KOFORIDUA TECHNICAL UNIVERSITY

FACULTY OF APPLIED SCIENCE AND TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE

PROJECT PROPOSAL FOR FINAL YEAR

TOPIC: MEDADMIN-ONLINE PHARMACY MANAGEMENT SYSTEM

BY:

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CERTIFICATION AND CONSENT

Certification of Accuracy and Completeness

As members of the project team, who are undertaking the design and development of online pharmacy system hereby certify that the documentation for the online pharmacy system called MedAdmin is accurate and authentic to the best of our knowledge. This documentation has thoroughly been reviewed for accuracy and completeness

Signatures

1. Tabiri Obed Amoah [User Interface Designer]
2. Asante-Bekoe Kelvin Yaw Asamani [Backend Developer]
3. Nuhu Abdul Latif [Frontend Developer]
4. Mensah-Asomatse Edward [User Experience Designer]
5. Efah Mathias Ofori [Database Developer and Adminstrator]

Date:_____

Group Consent Statement

We as undersigned members of the project team, we thereby grant consent to Koforidua Technical University to use, share, and disclose the project documentation for MedAdmin for the purpose of education. We understand that the documentation may be shared to third-parties for educational and advertising purposes

Scope of Consent: This consent is limited to the project documentation and does not extend to any other confidential or proprietary information.

Signatures:

1. Tabiri Obed Amoah [User Interface Designer]
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5. Efah Mathias Ofori [Database Developer and Adminstrator]

Date: _____"

DECLARAATION

We members of the team developing MedAdmin would like dedicate this project documentation to Mr Bright Anibrika for his undeniable support, guidance, inspirational work throughout the scope and duration of the development of MedAdmin.

ACKNOWLEGDGEMENT

Our greatest gratitude goes to the Almight Lord who has given and continues to give us life and opportunity undertake this project; we project team members would like to also extend our sincere gratitude and appreciation to Computer Science department lecturers (Dr. Benjamin Kwofie, Mr. Collinson Collins Agbesi, Dr. Martin Offie, etc) and Koforidua Technical University as a whole for the knowledge they impacted into as that aided as to undertake this project. Again, our next appreciation goes to Mr. Bright Anibrika our Project Supervisor for his support, advise, guidance & inspirational messages to us through the scope of the project development and non the least to our Department Head of Department Seth Alornyo for his general support.

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CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

Access to quality healthcare services, particularly medication management, is a vital aspect of improving patient outcomes and ensuring public health. Traditionally in Ghana and in regions such as Koforidua, patients are required to physically visit pharmacies with handwritten prescriptions to acquire their medications. This manual approach often leads to challenges such as non-adherence to prescribed dosages, loss of prescription notes, and limited pharmacist-patient interaction. These issues not only hinder effective treatment but also pose risks such as medication misuse or overdose.

The increasing penetration of mobile technology and internet services presents an opportunity to digitize the pharmaceutical sector through systems that simplify the medication ordering and management process. MedAdmin is developed in response to this need — an online pharmacy management system that enables users to order prescription and non-prescription drugs, upload prescriptions, schedule deliveries, and receive virtual consultations. It also provides pharmacists with an efficient way to manage inventories, verify prescriptions, and communicate with customers.

1.1 Problem Statement

The conventional pharmacy system in Koforidua-Ghana and similar locations suffers from inefficiencies and health risks due to its manual nature. Common problems include:

- Patients failing to follow prescribed dosages and medication schedules.
- Frequent loss of handwritten prescription slips.
- Medication mix-ups due to poor tracking and packaging.
- Absence of reminders leading to missed dosages.
- Inability of some patients to interpret medical instructions correctly.
- Poor inventory management at pharmacies.
- Difficulty in tracking medication orders.
- Exposure to counterfeit drugs due to lack of verification systems.

This has raised a lot of concerns throughout the country. These challenges highlight the need for a comprehensive digital solution to improve medication adherence and pharmacy management.

1.2 Objectives of the Project

General Objective

To develop a comprehensive mobile online pharmacy management platform that streamlines the process of ordering, administering, and managing medications for both patients and pharmacists.

Specific Objectives

1. To design and implement a database for storing patient records and medication data.
2. To develop a mobile application that allows pharmacists to add and manage drug inventories.
3. To create a mobile interface for administering medications and interacting with patients.
4. To integrate a web-based system capable of sending SMS notifications for medication reminders.
5. To implement secure prescription verification, customer feedback, order tracking, and virtual consultation features.

