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COLLEGE OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

Mobile Assisted Maternal Health Advisory System for Batu Health Center

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Approval Form

This is to confirm that the project report entitled Android based mobile assisted maternal health Advisory system submitted to: Oromia State University, Collage of Science and Technology Department of Information Technology

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ABBREVIATIONS

PHC	Public Health Service
VIS	Vaccine Information Statement
HRM	Human Resource Management
CDC	Center of Disease Control
ART	Antiretroviral Treatment
MCH	Maternal and Child Health
ANC	Anti Natal Care
GUI	Graphical User Interface
XML	Extensible Markup Language
RAM	Random Access Memo

ABSTRACT

This project proposal outlines the development of a mobile-assisted maternal health advisory system for Batu Health Center. The system aims to provide essential information and facilitate communication between mothers and healthcare professionals. It addresses issues such as limited access to healthcare services and high maternal morbidity and mortality rates. The objectives include designing a database, implementing the system, developing an interactive GUI, conducting a study, and identifying stakeholders. The system will offer features such as chat-based consultations, symptom identification, medication reminders, and appointment scheduling. It has limitations, requiring an internet connection and physicians cannot prescribe medications through the system. Beneficiaries include mothers, healthcare professionals, and family planning workers. The project methodology involves data collection, system analysis, and design. Overall, the project aims to improve accessibility and effectiveness in addressing maternal health challenges at Batu Health Center through a mobile-assisted advisory system.

CHATER ONE

INTRODUCTION OF THE APPLICATION

1.1 Introduction

Mobile assisted maternal health advisory system is simply a mobile application that helps mothers or physician to get necessary information about maternal health and perform communication between mothers and physician or family planning workers. Typically, this application is exceedingly useful for a mothers or physician when they are far from each other and busy.

1.2 Background

1.2.1 Background of the Organization

Batu Health Center was established in 1953 by the Oromia Health Bureau and consists of seven Board members. The board is headed by the office of the mayor of Batu. Although nothing is known about how many employees the Batu Health Center started when it was established, it currently has sixty eight (68) employees including two (2) Doctors, one (1) MPH, seven (7) Ho, BSC Nurse three (3), eight (8) Clinical Nurse, three (3) Laboratory, three (3) Midwives, three (3) Pharmacy, one (1) Anesthetic, and thirty-seven (37) support staff for Administration is currently providing timely and accessible services to the local community.

1.2.2 Mission

Batu Health Center is a comprehensive democratic and un-integrated health system, providing quality and efficient health services such as disease, health promotion and medical services, in coordination with stakeholders to prevent disease, reduce morbidity and mortality.

1.2.3 Vision

It is to create a healthy community of the city that can play its role by participating in development.

1.2.4 Core values

- Prioritizing the community
- Transparency.
- Responsibility.
- Work in coordination.
- Equity.
- Be prepared for change

- Confidentiality and honesty.
- Participation.
- Good example.
- Rule of law.
- Maintaining Professional Ethics.

