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MAKERERE UNIVERSITY BUSINESS SCHOOL

DEVELOPING A TELE-HEALTH WEB-BASED APPLICATION FOR ENHANCED HEALTH CARE SERVICE ACCESSIBILITY IN UGANDA

By

Students Name	Registration Number	Phone Number
NANSAMBA JOVIA	23/U/1182	0787319966
ROYAL AUSI	24/U/26978/PS	0775164389
ESHIWANI EDGAR WANYAMA	23/U/08123/PS	0776575384
KABAALE IAN MARK	23/U/08483/PS	0761551215
ABAASA PRIMOS	23/U/64764/PS	0707572278

Supervised by

Prof. Geoffrey Kituyi Mayoka (PhD)






Department of Computer Science & Engineering

A Project Proposal Submitted to the Faculty of Computing & Informatics of Makerere University Business School in Partial Fulfillment for the Award of the Degree of Bachelor of Business Computing of Makerere University.

November, 2025

DECLARATION

We, the undersigned, declare that to the best of our knowledge, this proposal is our original piece of work, and has never been published and/or submitted for any award in any other University or Higher Institution of Learning.

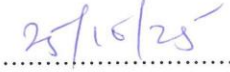
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ESHIWANI EDGAR WANYAMA	23/U/08123/PS	
KABAALE IAN MARK	23/U/08483/PS	
ABAASA PRIMOS	23/U/64764/PS	

Date: November 23, 2025

APPROVAL

This project proposal has been submitted with my approval as supervisor and my signature is here appended:

Signed.....

Date: 

 Dr. Geoffrey Kituyi Mayoka (PhD)

Makerere University Business School

III

III

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INTRODUCTION

Project Background

In Uganda today, access to quality healthcare services remains a great challenge. The doctor to patient ratio is estimated at 1:25,000, which is below the World Health Organization (WHO) recommended standard of 1: 1,000. Patients often travel long distances, incur high transport costs, and wait in long queues for services, leading to delays in diagnosis and treatment, poor management of chronic illnesses, and in many cases preventable complications.

The advancement of technology in healthcare has transformed how healthcare services are delivered, creating opportunities to extend care to remote and underserved populations in addition to extending healthcare service delivery closer to those in need and conveniently. Telemedicine / Telehealth web applications enable remote healthcare through platforms that allow patients to interact with healthcare service providers, diagnosis, and treatment through technological infrastructures like mobile applications and web applications. The project will make use of global precedents such as Febles Trujillo's (2006) telemedicine prototype, which demonstrate successful use of web technologies in chronic disease management.

Our project proposal seeks to develop a web-based Telemedicine application enabling patients and healthcare providers to interact and ensure health care access with technology adoption trends in the Uganda today. The application will mainly focus on the integration of Short Message Service (SMS) and Unstructured Supplementary Service Data (USSD) technologies, allow consultations with doctors, enable medicine purchases and prescription, aid in managing chronic diseases and provide health education and advocacy's.

Several Tele-Health Initiatives in Uganda today like Rocket Health, MediConnect Health Solutions, Mobi care and Dokitar among others have shown that tele-health is possible and important. Rocket Health provides 24/7 virtual consultations, laboratory sample pickup, medicine delivery, and electronic medical records through web, app, and USSD channels. MediConnect

offers online consultations, emergency ambulance services, and medication reminders accessible via app, USSD, and call centers. Other initiatives like MobiCare and Dokitar App also offer similar services showing their clear interest in digital healthcare solutions.

There is a clear need for a scalable and comprehensive web-based platform that simplifies processes such as appointment booking, patient consultations, medical record management, and prescriptions. In addition, a system that provides health education, support mental health to reduce illnesses that can be prevented relating to stigma and built with local context in mind that promote awareness or trust in tele-health.

Statement of the Problem

It is ideal for all Ugandans to have access to affordable, quality healthcare services regardless of where they live. With an effective healthcare system, it would be efficient to have patients easily access medical help in all circumstances like emergency situations, fast aid incidents, and personal healthcare needs by easily consulting medical professionals remotely air being able to easily access healthcare guidelines and information in terms of health records, and prescriptions in addition to purchasing basic medicines without the need of long travels. According to the World Health Organization (2022), digital health innovations have the potential to enhance service accessibility, improve efficiency, and strengthen health systems globally by reducing inequalities in healthcare service delivery.