1.3 Scope of the Study

The MedAdmin system is designed primarily for use in hospitals and clinics within Ghana. Its features include:

- SMS notifications to remind patients to take medications.
- Inventory and medication management tools for pharmacists.
- Remote consultation services, including video calls for specific health conditions.
- Support for both prescription and over-the-counter medications.
- A user-friendly mobile and web interface.

1.4 Significance of the Study

This project is significant to multiple stakeholders:

1. Patients benefit from timely medication reminders, remote consultations, and reduced medication errors.
2. Pharmacists gain tools to manage inventory efficiently, verify prescriptions, and communicate with patients.
3. Healthcare Providers can ensure better treatment outcomes through better adherence monitoring.
4. Policy Makers can use analytics and reporting tools integrated into the system to monitor pharmaceutical trends and improve public health strategies.

1.5. Research Questions

Internal Questions:

Online Pharmacy Systems are undeniably an already existing work and it is not something out of the blood MedAdmin Designers and developers are doing. There are some existing questions on the web for online platforms with similar and less functions like that of MedAdmin. We believe that some questions relate to that of MedAdmin and MedAdmin solves some of these questions

External Question:

1. **How does a virtual doctor's appointment work?**

   MedAdmin Offers up-to 96% remote healthcare service. A patient is serviced virtually by a health personnel through online video calls, chats and simple questions and answering

sessions. The health personnel during remote evaluation, can view the patient's health history is available to the specialist, and even guide a patient through some aspects of a physical exam. The patients There is also the added benefit of being able to evaluate a patient's home environment and relationship with live-in family members.

2. **Do virtual visits meet my needs?**

   How would MedAdmin virtual platform meet your needs. MedAdmin doesn't just give you the advantage of being taken care of without being present. You cut down the cost of transport and physical risk of accidents. Drugs are also delivered to your doorstep with the click of a button at a lower and reasonable

3. **How easy is it to use virtual healthcare technology?**

   MedAdmin is relatively easy to use than other online health systems out. It comes with a simple and comprehensive interface with easy navigation and components on the system that defines its. You don't need any help navigating around

4. **Is my virtual visit safe and secure?**

   Yes, with MedAdmin, from data to chats to video calls are all secured as there is going to be end-to-end encryption for communication

5. **Will using MedAdmin change my wait times?**

MedAdmin has a wide range of health facilities, clinics and pharmacies enlisted in it. You can choose one. If service is taking long, you are then directed to a different service thereby reducing wait times to be treated.

6. **Is remote care as good as in-person care?**

   Yes, remote healthcare is as good as being there in there in person.

7. **Will the product enhance productivity?**

   MedAdmin will of-course enhance productivity. One does not need to take transport over long distance, or be in a traffic and waste precious hours ago just for a mild symptom that can be treated virtually. You can get your drugs delivered whiles you continue to go about your tasks

1.6 Scope of Study

MedAdmin has quite a number of scopes the project team is looking at

Boundaries of research: MedAdmin will be focused on urban sectors of Ghana, looking at Koforidua. Initially Koforidua.

Study population: The study will involve patients with common illnesses, chronic conditions and pharmacists using MedAdmin.

Geographic location: The study will take place in pharmacies located in Accra, Ghana.

Variables: The study will investigate the impact of MedAdmin on medication adherence, patient satisfaction, and pharmacy workflow.

Objectives: The study aims to evaluate the effectiveness of MedAdmin in improving medication adherence and patient satisfaction among patients with chronic conditions.

1.8 Significance of the Study

Importance: This study is important because it solves the need for upgraded medication management and adherence with patients with common illnesses and chronic conditions

Relevance: This study is relevant to the field of pharmacy practice and healthcare technology, as it explores the effectiveness of a novel online pharmacy management system.

Impact: The study's findings have the potential to inform the development of future healthcare technologies and improve patient outcomes.

Benefits: The study may benefit patients with chronic conditions, pharmacists, and healthcare organizations by identifying effective strategies for improving medication adherence and management.

Contribution to knowledge: The study will contribute to the existing body of knowledge on the use of technology in healthcare and pharmacy practice, and provide insights into the effectiveness of online pharmacy management systems.

1.7 Beneficiaries of MedAdmin

Those to benefit from this online system(MedAdmin) are as follows:

Patients

MedAdmin would bring a sense of convenience to this stakeholder in a way that, the patient will be able to order a drug and be serviced even at the comfort of their house

As long as the person who falls under this type of stakeholder has good internet connectivity.