1.2.5Organization Structure

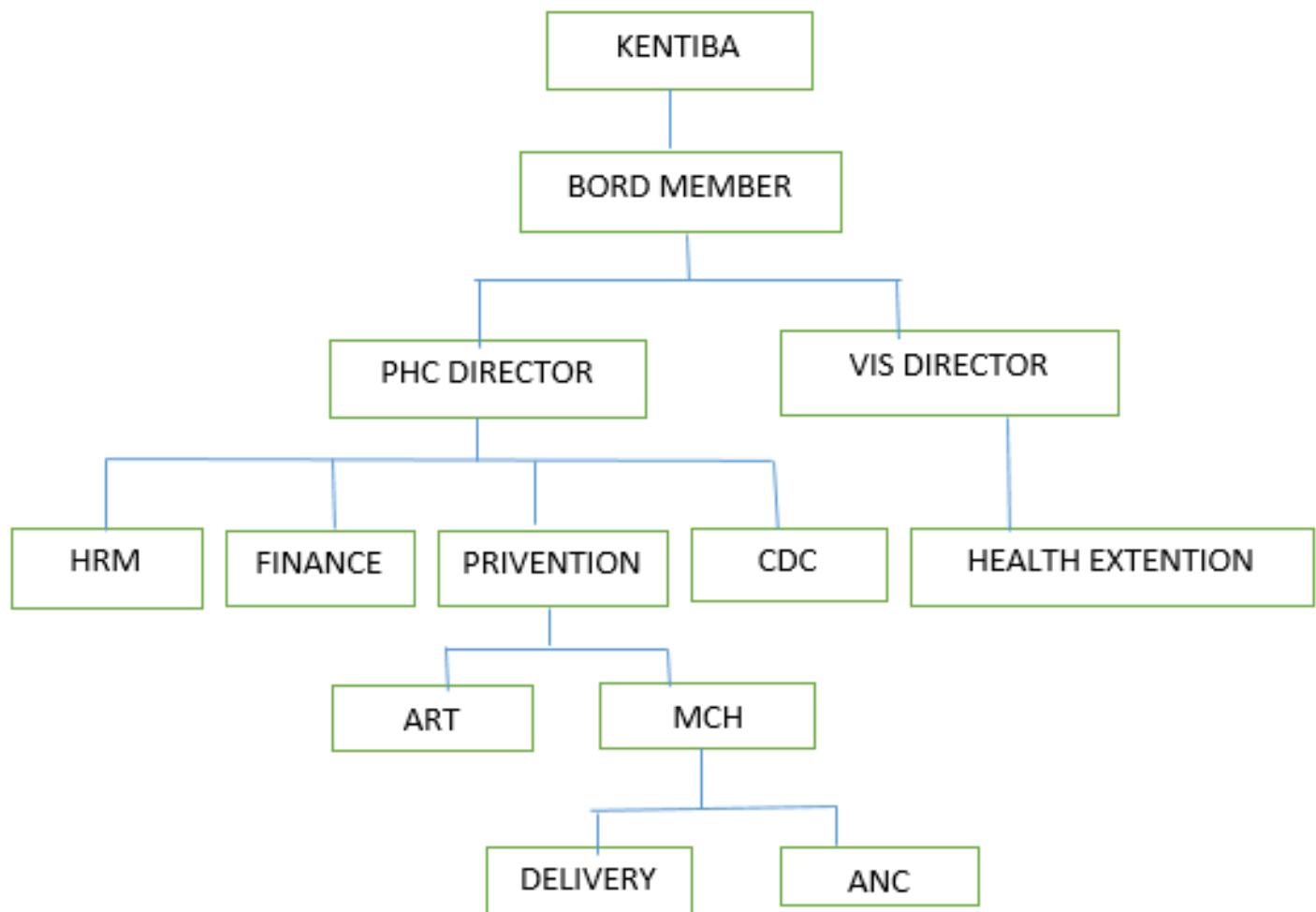


Figure 1: Organization Structure

1.3 Statement of Problems

The major determinants of maternal morbidity and mortality include pregnancy, the development of pregnancy-related complications, including complications from abortion and, the management of pregnancy, delivery, and the postpartum period. However, a lot of factors contribute to the low health status of women in the developing countries including Ethiopia. These factors include:

- Socio economic development of the country has serious Impact on morbidity and mortality.
- Access to health services:-Lack of access to modern health care services has great impact on increasing maternal death. Most pregnant women do not receive antenatal care; deliver without the assistance of trained health workers etc. Less than 10% of women in Ethiopia and many countries of Africa & Asia get Family planning services.
- Women's reproductive and health behavior:- Reproductive and health behavior involves, for example, the age at which a woman becomes pregnant, whether the pregnancy is wanted, and what kind of health care the woman seeks

Due to the above factor:-

- Most pregnant women do not receive antenatal care.
- Maternal mortality and unnecessary pregnancy increased.
- Time and cost wastage to get health centers
- Women often lack access to relevant information, trained providers and supplies, and other essential services.
- Poorly timed unwanted pregnancies carry high risks of morbidity and mortality, as well as social and economic costs, particularly to the adolescent and many unwanted pregnancies end in unsafe abortion.

1.4 Objective

1.4.1 General objectives

The general objective of this project is to develop a mobile assisted maternal health advisory system for Batu-Health Center

1.4.2 Specific Objectives

The following are the specific objective of maternal health advisory system

- To design interactive GUI using XML
- To implement the proposed system
- To Design a database Batu-Health Center

- To establishing a maternal health counseling system supported by mobile phones
- To establishing a system where mothers can easily find solutions to their problems
- To establish a system that allows mothers to easily communicate with the health care professionals of Batu Health Center

1.5 Proposed of the System

The Mobile Assisted Maternal Health Advisory System for Batu Health Center is designed for any health center to replace their existing manual paper based system. The new system aims to provide essential information and facilitate communication between mothers and health care professionals and it also addresses issues such as limited access to healthcare services and high maternal morbidity and mortality rates. These services are to be provided in an efficient, cost effective manner, with the goal of reducing the time and resources currently required for such tasks.

1.6 Scope and Limitation

1.6.1 Scope

This project will help mothers and health care professionals by providing required information. It helps mothers and family planning workers.

1.6.1.1 Mothers

- Can get necessary information from the application installed on their mobile.
- Get detail advice and recommendation from physicians using chat, SMS, and call
- Can know about disease symptom, causes, prevention method and solution.
- Remember take a medicine and how to use it.
- Remember appointment with health centers
- Can register to the application to access the information

1.6.1.2 Family planning workers

Help the workers as they provide necessary information which help mothers about family planning without physical contact by upload information and chatting.