However, the reality in Uganda is still far from this ideal. The Ministry of Health Uganda (2023) notes there is unequal distribution of digital health care resources and service delivery however a few initiatives like Rocket Health, MobiCare, MediConnect, and The Medical Concierge Group (TMCG), have come up to start addressing these gaps. Many health facilities still depend on manual record-keeping and in-person consultations, leading to delayed medical attention, poor record management, and limited continuity of care). If these gaps are not addressed in the health sector, patients will continue facing difficulties in accessing basic health care attention, avoidable complications and increased medical costs. This means Uganda's health care system will also struggle to meet the global Sustainable Development Goal 3 that is Good Health and wellbeing.

The tele-health web application will mainly focus on the integration of Short Message Service (SMS) and Unstructured Supplementary Service Data (USSD) technologies to target the rural areas with low connectivity. The SMS and USSD will have specific functions available like booked appointment reminders, lab results, health tips among others. In addition, the system will also focus on provision of free health information for preventative care so as to build trust among all possible users not only the patients in the country.

The system will be designed in a way that gives opportunity for future integration with public health systems compared to the existing private platforms. This project will provide affordable, convenient and sustainable digital health solutions in line with Uganda's Digital Health Strategy 2020-2025.

Project Goal and Objectives

Project Goal

The project focuses on designing and developing a Tele-Health Web Based application that enhances health care service delivery and accessibility in Uganda.

Project Objectives

The major objectives of the project include;

To study and analyze the existing health care service delivery system in Uganda and find out the major challenges faced in healthcare service delivery

To review the existing telemedicine and digital health platforms in Uganda, such as Rocket Health, MobiCare, and TCMG, and identify their limitations and opportunities for improvement.

To develop web-based tele-health application that enables the following;

- i. Remote consultations through web and mobile platforms.
- ii. Integrates SMS/USSD functionalities for appointment booking, reminders, and health tips to reach users without internet access.
- iii. Provides free health information and first aid guides to promote preventive healthcare and trust for a one stop center for health information.

- iv. Facilitates prescription management, medicine purchases and chronic care monitoring.
- v. Promote and ensure Data privacy, security and future integration with national healthcare system

To test and evaluate the developed tele-health system for usability, efficiency, and reliability in enhancing healthcare access through use of analytical measures like System Usability Scale.

Project Scope Summary

The project will focus on designing and developing a web-based tele-health platform accessible across Uganda. The system will allow patient registration, online consultation, health record management, and prescription tracking and further integrate use of SMS/USSD use. It will target both urban and rural users, including patients, doctors, and health administrators. The project will cover requirement gathering, system design, prototype development, testing, and evaluation.

The expected deliverables include:

A fully functional tele-health web application prototype

Testing and evaluation feedback and final report

Anticipated Significance of the project

The project is expected to make a significant contribution to The country's healthcare system by improving healthcare accessibility, efficiency and quality of service delivery and support. The platform will reduce congestion in hospitals, wait times and save travel inconveniences, in addition to improved health record management.

Health care providers will be able to provide online and remote consultations from patients, accurate drug prescription reminders and ensure patient follow up and feedback and also provision of free healthcare information Nationally, this project aligns with Uganda's vision 2040 and the

Ministry of Health's E-Health policy, supporting the country's move towards digital transformation in health services.

The project will also help our team gain hands-on experience in web application development, database management, user interface design, and system deployment which will enable the team to relate class knowledge to real-world application.

Project Assumptions

The project will be developed under the following key assumptions:

The project team assumes that necessary resources such as Computers, internet connectivity and necessary software development tools will be available and accessible for use throughout the development period.

The team assumes that healthcare professionals and other users will be available to provide technical guidance and feedback during requirements gathering and testing phases of the project.

The project team will also make use of development tools and frameworks like (HTML, PHP, MySQL, JavaScript, and Laravel) will function effectively and enable us to produce a working system.

The project team assumes that the chosen technology stack including programming languages, frameworks, libraries, APIs, and third-party services such as video and payment platforms will function as expected and integrate smoothly.

The project team also assumes that all members will work collaboratively and remain committed to completing tasks on scheduled dates.

