provide personalized responses, recommendations, and, in some cases, prescriptions, all through the platform's secure messaging system or video calls. It offers convenience and accessibility for those seeking medical advice from the comfort of their own home. HealthTap is a digital healthcare platform that connects users with a network of licensed doctors and specialists for online medical consultations and health advice. Users can access HealthTap through their website or mobile app, where they can ask medical questions, describe symptoms, and receive personalized responses from healthcare professionals. The platform also offers virtual doctor visits, allowing users to consult with doctors via video, voice, or chat. HealthTap provides a convenient and accessible way for users to seek medical guidance and support from qualified professionals without needing to visit a physical clinic. [4]

S.NO	Application NAME	Tools used by application	Features	Gaps
1	Lybrate	<ul style="list-style-type: none"> <li>• Apache Bench</li> <li>• Loader.io</li> </ul>	<ul style="list-style-type: none"> <li>• Available on both ios and android.</li> <li>• Provide Q&amp;A forum and quizzes to create awareness.</li> </ul>	<ul style="list-style-type: none"> <li>• Regulatory Challenges</li> <li>• Insurance Coverage</li> </ul>
2	Mfine	<ul style="list-style-type: none"> <li>• OWASP ZAP</li> <li>• Burp suite</li> </ul>	<ul style="list-style-type: none"> <li>• Accurate Readings</li> <li>• No Other Device needed</li> </ul>	<ul style="list-style-type: none"> <li>• Limitation of Bandwidth.</li> <li>• Limits on storage and space.</li> </ul>
3	Practo	<ul style="list-style-type: none"> <li>• Jmeter</li> <li>• LoadRunner</li> </ul>	<ul style="list-style-type: none"> <li>• Provide application for prescription and reports</li> </ul>	<ul style="list-style-type: none"> <li>• Problem in contacting</li> <li>• Consultancy Fee not updated.</li> </ul>
4	Doctor 24*7	<ul style="list-style-type: none"> <li>• BrowserStack</li> <li>• Ranorex</li> </ul>	<ul style="list-style-type: none"> <li>• Prescription Delivery</li> <li>• Medication Reminder</li> </ul>	<ul style="list-style-type: none"> <li>• Privacy Concern</li> <li>• Regulatory Compliance</li> </ul>
5	Health tap	<ul style="list-style-type: none"> <li>• Robot framework</li> <li>• cucumber</li> </ul>	<ul style="list-style-type: none"> <li>• Provide nearest medical stores with discount</li> </ul>	<ul style="list-style-type: none"> <li>• Premium services</li> <li>• require subscription</li> </ul>

## 1. CASE STUDY 1

### Lybrate – Online Doctor Consultation

Certainly! Here's a narrative overview of Lybrate's online doctor consultation service:

Lybrate, a leading online healthcare platform in India, has revolutionized the way people access medical advice and consultation. Through Lybrate's intuitive website and mobile application, users can connect with qualified doctors from various specialties without the need for physical appointments.

Consider the case of Priya, a busy professional living in a bustling city. One day, she develops persistent cough and fever but finds it challenging to take time off work for a doctor's visit. Instead of delaying her healthcare needs, Priya turns to Lybrate. She quickly creates an account on the platform and navigates to the section where she can find doctors for her symptoms.

With Lybrate's user-friendly interface, Priya easily discovers a pulmonologist with high ratings and positive reviews. She books an appointment for an online consultation later that evening, choosing the option for a video call. As the appointment time approaches, Priya receives a notification reminding her of the upcoming consultation.

At the scheduled time, Priya joins the video call with the doctor. She describes her symptoms, medical history, and concerns, and the doctor attentively listens while asking relevant questions. Through the video call, the doctor conducts a preliminary examination, observing Priya's condition and providing immediate feedback.

After a thorough discussion, the doctor diagnoses Priya with a respiratory infection and prescribes medication to alleviate her symptoms. Priya receives the prescription digitally through the Lybrate platform, eliminating the need to visit a physical pharmacy.

In the following days, Priya experiences significant improvement in her condition. She appreciates the convenience and efficiency of Lybrate's online consultation service, which allowed her to receive prompt medical attention without disrupting her busy schedule.

