



SOEN ICE TASK

Doctor's Requirement document



AUGUST 20, 2023

VARSITY COLLEGE
[Company address]

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Requirement Document of New System

Preface	<p>Preface</p> <p>This document outlines the requirements for designing and developing a new medical system to replace the outdated one used by the Cape Town medical practice. It explains what the new system should do and who will use it. It also talks about why this latest version is needed and what changes have been made. This document helps everyone understand what the new system will be like and how it will be created.</p> <p>Who Should Read This</p> <p>This document is for people in the medical practice, like doctors and staff, and for people outside who will help make the new system, like IT experts and software developers. Each group will find the parts that matter most to them.</p> <p>Version History</p> <p>Version 1.0 [20/8/2023]</p> <p>This is the first version of the document. It is here because the old system is too old and not working well anymore. The new system will be better and solve the problems we have with the old one. We want the new system to fit the needs of the medical practice better.</p> <p>Changes Made</p> <p>In this version, we made some significant changes to make sure the new system works well for the medical practice:</p> <ul style="list-style-type: none"> ✓ Better Patient Information: The new system will manage patient info like prescriptions and medical notes way better than the old one. ✓ Easier Appointment Booking: The new system will let patients' book and change appointments easily. This will save time and make patients happier. ✓ Clear Financial Tracking: The new system will track money matters carefully, making billing and accounting smoother. ✓ Modern Technology: The new system will be built with new and good technology, so it is safe and can grow with future needs. ✓ Help for Staff: The new system will come with training and support to help the medical practice staff use it well. <p>This version of the requirements document is the start for creating the new system. It helps everyone understand what the new system needs to do and how it will make things better. As the project goes on, we might change and add more things to this document.</p>
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Introduction	<p>Introduction</p> <p>This document outlines the need for a new and improved medical system due to changes in healthcare technology and the practice's evolving requirements. The current system, acquired over a decade ago, is outdated and cannot meet the practice's needs anymore. To address this, a more advanced system is necessary to efficiently manage patient details, appointments, and accounts.</p> <p>Purpose of the New System</p> <p>The main goal of the new system is to replace the old one with a comprehensive solution. This will enhance patient information management, streamline appointment scheduling, and improve financial tracking and billing accuracy. The new system will enable better patient care, resource management, and financial transparency.</p> <p>System Functions</p> <p>The new system will consist of three interconnected parts:</p> <ul style="list-style-type: none"> ✓ Patient Details Management: This module will handle patient information like prescriptions and medical notes, ensuring accurate and confidential data management. ✓ Appointment Details: A user-friendly module for booking and changing appointments will optimize doctors' schedules and improve patient experience. ✓ Accounts Management: This module will track finances accurately, improve billing processes, and simplify accounting tasks. <p>Alignment with Organisation Goals</p> <p>Implementing the new system aligns with the practice's strategic goals:</p> <ul style="list-style-type: none"> ✓ Better Patient Care: Enhanced patient info management and appointment scheduling will elevate patient care and satisfaction. ✓ Efficiency: Automation and precise financial tracking will reduce errors and improve operational efficiency. ✓ Future Ready: Modern technology ensures adaptability to future healthcare trends and scalability. ✓ Security: Adherence to industry standards will protect patient data and maintain data integrity. <p>The new system addresses the limitations of the old one to enhance patient care, streamline operations, and achieve practice objectives. This document sets the foundation for defining specific requirements guiding system design, development, and successful implementation.</p>
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Glossary	<p>Glossary</p> <ul style="list-style-type: none"> ✓ Appointment Details: The module within the new medical system responsible for managing and facilitating the booking, rescheduling, and cancellation of patient appointments. ✓ Accounts Management: The integrated component of the new system that handles accurate financial tracking, billing processes, and comprehensive accounting management. ✓ Data Accuracy: The degree to which patient information, financial data, and other records are correct, dependable, and free from errors. ✓ Data Privacy: The safeguarding of patient and financial information to prevent unauthorized access, use, or disclosure. ✓ Electronic Health Records (EHR): Digital records containing patient health information, including medical history, prescriptions, and doctor's certificates. ✓ Legacy System: The outdated software currently in use by the medical practice, which is being replaced by the new, more advanced system. ✓ Medical Notes: Recorded observations, diagnoses, treatments, and other relevant information pertaining to a patient's medical history. ✓ Patient Details Management: The functional module of the new system responsible for storing, retrieving, and organizing patient related information, such as prescriptions, medical notes, and doctor's certificates. ✓ Scalability: The system's capability to handle increased workload or data volume without compromising performance or functionality. ✓ Software Development: The process of designing, creating, and testing software applications, including the new medical system. ✓ System Integration: The process of combining different modules or components of a software system to ensure they work together smoothly and effectively. ✓ User Interface (UI): The visual and interactive elements of the software that users interact with, such as buttons, forms, and menus. ✓ User Experience (UX): The overall experience and satisfaction that users have when interacting with the software, including ease of use and efficiency. ✓ Version Control: The practice of managing different versions or iterations of the software to keep track of changes and updates. ✓ Workflow: The sequence of tasks and processes within the medical practice that the new system aims to streamline and optimize.