LITERATURE REVIEW

Introduction

The major Goal of our literature review is to identify and analyze the existing scope of research knowledge and practical artifacts related to tele-medicine mainly focusing on how it improves healthcare accessibility in Uganda today. The review majorly considers the objectives of this project to guide us on the design of a new web-based application. By reviewing both international and Ugandan sources.

Global Perspectives on Tele-Health

Tele-health has been defined as the use of digital technologies to deliver health services and manage patient care remotely (World Health Organization [WHO], 2022). Globally, Tele-Health has evolved from early experiments in remote consultations to comprehensive platforms integrating electronic health records, artificial intelligence, and mobile health applications (Latifi, 2025). The COVID-19 pandemic increased the global adoption and online search of health information, with studies highlighting its role remote health care access with studies highlighting its role in reducing travels, improving efficiency and ensuring continuity of care (Febles Trujillo,2006). WHO's Global Strategy on Digital Health 2020–2025 emphasizes the need for digital health ecosystems that are sustainable, equitable, and integrated into national health systems.

These international guidelines provide lessons for countries like Uganda, the need for inclusivity for marginalized groups, and strong governance for data protection and privacy.

Tele-Health in The Ugandan Perspective

In Uganda, the Ministry of Health (2023) acknowledges the persistent challenges of inadequate medical personnel, Inadequate infrastructure and geographical hindrances in healthcare access. The doctor-to-patient ratio remains far below global standards, and rural populations continue to

face limited access to health care services. Tele-health has emerged as a potential solution to bridge these gaps.

Several initiatives related to tele-health have come up in Uganda and they remarkably include. Rocket Health offers online consultations, laboratory sample pickups, and medicine delivery, using a mix of mobile applications, call centers, and USSD services (Rocket Health, 2022). MediConnect Health Solutions integrates tele-consultations, ambulance services, reminders, targeting both urban and semi-urban populations (MediConnect, 2022). MobiCare Uganda focuses on maternal health and reproductive services, showcasing how tele-health can be tailored to address specific healthcare needs (MobiCare, 2022). Similarly, the Dokitar App and The Medical Concierge Group (TMCG) offer digital consultations and specialist referrals, demonstrating the viability of private-sector-led tele-health initiatives in the country (TMCG, 2022).

Despite these innovations, barriers such as high service costs, limited smartphone penetration, and unreliable internet connectivity persist (Kakembo, 2020). In addition, issues of digital literacy and mistrust in remote consultations limit adoption, especially in rural areas.

Societal and Cultural Considerations

Cultural attitudes and stigma play a role in healthcare access in Uganda. Mukasa (2019) highlights that stigma around illnesses such as HIV or mental health often discourages patients from seeking timely care. Tele-health can be a solution this challenge by providing confidential and convenient remote consultations. However, its success depends on community engagement and awareness campaigns to build trust and acceptance.

Gaps and Value Proposition

Most tele-health platforms in Uganda, such as Medi-connect, Rocket Health, Mobi Care, have shown that virtual healthcare is possible but they still leave many people behind and underserved. These platforms mainly serve urban users with smartphones and stable internet, leaving rural and low income communities with little or no access. They also work in isolation without linking to the public health systems and focus on profit rather than preventive care.

Our Key Differentiators

Rural Access through SMS/USSD: Users without smartphones or internet will access core services like appointment booking, reminders, lab result notifications, and health tips through SMS and USSD, using local telecom APIs such as MTN and Airtel.

Free preventive Health information: The platform shall also provide free health information that shall be educative, informative and preventive in nature from trusted and reliable sources like The Red Cross society. All content material will include disclaimers to clarify that they are for guidance but not diagnosis.

Integration with public health systems: The system with a future provision of connecting with Uganda's ministry of health digital platforms, supporting data sharing and national health monitoring in the future.

Affordable and Trustworthy: With secure data handling, privacy controls, and low cost access, the platform will focus on building trust among users while aligning with Uganda's Digital Health Strategy (MOH, 2023; WHO, 2022).

Conclusion of Literature Review

The reviewed literature demonstrates that tele-health holds potential to transform healthcare service delivery in Uganda, provided it is adapted to the local context. By drawing lessons from global best practices and existing Ugandan platforms such as Rocket Health, MediConnect, MobiCare, Dokitar, and TMCG, this project aims to design a web-based tele-health application that addresses identified gaps. In doing so, the application will contribute to Uganda's broader goals of universal health coverage and digital health transformation, as mentioned by World Health Organization (2022) and the Ministry of Health (2023).