This case illustrates how Lybrate's online doctor consultation service offers convenience, accessibility, and quality healthcare to individuals like Priya, enhancing their overall well-being and productivity. [5]

## 2. CASE STUDY 2

### Mfine – Online Doctor Consultation

In today's fast-paced world, accessing quality healthcare can be challenging, especially for individuals with busy schedules. Mr. Patel, a 42-year-old executive, found himself in this predicament when he started experiencing persistent lower back pain. Juggling work commitments and family responsibilities, he struggled to find the time for a traditional clinic visit. That's when he discovered mfine's doctor consultation service.

A colleague recommended mfine to Mr. Patel, highlighting its convenience and effectiveness in providing online medical consultations. Intrigued by the idea of consulting with a doctor from the comfort of his home, Mr. Patel decided to give it a try. He downloaded the mfine app and was impressed by its user-friendly interface and comprehensive range of medical specialties available for consultation.

Booking a consultation through mfine was a breeze for Mr. Patel. He selected a suitable time slot and chose to have a video consultation with an orthopedic specialist. At the appointed time, he logged into the app and was connected with the doctor. During the consultation, Mr. Patel described his symptoms in detail, explaining how his back pain was affecting his daily life. The orthopedic specialist listened attentively, asking pertinent questions to better understand Mr. Patel's condition. Through the video call, the doctor conducted a virtual examination, assessing Mr. Patel's range of motion and providing personalized medical advice.

Armed with the expert guidance received through mfine's doctor consultation, Mr. Patel implemented the recommended lifestyle changes and exercises to manage his back pain. Over the following weeks, he noticed a significant improvement in his symptoms, allowing him to resume his daily activities with renewed vigor.

Mr. Patel's experience with mfine's doctor consultation service underscores the transformative potential of telemedicine in healthcare delivery. By leveraging technology to connect patients with qualified medical professionals, mfine has succeeded in breaking down barriers to access and providing timely, personalized care to individuals like Mr. Patel. As the world continues to embrace digital solutions in healthcare, platforms like mfine are poised to play a pivotal role in shaping the future of medicine.[6]

## V. STUDY OF ONLINE CONSULTATION COMPARED TO OFFLINE CONSULTATION: LEVERAGING AVAILABLE TOOLS

In recent years, the emergence of online consultation platforms has transformed the landscape of healthcare delivery, offering patients unprecedented convenience and accessibility to medical expertise. This study seeks to explore the efficacy of online consultations compared to traditional offline consultations, with a focus on the tools and resources available in each setting.

Online consultation platforms, such as mfindoctor, Practo, and HealthTap, utilize digital technologies to connect patients with healthcare professionals remotely. Through these platforms, patients can access a wide range of medical specialties, schedule appointments, and engage in consultations via video calls, chat, or phone calls. One of the primary advantages of online consultations is their convenience, allowing patients to seek medical advice from the comfort of their homes without the need for travel or long wait times.

Online consultation platforms leverage various tools to facilitate effective communication and diagnosis between patients and healthcare providers. Video conferencing technology enables real-time interactions, allowing doctors to visually assess patients and provide personalized advice. Additionally, digital health records and integrated messaging systems enable seamless communication and information exchange between patients and healthcare professionals, enhancing the continuity of care.

Traditional offline consultations involve in-person visits to healthcare facilities, such as clinics or hospitals, for medical evaluation and treatment. While offline consultations offer face-to-face interactions with healthcare providers and hands-on examinations, they often entail long wait times, travel expenses, and logistical challenges, particularly for individuals with mobility issues or busy schedules.

When comparing online consultations to offline consultations, several key differences and considerations emerge. Online consultations offer unparalleled convenience and accessibility, allowing patients to receive medical advice promptly from anywhere with an internet connection. Moreover, online platforms often provide access to a diverse pool of healthcare professionals, enabling patients to seek specialized expertise beyond their local area. However, online consultations may lack the tactile and in-person aspects of traditional examinations, potentially limiting the depth of physical assessments and diagnostic capabilities in certain cases.

