

REPUBLIQUE DU CAMEROUN

Paix – Travail – Patrie

REPUBLIC OF CAMEROON

Peace – Work – Fatherland



FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTER ENGINEERING

SPECIALIZATION: SOFTWARE ENGINEERING

COURSE TITLE: SOFTWARE QUALITY TOOLS AND TESTING

**ASSESSMENT AND FEATURE REQUIREMENT FOR TELEMEDICINE APP:
MEDIK**

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INTRODUCTION

A telemedicine application is a mobile application that allows individuals to get access to doctors and other health practitioners as well as medications remotely using their smart phones to carry out consultation aiming at providing convenient access to healthcare services, especially for individuals who face geographic, mobility, or time constraints.

MEDIK is a telemedicine app **which provides services ranging from video and audio consultations with messages, online prescription, pharmacy services and appointments scheduling to notifications (health tips based on medical history, lab test reports and diagnosis)**

FUNCTIONAL REQUIREMENTS

Authentication: Verification of users are to be done by the use of passwords and usernames on registering and logging in.

Also in accessing personal data and health statistics the use of biometric fingerprints authentication is to be implemented

Consultation : This involves conversations, sessions and appointments with the patient and health expert through videos, audios and messages.

Payment services: This involves transactions payments and receipts for consultations, diagnosis and medication purchases.

Booking appointments: This involves scheduling slots for health professionals and patients

Medical Records Management: The app should provide a secure database for storing and accessing medical records, test results, prescriptions, and other relevant health information.

Prescription Services: The app should enable healthcare providers to electronically send prescriptions to pharmacies, allowing users to conveniently receive medications without physical prescriptions.

NON-FUNCTIONAL REQUIREMENTS

Security and Privacy: MEDIK adheres to strict security standards (e.g., HIPAA compliance) to ensure the confidentiality, integrity, and privacy of patient data.

Usability and User Experience: MEDIK has an intuitive and user-friendly interface, making it easy for users to navigate, schedule appointments, communicate, and access their information.

Performance and Scalability: MEDIK is capable of handling concurrent users and provide a smooth and responsive experience, even during peak usage times.

Reliability and Availability: MEDIK is reliable, ensuring consistent availability and minimal downtime to avoid disruptions in accessing healthcare services. 5. Compatibility and Integrations: The app should be compatible with various devices, operating systems (e.g., iOS, Android), and browsers to

cater to a wide range of users. It should also support integrations with other healthcare systems, such as electronic health records (EHR) or pharmacy systems.

Accessibility: MEDIK will comply with accessibility standards to ensure that individuals with disabilities can access and use the app effectively. 7. Regulatory Compliance: The app should adhere to relevant regulations and guidelines, such as HIPAA, GDPR, and local telemedicine practice guidelines.

Language accessibility: MEDIK is lingual friendly and can be used across 50+ international languages.

INTERNATIONAL QUALITY STANDARDS FOR TELEMEDICINE APPS

In compliance with the World Health Organization (WHO), the following standards below serve as standards for the best quality in software telemedicine:

Health Insurance Portability and Accountability Act (HIPAA): HIPAA sets the standards for protecting sensitive patient health information in the United States. If your telemedicine app serves users in the U.S., compliance with HIPAA regulations is crucial to safeguard patient privacy and security.

General Data Protection Regulation (GDPR): GDPR is a comprehensive data protection regulation that applies to the European Union (EU) and European Economic Area (EEA). If your telemedicine app serves users in EU/EEA countries, compliance with GDPR is necessary to ensure the lawful and secure processing of personal data.

International Organization for Standardization (ISO) 27001: ISO 27001 is an internationally recognized standard for information security management systems. Adhering to ISO 27001 guidelines helps ensure that your telemedicine app implements robust security controls, risk management processes, and data protection measures.

International Medical Device Regulators Forum (IMDRF): Health Insurance Portability and Accountability Act (HIPAA): HIPAA sets the standards for protecting sensitive patient health information in the United States. If your telemedicine app serves users in the U.S., compliance with HIPAA regulations is crucial to safeguard patient privacy and security.

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International Medical Device Regulators Forum (IMDRF): The IMDRF provides guidance on the regulatory requirements for medical devices, including software-based medical devices such as telemedicine apps. Compliance with IMDRF guidelines helps ensure the safety, effectiveness, and quality of your app as a medical device.

American Telemedicine Association (ATA) Guidelines: The ATA offers guidelines and best practices for telemedicine services, including app development. These guidelines cover various aspects such as clinical, technical, and ethical considerations, helping you design and implement a telemedicine app that meets industry standards.

CONCLUSION

In conclusion, MEDIK presents a comprehensive solution that addresses the evolving needs of healthcare delivery in the digital age. By leveraging the power of technology, we aim to revolutionize the way patients and healthcare providers connect and interact, ultimately enhancing access to quality healthcare services.

MEDIK offers a user-friendly interface that enables patients to conveniently access virtual consultations with licensed healthcare professionals from the comfort of their homes. Through secure video calls and messaging systems, patients can receive medical advice, diagnoses, and even prescriptions, saving time and eliminating the barriers of distance and transportation.

With a strong focus on patient privacy and data security, our app complies with international professional standards such as HIPAA and GDPR. We have implemented robust encryption protocols and stringent access controls to ensure the confidentiality and integrity of patient information, instilling trust and confidence in our users.

Furthermore, MEDIK integrates seamlessly with existing healthcare systems through adherence to HL7 standards, enabling efficient sharing and exchange of electronic health

information. This interoperability enhances care coordination and streamlines the healthcare workflow, leading to improved patient outcomes and operational efficiency.

Our team of experienced healthcare professionals, software developers, and user experience designers are collaborating for the production of MEDIK that prioritizes user satisfaction and clinical effectiveness. We have incorporated evidence-based guidelines from reputable organizations like the ATA and WHO to ensure that our app adheres to the highest industry standards.

In summary, MEDIK offers a transformative solution that empowers patients and healthcare providers alike. By embracing technology and adhering to international professional standards, we are redefining healthcare delivery, making it more accessible, efficient, and patient-centric. Join us on this journey as we shape the future of healthcare through our innovative telemedicine app.