RESEARCH METHODOLOGY

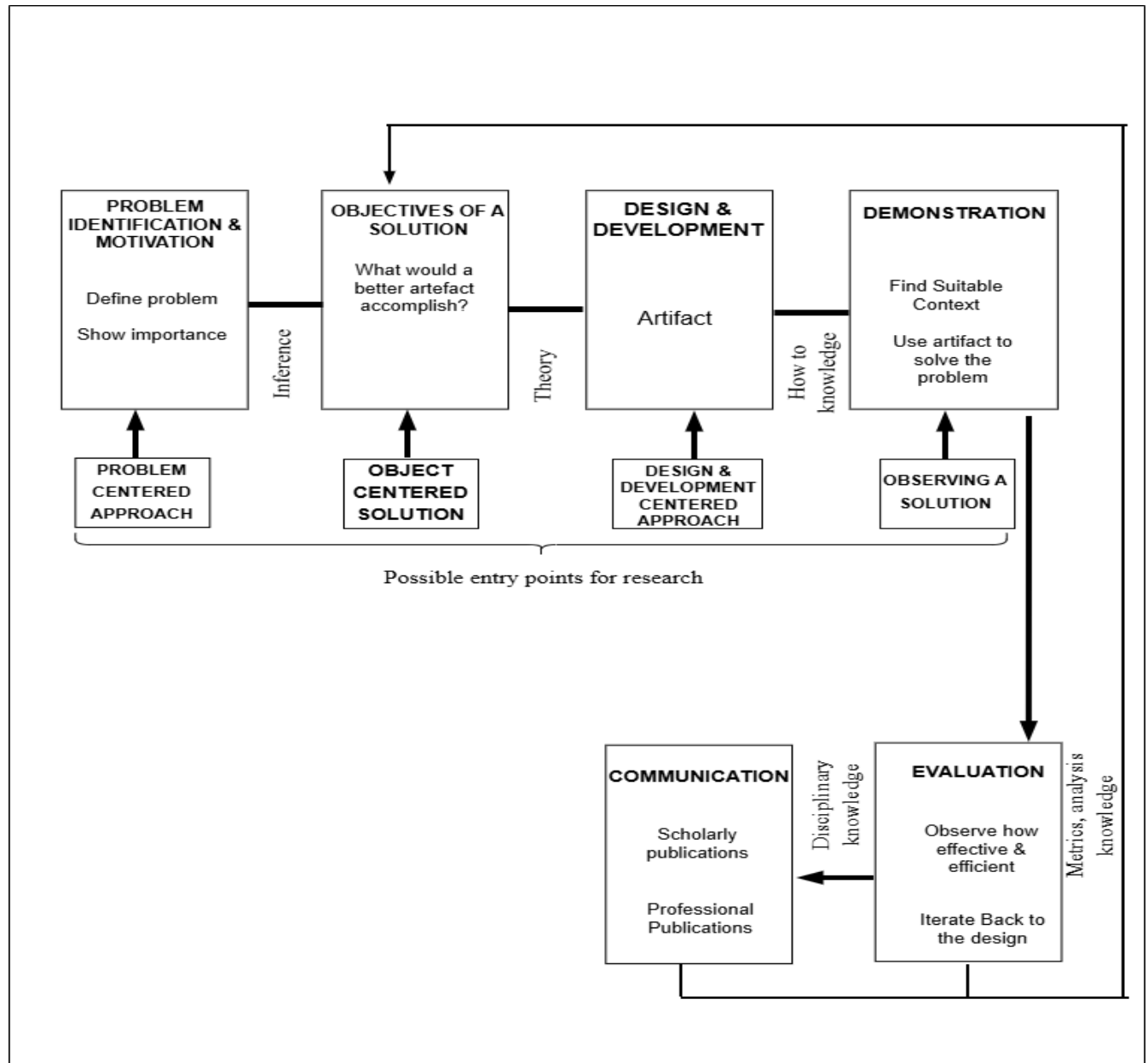
Research Design

In this project, we adopt the Design Science Research Methodology (DSRM) as the guiding research approach. Design Science is based on problem solving in information Systems research, where researchers aim to create innovative artifacts in form of models, prototypes or systems that solve real world problems (Hevner et al.2004; Weber, 2010;). Unlike the purely theoretical research. Design Science produces practical solutions that can be tested, demonstrated and implemented.