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User Requirements Definition	<p>User Requirements Definition</p> <p>This section outlines the new medical system's services for healthcare practitioners, administrative staff, and patients. It includes both functional and nonfunctional requirements, ensuring clarity on system performance, usability, and standards.</p> <p>Patient Details Management</p> <ul style="list-style-type: none"> ➤ Service: Efficiently manage patient information, including prescriptions and medical notes. Administrative staff can update demographics. <p>Nonfunctional:</p> <ul style="list-style-type: none"> ✓ Data Security: Encrypt and store patient data securely per regulations. ✓ Accessibility: Access via authorized accounts with role-based permissions. ✓ Data Integrity: Track and log changes for accuracy and accountability. <p>Appointment Details</p> <ul style="list-style-type: none"> ➤ Service: Provide a user-friendly interface for scheduling and rescheduling appointments. Patients can request appointments through a portal. <p>Nonfunctional:</p> <ul style="list-style-type: none"> ✓ Usability: Intuitive interface reduces training needs. ✓ Performance: Handle multiple appointments simultaneously without slowdowns. ✓ Notification: Email/SMS reminders for patients and practitioners. <p>Accounts Management</p> <ul style="list-style-type: none"> ➤ Service: Facilitate accurate financial tracking, billing, and reporting, including invoicing, payments, and account balance management. <p>Nonfunctional:</p> <ul style="list-style-type: none"> ✓ Accuracy: Perform precise calculations and maintain reliable financial records. ✓ Auditability: Detailed audit trail for compliance. ✓ Integration: Integrate with existing accounting systems for standardized financial reports. <p>Standards</p> <ul style="list-style-type: none"> ✓ Data Privacy: Adhere to GDPR, HIPAA, and data privacy regulations. ✓ User Interface: Follow industry best practices for intuitive navigation. ✓ Interoperability: Integrate with common healthcare systems. ✓ Performance: Aim for industry standard response times and uptime.
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System requirements specification	<p>System Requirements Specification</p> <p>This section provides detailed functional and nonfunctional requirements for the new medical system, with added clarity on nonfunctional aspects and interfaces to other systems.</p> <p>Patient Details Management</p> <p>Functional Requirements:</p> <ul style="list-style-type: none"> ✓ Enable healthcare practitioners to create, update, and access patient profiles, including medical history and records. ✓ Allow patients to view and update personal info, medical history, and appointments through a secure portal. ✓ Enable administrative staff to manage patient demographics, track changes, and generate reports. <p>Nonfunctional Requirements:</p> <ul style="list-style-type: none"> ✓ Data Privacy: Encrypt patient data during transmission and storage, adhering to GDPR and HIPAA. ✓ Accessibility: Role based access with varying levels of permissions for practitioners and patients. ✓ Data Integrity: Maintain audit logs for traceability of patient record changes. <p>Appointment Details</p> <p>Functional Requirements:</p> <ul style="list-style-type: none"> ✓ Offer an intuitive calendar-based interface for practitioners and staff to manage appointments. ✓ Allow patients to request appointments via the portal, with automated confirmations. ✓ Send email and SMS reminders for appointments. <p>Nonfunctional Requirements:</p> <ul style="list-style-type: none"> ✓ Usability: Intuitive interface for easy use, requiring minimal training. ✓ Performance: Handle concurrent appointments and notifications without slowdowns. ✓ Notification Reliability: Timely and consistent email/SMS reminders. <p>Accounts Management</p> <p>Functional Requirements:</p> <ul style="list-style-type: none"> ✓ Enable staff to generate invoices, track payments, and manage account balances. ✓ Provide financial reports for authorized users. ✓ Integrate with payment gateways for online payments. <p>Nonfunctional Requirements:</p> <ul style="list-style-type: none"> ✓ Financial Accuracy: Precise calculations and accurate recordkeeping. ✓ Audit Trail: Log financial transactions for compliance. ✓ Integration: Payment gateways adhere to industry standards. ✓ <p>Interfaces with Other Systems</p> <ul style="list-style-type: none"> ✓ Integrate with existing EHR system for patient medical histories. ✓ Interface with accounting software for seamless financial data transfer.