In conclusion, online consultation platforms offer a viable alternative to traditional offline consultations, leveraging available tools and digital technologies to provide convenient and accessible healthcare services. While offline consultations offer face-to-face interactions and hands-on examinations, online consultations offer unmatched convenience and accessibility, particularly in situations where travel or physical presence may pose challenges. By understanding the strengths and limitations of both approaches, healthcare providers and patients can make informed decisions to optimize healthcare delivery and outcomes. [7]

## VI. METHODOLOGY

### Investigating the Efficacy and User Experience of "Online Doctor Consultancy" Platform Research Design:

This study employs a mixed-methods research design, integrating both quantitative and qualitative approaches to comprehensively evaluate the effectiveness and user experience of the "Online Doctor Consultancy" platform. The research design encompasses survey-based data collection from patients and in-depth interviews with dermatologists, combined with an analysis of platform usage metrics.

#### Data Collection Methods:

**Online Surveys:** Patients who have utilized the "Online Doctor Consultancy" platform are invited to participate in an online survey. The survey questionnaire includes items assessing patient demographics, satisfaction levels, perceived benefits, ease of use, and quality of interaction with dermatologists during online consultations.

**In-depth Interviews:** In-depth interviews are conducted with dermatologists who have registered on the platform and provided consultations to patients. Semi-structured interviews are utilized to explore dermatologists' experiences, challenges, and perceptions regarding the platform's functionality, effectiveness in diagnosing hair loss and skin problems, and overall usability.

**Platform Usage Metrics Analysis:** Usage data collected from the "Online Doctor Consultancy" platform, including

the number of patient registrations, appointment bookings, successful consultations, and medication prescriptions, are analyzed to identify patterns, trends, and user behaviors.

**Sampling Procedure:**

**Patient Sample:** A purposive sampling approach is employed to recruit patients who have registered on the "Online Doctor Consultancy" platform and booked appointments with dermatologists. Participants are selected based on their experience with the platform and diversity in demographics, medical conditions, and geographic locations.

**Dermatologist Sample:** Dermatologists who have registered as providers on the platform and conducted consultations with patients are invited to participate in the study. The sample includes dermatologists from various backgrounds and expertise levels to capture a range of perspectives.

**Data Analysis Technique:**

**Quantitative Analysis:** Survey data collected from patients are analyzed using descriptive and inferential statistical techniques. Descriptive statistics, such as frequencies, percentages, means, and standard deviations, summarize patient demographics and satisfaction levels. Inferential analysis, including correlation analysis and regression modeling, examines relationships between variables and identifies predictors of patient satisfaction.

**Qualitative Analysis:** In-depth interview transcripts are analyzed using thematic analysis to identify key themes, patterns, and insights regarding dermatologists' experiences with the platform. Themes related to platform usability, effectiveness in diagnosing hair loss and skin problems, communication dynamics, and challenges encountered are identified and interpreted.

**Conclusion:**

Through a mixed-methods approach encompassing surveys, interviews, and platform usage analysis, this study aims to provide a comprehensive understanding of the "Online Doctor Consultancy" platform's efficacy and user experience. By triangulating data from multiple sources, the research seeks to identify strengths, weaknesses, and areas for improvement, ultimately informing enhancements to the platform and optimizing patient-provider interactions in the online healthcare domain. [8]

## VII. RESULT DISCUSSIONS

**Improved accessibility to medical care:** Online doctor consultations are designed to make medical advice and treatment more accessible, particularly for patients in remote or underserved areas.

**Reduced cost of healthcare:** By providing a cost-effective alternative to traditional in-person appointments, online doctor consultations are expected to reduce the overall cost of healthcare for patients.

**Increased patient satisfaction:** Online doctor consultations are expected to increase patient satisfaction by providing a more convenient and accessible way to receive medical care.