According to Peffers et al. (2007), DSRM consists of six major stages that include; problem identification, defining objectives, design and development, demonstration, evaluation, and communication. In the context of this project, the artifact is a tele-health web-based application designed to improve healthcare service accessibility in Uganda.

This approach is appropriate in regard to our project because it not only investigates healthcare access challenges but also develops and evaluates a working prototype that addresses these challenges. As recommended by WHO (2022) and the Ministry of Health Uganda (2023), digital health initiatives should be practical, inclusive, and aligned with local needs. DSRM allows the research team to design a solution that directly responds to these policy directions while drawing lessons from existing Ugandan providers like Rocket Health, MediConnect, MobiCare, Dokitar, and TMCG.

Figure 1: Showing the DSR Process



Source: Peffers et al., 2007

For the project, the team will use a table format to illustrate the design science process as illustrated below

Illustration 2: Table showing the design science process

Design Science Research	Research Objective to be addressed	Proposed Methods	Expected Results
1. Problem Identification/ Motivation	2. To analyze the current state of healthcare access in Uganda and identify major challenges faced by patients and healthcare providers.	Review existing documentation and hospital data. Focus Group Discussions	A detailed summary of healthcare access challenges in Uganda with clearly identified gaps in existing tele-health systems
2. Definition of Objectives	To define clear and requirements for a web based tele-health system that addresses affordability, inclusivity, accessibility, and privacy in the health sector.	Group Discussions to gather user needs.	A fully drafted list of system requirements and measurable objectives of the tele-health platform
3. Design and Development	To design a web-application telehealth platform	Prototype the tele-health platform. Iterative development and testing of the platform. Use case diagrams and wireframes of sample API	Developed artifact prototype of the web application.

		endpoints and SMS integration	
4.Demonstration	To test and demonstrate the functionality of the developed prototype with end users.	Pilot testing with 5 doctors and 20 end users to make an appointment, accessing information guides, registering and uploading medical records.	Demonstrated functionality of the platform Identifying issues related to usability, performance, and security in a real-world setting.
5. Evaluation	To evaluate the usability, efficiency and satisfaction of the developed system compared to existing solutions.	Surveys to assess user feedback in terms of System Usability Scale, efficiency, performance and user satisfaction Surveys (1-10). Interview feedback.	Acceptable usability data of the in relation with the 70% acceptable figure. Satisfaction figure of at least 4.0 according to the Likert scale.
Communication	To present the project to relevant stake holders and academic supervisors	Project report and presentations on the development process, testing, and results; share findings	Complete and approved final project report.

Project Organization (Client)

Our proposed tele-health application is being developed for the Ugandan healthcare sector, the system targets the Ugandan Market at large and the general population as the major end users.

Client; Ministry of Health (MOH) Uganda

The Ministry of Health oversees the National e-Health policies and will serve as the primary project stakeholder

End-Users

Registered doctors and nurses providing Consultations

Patients and those seeking for medical help

Population Estimate

Uganda has approximately 3000 registered medical doctors and over 45 million potential service users (MoH 2023).

For feasibility, the prototype will engage mixed groups of people including health workers and ordinary participants representing various users

Sampling Design

Random samples of all possible users and participants will be selected randomly for system requirements gathering and prototype testing.

Simple random sampling will be applied to select participants ensuring each has an equal chance to participate ensuring representativeness

Sources of Project Data

The project will rely on both primary and secondary data sources.

Primary Data:

Direct observations in health centers on existing service delivery workflows.

Focus group discussions with users to understand usability and accessibility needs.

Secondary Data

Document reviews of regulating authorities like Ministry of Health (2023)

Analyzing of available benchmarks like MediConnect, Mobi care, and Rocket Health.

Data Collection Techniques

To gather detailed user requirements and evaluate usability of the telemedicine system, data will be mainly collected from two main users that are medical professionals and patients. The project team will make use the following data collection methods;

Observation: This data collection technique will be used to analyze the existing healthcare services delivery workflows, inefficiencies and areas where tele-health can make a significant impact. The team shall observe the current manual appointment and record keeping processes at a healthy facility to identify the inefficiency gaps well.