Service can be rendered remotely

MedAdmin without any doubt will help the stakeholder save a lot of time. The stakeholder would not have to travel miles and even be in a traffic or some kind of circumstance which would waste time. The stakeholder can be at the house or wherever and get serviced comfortably

Healthcare Providers

MedAdmin will ensure that the healthcare personnel focusses on the patient's healthcare and wellbeing and not administrative tasks

This system will also improve and streamline workflow, as pharmacist or health personnel can prescribe drugs whiles cross-checking patient ailment with historical event, thereby helping the health personnel narrowing the issue down to see if it is not any previous complications or circumstances and also help in medication management

Pharmacist

MedAdmin would ensure efficient dispensing of drugs, the system will be automated thereby reducing the workload on the pharmacist and ensuring productivity in the days work.

With medical history available to the pharmacist can give a better and informing counseling to the patient to prevent future occurrences or better treat the patient to his or her satisfaction

Healthcare Systems

With automated software doing all the heavy lifting, will reduce cost of operation like buying of equipment and over hiring of staff saving money or saving cost.

1.8 Project Activity Planning

The following project timeline outlines the key milestones and deliverables for MedAdmin

	O	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Textl
1			Planning						
2					Mon		1/20/25Tue 1/21/25	Internet Bundle	
3			Scope Definition	2 days					
4			Goal Setting	2 days	Wed 1/22/25	Thu 1/23/25	2		
5			Deliverables(Project Proposal & Documentation)	78 days	Fri 1/24/25	Tue 5/13/25		Internet Bundle,Laptops	
6									
7			Analysis						
8			Requirements Gathering	7 days	Wed 5/14/25	Thu 5/22/25	4	Money	
9					Mon	Tue	5/27/25		
10			Identification of Needs	2 days	5/26/25				
11			Specification	2 days	Wed	Thu 5/29/25	8 5/28/25		
12			Definition		Fri 5/30/25	Wed 6/4/25	9		
13			Design		Fri 5/30/25	Fri 6/6/25			
14			Specification Design(UML)	4 days	Fri 5/30/25	Wed 6/18/25			
15			Database	6 days					
16			Architecture						
17			UI & UX Design	14 days					
18			Development		Thu 6/19/25	Mon 9/22/25	14	Laptops,Internet I	
			Development/Coding	68 days					
			Unit Testing	68 days	Thu 6/19/25	Mon 9/22/25		Testing Mobile Df	

Project: MedAdmin Project Tim
Date: Thu 4/24/25

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone

Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only

External Tasks
External Milestone
Deadline
Progress
Manual Progress

	O	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Textl
19			Integrated Testing	68 days	Thu 6/19/25	Mon 9/22/25		Testing Mobile De	
20									
21			Testing						
22			Mass Testing 3 days Piloting 3 days		Sat 9/20/25	Tue 9/23/25			
23					Tue 9/23/25	Thu 9/25/25			
24			Deployment						
25			System exe building	1 day					
26			Deployment to playstore/Any Mobile App Service	2 days	Tue 9/23/25	Tue 9/23/25			
27					Tue 9/23/25	Wed 9/24/25			
28			Maintenance						
29			Check for pop-up bugs	1 day	Thu	9/25/25 Thu 9/25/25			
30			Fixing user issue reports	1 day	Thu 9/25/25	Thu 9/25/25			
31			Re-deploying implemented updates	1 day	Thu 9/25/25	Thu 9/25/25			
32									

Project: MedAdmin Project Tim
Date: Thu 4/24/25

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone

Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only

External Tasks
External Milestone
Deadline
Progress
Manual Progress

1.9 Definition of Terms

1. Prescription Verification: A process to confirm the authenticity and correctness of a medical prescription.
2. Inventory Management: Tracking and controlling pharmacy stock levels.
3. CRM (Customer Relationship Management): A system for managing interactions with current and future customers.
4. Push Notifications: Alerts sent to users via the app to provide timely information.
5. Virtual Consultation: Online video or chat-based interaction between pharmacists/doctors and patients.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Refrence:

1. Tigerconnect - https://tigerconnect.com/resources/blog-articles/8-common-virtual-care-questions-posed-by-patients

2. eVisit - https://blog.evisit.com/virtual-care-blog/7-vital-questions-to-ask-when-choosing-a-virtual-care-platform