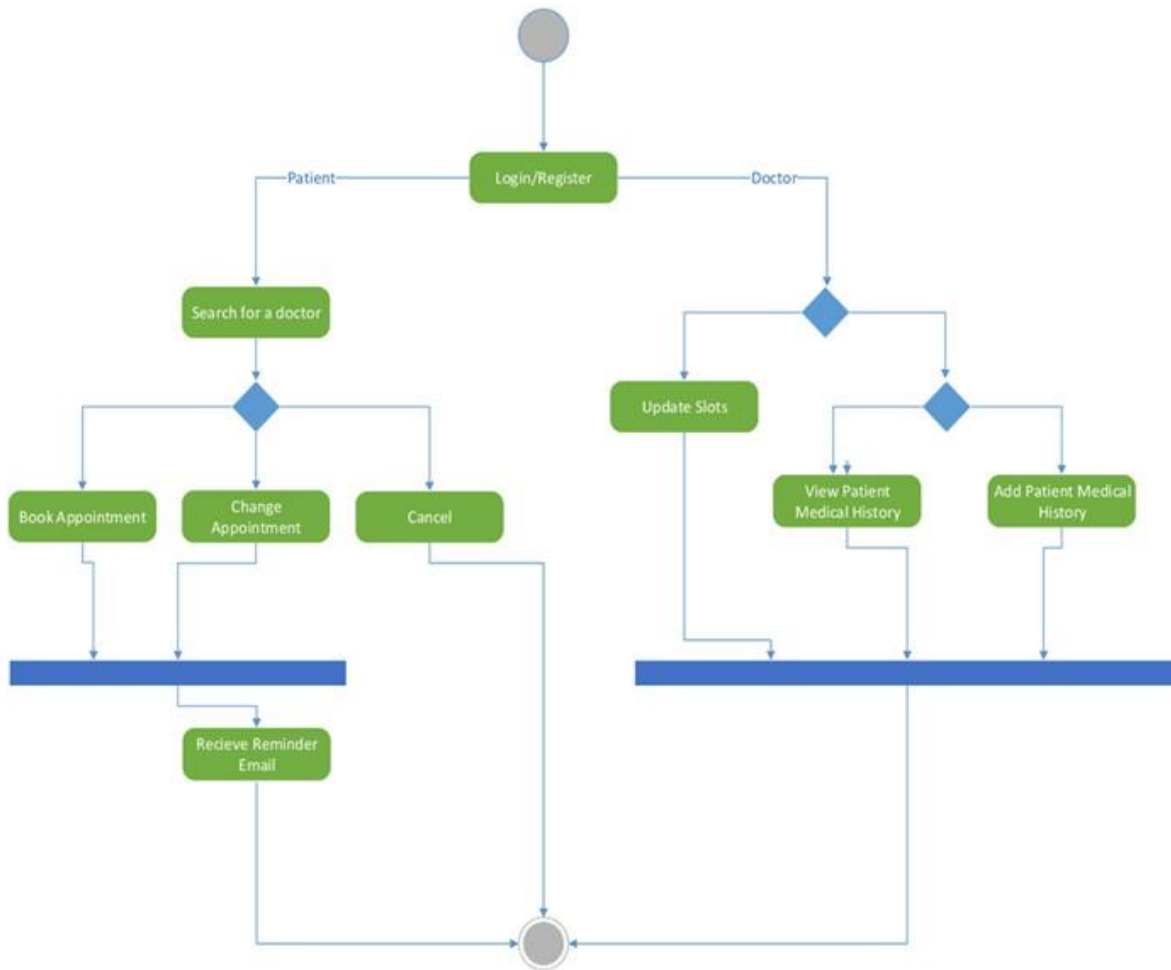
**Improved health outcomes:** By allowing patients to receive medical advice and treatment more quickly and easily, online doctor consultations are expected to improve health outcomes and reduce the risk of complications.

**Increased patient engagement:** Online doctor consultations are expected to increase patient engagement in their own healthcare, encouraging patients to take an active role in managing their health and wellness.

**Improved healthcare efficiency:** By streamlining the process of connecting patients with medical professionals, online doctor consultations are expected to improve the efficiency of healthcare delivery, freeing up time and resources for more complex cases.

Overall, the expected outcome of an online doctor consultation project is to provide a more convenient, accessible, and effective way for patients to receive medical care, leading to improved health outcomes and a more efficient healthcare system. [9][10]

**Work Flow Diagram**



**VIII. CONCLUSION**

The system has been implemented and tested successfully. It meets both functional and non-functional requirements.

The system has been designed keeping the present and future requirements in mind. The system is made very flexible. But still there are some limitations of the system. Proper consideration has been given for a wide range of new enhancements. The system is developed in a user-friendly way. In future, if it is required to add new functionality in the system new module can be added without affecting the design of the system. Furthermore, the maintenance of the project will become easy in future and transparency will be maintained. The proposed system is also tested with different types of users in order to make sure that there are no bugs and user interface is friendly enough to use the system. The system’s main function is for users to be able to book a consultation through the online system, therefore they don’t have to go to the clinic or hospital to book it and then waiting there for their turn.

They can just sit at home and go there when the time is scheduled for their appointment

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