Sampling: This technique will also be used and we shall gather information through samples of people and existing benchmarks to get a sample of each attribute required to develop the system. An estimated total of twenty patients will use the system to book appointments, upload medical records and review the available health care information.

Interviews; The team will use this method by involving in face to face interactions with key stakeholders like doctors, pharmacists, developers and patients or other end-users. Semi structured interviews will be conducted with five medical personnel and three administrative staff to understand the challenges, system requirements and privacy policies.

Surveys; The team will use post use surveys to gather feedback on user satisfaction, usability and performance.

These techniques will help us collaborate with end users and also other stake holders to ensure effective implementation of the project and also ensure both functional and experimental data is captured to guide the team.

Evaluation and Testing

Evaluation

Evaluation phase will help the team to determine the improvement over existing solutions and methods. This will be achieved using both qualitative and quantitative methods especially in the demonstration stage and also focus on the following key performance indicators;

System Usability Scale(SUS); Participants questionnaires will be used with a ten item survey providing a usability score ranging from 0 to 100. A score above 70 will indicate good usability and user acceptance. This will reliably help to assess the overall usability and user acceptance of the system.

Efficiency; This will be measured by comparing the average time taken to complete specific tasks to ascertain the time taken to complete a virtual consultation will be compared to the actual time of a physical consultation. Other tasks like appointment booking, uploading medical records and conducting consultation of patients. A time reduction of at least 30% will indicate improved efficiency.

User Satisfaction; This will be evaluated through a post survey using a five point Likert scale of (1=Very dissatisfied, 5= Very satisfied). The goal is to achieve an average satisfaction score of at least 4.0.

Net Promoter Score(NPS); Participants will be asked their opinion and how likely they can recommend the system to others on a scale of 1-10. The NPS will be computed to assess user loyalty and overall experience, with a target average score of +20 or higher, this will indicate positive user perception.

Testing Phase

The team will conduct to validate the system's performance and gather feedback from end users. This will involve a small, representative sample consisting of: 5 medical professional practitioners, and 20 user participants like patients and helpers.

Participants will be asked to perform the following tasks within the system:

1. Book a virtual consultation appointment.
2. Upload a sample medical record
3. Participate in an online consultation session
4. Make use of the free preventive and first aid information

After completing these activities, users will fill out the SUS and satisfaction surveys. Data will be analyzed to assess usability, efficiency and overall user experience. The findings from this pilot study will inform final system improvements before large scale deployment.

System Analysis and Design Approaches

System Analysis Approach

The project will use the Object Oriented Design Approach because it allows modular and scalable development through objects and classes that represent real world healthcare entities such as patients, doctors and appointments.

This approach supports reusability, security, and integration that is important in healthcare systems where data privacy and system flexibility are crucial.

Development Methodology

The prototyping concept in System Development Life Cycle (SDLC) will guide us in system implementation.

This interactive model allows continuous feedback from users ensuring that the system meets real user needs before final deployment.

The SDLC stages will be as follows;

Requirement Gathering and Analysis

Designing the System Architecture

Development and Coding

Testing and Quality Assurance

Deployment and Maintenance

Design Techniques

Object-Oriented Design (OOD) will be the backbone of the platform's architecture. This approach emphasizes the creation of modular and reusable components, which will allow the platform to adapt to future needs and changes. By designing objects that represent real-world healthcare processes such as patient records, prescriptions, and medical appointments, the system will be easy to maintain and extend.