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System Evolution	<p>System Evolution</p> <p>This section outlines the core assumptions upon which the new medical system is built and anticipates potential changes that might arise due to factors such as hardware advancements and evolving user needs. By identifying these assumptions and probable future changes, system designers can make informed decisions that enable flexibility and prevent design choices that could limit the system's adaptability.</p> <p>Assumptions:</p> <ul style="list-style-type: none"> ✓ Stable Hardware Infrastructure: The new system is designed based on the assumption of a stable and reliable hardware infrastructure that meets the current system requirements. The system's performance and functionality expectations are aligned with this hardware setup. ✓ Consistent Regulatory Environment: The system assumes a consistent regulatory environment in terms of data privacy and healthcare standards. Any changes in regulations will be considered as part of ongoing system maintenance. ✓ User Requirements: The documented user requirements reflect the current understanding of user needs. These requirements are based on thorough analysis and stakeholder input available at this stage. <p>Anticipated Changes:</p> <ul style="list-style-type: none"> ✓ Hardware Upgrades: The system should be designed with modularity to accommodate potential hardware upgrades or replacements. This includes considering scalability for increased patient load and adopting technologies that are likely to evolve over time. ✓ Enhanced User Features: As user needs continue to evolve, the system should be adaptable to include new features and functionalities that enhance user experience, such as integrating telehealth capabilities or additional patient engagement tools. ✓ Regulatory Compliance: Given the dynamic nature of healthcare regulations, the system should be prepared to incorporate changes to data privacy laws and medical standards. Flexibility in data handling and reporting will be essential to adapt to future regulatory requirements. ➤ Interoperability: Future integration with emerging medical technologies or data exchange standards should be feasible. The system's architecture should allow for interoperability with other healthcare systems to enhance data sharing and collaboration. ➤ User Interface Enhancements: As user interfaces and usability standards evolve, the system should be designed with flexibility to undergo interface enhancements and adjustments to align with the latest user experience trends. <p>Incorporating these considerations into the system's design and development ensures its resilience and adaptability, effectively addressing potential changes in hardware, regulations, user expectations, and industry trends.</p>
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<p>Appendices</p>	<p>Appendices</p> <p>This section provides additional detailed information relevant to the development of the new medical system. The appendices offer specifics on hardware requirements and database organization, aiding in the understanding and implementation of the system.</p> <p>Appendix A: Hardware Requirements</p> <p>This appendix outlines the hardware specifications necessary for the new medical system to function optimally. It provides both the minimum and recommended configurations required for smooth operation. The specifications consider system performance, scalability, and future advancements in hardware technology.</p> <ul style="list-style-type: none"> ✓ Server Configuration: Specifies the type of servers required, including CPU, RAM, storage, and network capabilities. ✓ Client Devices: Lists the recommended specifications for devices accessing the system, ensuring a seamless user experience. ✓ Networking Infrastructure: Defines network requirements, including bandwidth, latency, and security considerations. <p>Appendix B: Database Requirements</p> <p>This appendix details the logical organization of the data used by the new medical system. It defines the structure of the database, including tables, relationships, and data integrity constraints. This information is crucial for system developers to create a robust and efficient database schema.</p> <ul style="list-style-type: none"> ✓ Database Schema: Illustrates the arrangement of tables and their fields, describing the purpose of each table. ✓ Data Relationships: Defines the connections between tables, specifying primary and foreign key relationships. ✓ Data Integrity Rules: Outlines rules and constraints to ensure data accuracy and consistency. <p>Appendix C: System Interfaces</p> <p>This appendix provides a comprehensive overview of the system's interfaces with external components, software, and services. It clarifies how the new medical system interacts with other systems to exchange data and perform specific functions.</p> <ul style="list-style-type: none"> ✓ Electronic Health Record (EHR) Integration: Describes the integration points and data flow between the new system and the existing EHR system. ✓ Accounting Software Integration: Explains how financial data is exchanged between the medical system and the practice's accounting software. <p>Appendix D: Glossary</p> <p>This appendix offers definitions for technical terms, acronyms, and specialized vocabulary used throughout the requirements document. It ensures a shared understanding among stakeholders, promoting effective communication during system development.</p>
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	<p>Appendix E: References</p> <p>This appendix lists the sources and references used in the creation of the requirements document. It acknowledges the information sources that contributed to the accuracy and comprehensiveness of the document.</p> <p>These appendices provide essential technical details, hardware specifications, database structure, system interfaces, and references. They assist system designers and developers in implementing the new medical system effectively and aligning it with the practice's requirements and objectives.</p>
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Index	<p>Index</p> <ul style="list-style-type: none"> ✓ Alphabetic Index: A comprehensive alphabetical listing of terms, topics, and sections within the requirements document, enabling quick navigation to specific information. ✓ Index of Diagrams: A compilation of diagrams, charts, and visual aids used throughout the document. This index facilitates easy reference to visual representations. ✓ Index of Functions: An index specifically focused on the functions and features described in the document. It allows users to locate detailed information about various system functionalities. <p>These indexes enhance the accessibility and usability of the requirements document by offering multiple ways to locate and cross-reference information.</p>
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