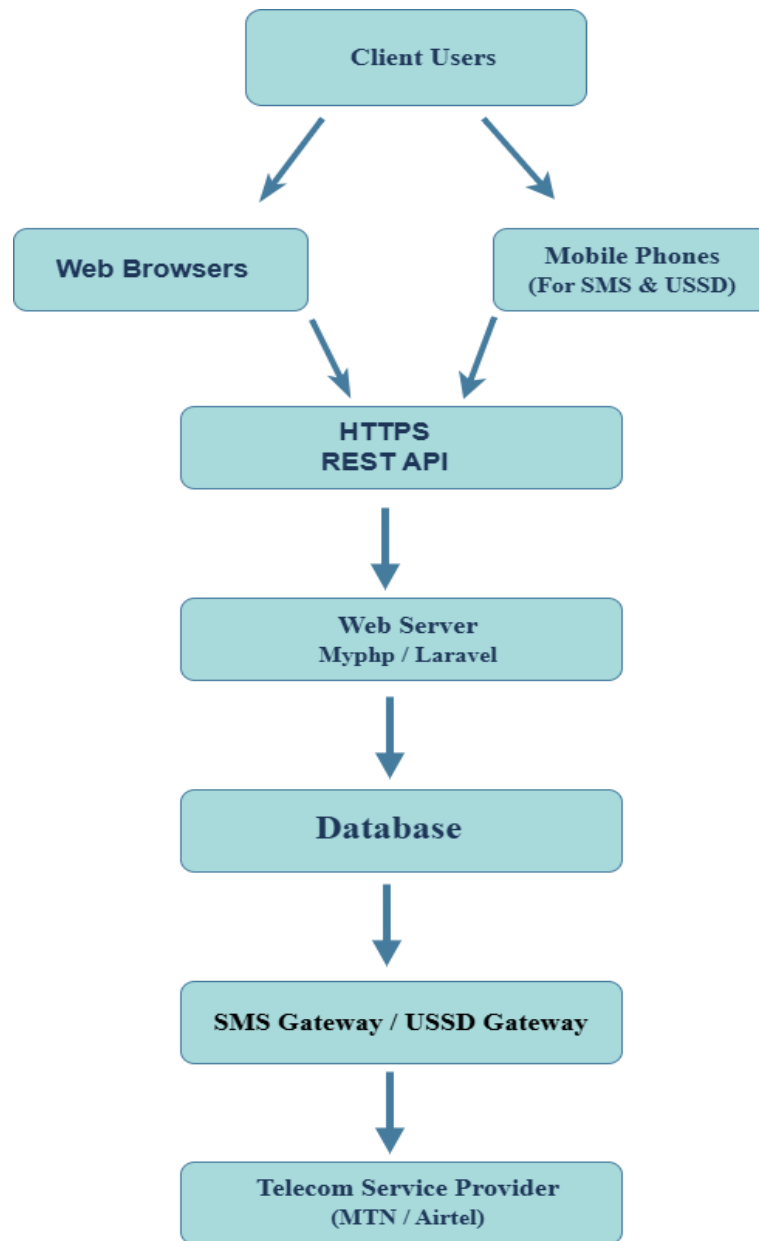
User-Centered Design (UCD) will be applied to ensure that the system is intuitive and meets the needs of its users. This technique involves constant feedback loops from users to refine the interface and ensure that the platform is simple to navigate, even for individuals with limited technical knowledge.

Prototyping will be an essential part of this process, enabling the team to create early versions of the platform and collect feedback before moving into full-scale development. This iterative approach will ensure that the platform evolves based on real user experiences.

Technical Approach & System Architecture

The system will be enable multi-channel access to consider remote rural areas that have challenges with stable internet access so as to enable use of basic mobile phones through USSD/SMS. The core components will be a local host webserver that's PHP or Laravel framework for the backend, front end responsive user interface, Database (MYSQL), SMS gateways/USSD gateways, client devices with web browsers and small mobile phones. The system will also use HTTPS for client-server communications. Advanced Encryption Standards will also be put into practice to ensure safety of data at rest specifically the AES 256-bit key. In addition, the system ensures role based-authentication for access control. For SMS in prototype we will use a local provider as an aggregator, we shall also make use of local telecom companies like Airtel or MTN to obtain a dedicated USSD code for our project. All message callbacks and receipts for delivery will be processed and audited as shown in the system architecture figure below

Figure 2: simple process flow diagram showing the system architecture.



SMS & USSD Technical Implementation

The project shall make use of aggregator (a local SMS provider) through REST API, we shall also make use of APIs e.g. /api/sms/delivery to process delivery receipts.

To enable access in areas where there is limited internet connectivity, we will enable use of USSD to collaborate with service providers like Airtel and MTN.

First Aid Support implementation

The first aid feature will only provide health information and step by step guidance for common cases like burns, chocking, fatigue, bleeding etc. This will only be useful in terms of providing information not diagnosis. Content shall be sourced from trusted and approved sources like Red Cross, for clear guidelines. We shall ensure that every article of the first aid displays a clear disclaimer “FIRST AID INFORMATION ONLY”

Anticipated Project Constraints

- i. Time constraints will be one of the major challenges, as there is a limited timeframe to develop, test, and deploy the platform. Delays in development or testing phases could push back the overall project timeline, potentially delaying the benefits of the system.
- ii. Budget constraints may also restrict the scope of the project, particularly in terms of software development, training, and system maintenance. The cost of ensuring the platform complies with healthcare regulations, integrating with existing hospital systems, and ensuring data security could strain financial resources.
- iii. Technical constraints in terms of the existing digital infrastructure and internet connectivity may arise. In addition, the skills and tech-stack of the research team might be limited especially when it comes to delivering an up to scale web application with extended functionalities like virtual consultations.
- iv. Regulatory constraints such as compliance with data protection laws, telemedicine regulations, and healthcare standards (such as HIPAA or GDPR) will need to be carefully considered during the design and implementation phases.
- v. User acceptance of the new technology may be a barrier, particularly among medical personnel and patients who are accustomed to traditional methods of healthcare delivery. Overcoming this resistance through training and user engagement will be key to the project's success.

Ethical Considerations

- i. Data privacy and security, given that the platform will handle sensitive patient information, patient data will be encrypted at rest using (AES 256), the system will comply with

Uganda’s Data Protection and Privacy Act (2019). Data encryption, secure authentication, and user access controls will be implemented to safeguard personal health information.

- ii. Informed consent is another ethical consideration. Patients using the tele-health platform must be fully informed about how their data will be used, stored, and shared. They should also understand the limitations and risks of receiving healthcare remotely especially for first Aid information that’s to say “This content only provides general guidance and don’t take it as diagnosis. This app is not a replacement of professional medical care.”.
- iii. Equity of access will also be prioritized to ensure that all patients, regardless of their socio-economic background or technological literacy, have equal access to tele-health services. The platform will be designed to be accessible on various devices and will offer multilingual support to cater to the diverse patient population.
- iv. Clinical accuracy is crucial; the system must support accurate diagnoses and prescriptions. Healthcare professionals must be involved in the development and testing phases to ensure that the platform does not compromise clinical decision-making.

Timeline and Milestones

Stage	Duration	Deliverables
Requirement Gathering and Analysis	1 week	User requirement identification
User interface design and modeling	1 week	Wireframes and User interface design
Prototype Development	2 weeks	Functional Prototype
Testing and User Feedback	2 weeks	Gathering of user feedback
Refinement and Deploying	2 weeks	Final and Improved prototype
Evaluation and Documentation	1 week	Final report and communication

Disclosure and Declaration Statement

We as the project team declare the use of Artificial Intelligence (AI) tools only for research support such as review of materials for literature review and their relevance to the project topic. No AI will be used to generate or falsify data. As team, we could not at any one-point use AI-generated content used without human oversight, verification, or necessary modifications, in adherence to academic and ethical standards.

In addition, there are no conflicts of interest because the system is not being developed for a family owned business but for the benefit of Uganda's population in terms of the health sector. All project results of the artifacts will be shared with the academic supervisor for further transparency.

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APPENDICES

Appendix 1: Schedule of activities

Activity	September	October	November	December
Problem Identification	Week 1 -2			
Literature Review	Week 3 - 4			
Requirements Gathering and Analysis	Week 4	Week 1		
Proposal Writing and Submission		Week 1 - 2		
System Design & Architecture		Week 3 - 4		
System Development & Coding		Week 4	Week 1 - 2	
System Testing & Evaluation			Week 3 - 4	
Documentation & Final Report Preparation			Week 4	Week 1
Submission and Presentation				Week 2

Appendix 2: Proposed Budget

Item	Description	Quantity	Unit Cost (UGX)	Total Cost (UGX)
Software Tools	Xamp server, Visual studio, Domain hosting, Figma	-	-	-
Internet & Data Bundles	For research, testing, system development and deployment	4 months	25,000	100,000
Web Hosting & Domain Registration	Prototype Hosting	1 year	180,000	180,000
Transport & Field visits	Visits to health centers for requirement elicitation	4 trips	50,000	200,000
Communication, Printing and photocopying	Stationery, printing, phone calls,	-	-	80,000
Miscellaneous	Unexpected Expenses			100,000
Total				660,000