1.6.2 Limitations

- The system will not work unless network connection is available at the time
- The system will not work unless the user device has enough balance to access internet.
- The physician will not prescribe a medicine to mothers but they will make them aware about their problem and make them to visit close health station

1.7 Beneficiaries of the Application

- Help Family Planning workers get necessary information over their mobile where ever
- The internet connection is available Help women to talk/contact physicians from distance without physical contact.
- For develop our skill and getting degree reward.

1.8 Significance of the Application

After this project is finished and properly used the proposed Mobile assisted maternal health advisory system gives great significance and it increases the efficiency and effectiveness of the system. Some of the significances that the project will considers are listed out as follows:

- Automatically generate the reports
- Reduce time, cost and redundancy of information or data.
- Improving efficiency, control and security of existing system.
- It provides accurate output and fast answer of queries.

1.9 Methodology

1.9.1 Data collection Tools/Techniques

For the collection of data we used observation, interview and literature view.

- Observation: - We have observed the existing system. We observe Batu Health Center how they assist maternal health.
- Interview:-we used interview to get information about existing system for developing our project.
- Questioner: we used questioner to get information about existing system for developing our project.

1.9.2 System Analysis and Design

We are going to model the requirements that we gather using object oriented approach because Object oriented technology is of broad means used to handle highly structured applications. Object oriented technology provides numerous advantages in applications by making them easy to use and maintain.

1.9.3 System Development Model

The proposed system use an iterative model for the development of a Mobile Assisted Maternal Health Advisory System. The iterative model offers several positive aspects in this context. It allows for flexibility and adaptability, enabling incremental changes and updates based on feedback and evolving requirements. In designing the proposed system for Batu Health Center Mobile assisted maternal health advisory system.

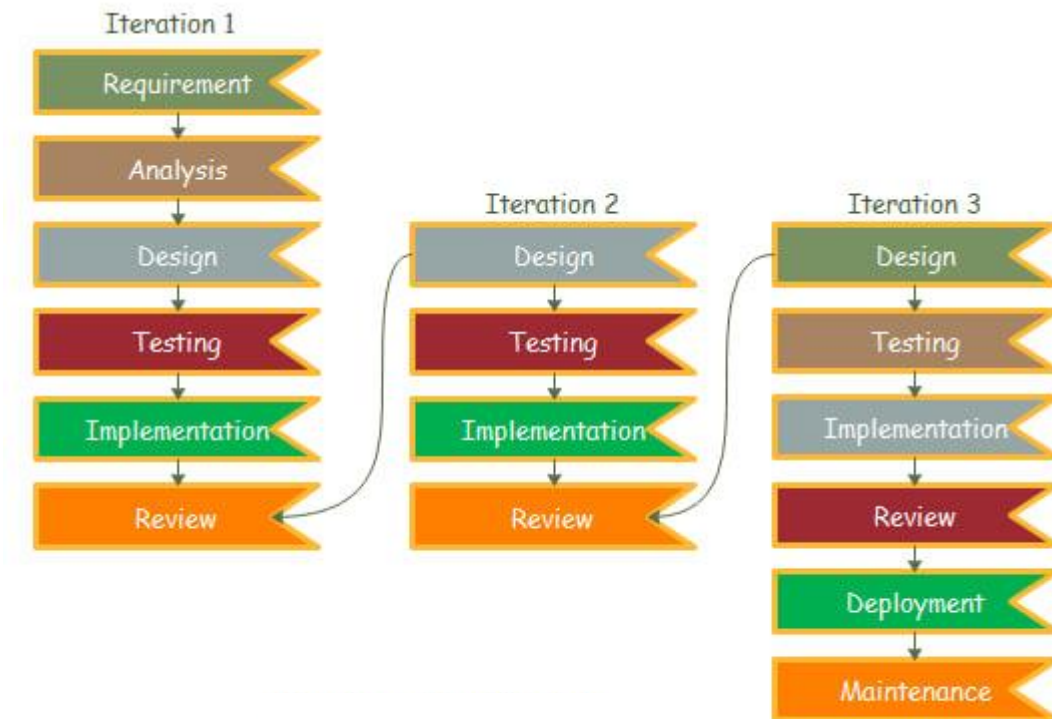


Figure 2 : Iterative Model

1.9.4 Development Environment and Tools

Activities	Tools and Programs
Frontend	XML, Java, Kotlin
Backend	SQLite
Documentation	MS Word, Sniping tool, PDF, Edrowmax, GanttChart
Deployment Environment	Play Store

Table 1: Development Environment Tools

1.9.5 Testing methodology

We have performed different testing for checking functionality of our proposed system:-

- Unit testing: first we will test each unit at each system, so if a problem is encountered it will immediately maintain at which the problem is occurred.
- Integration testing: after we test each unit of the proposed system we will perform and integration test to check whether the system meets all the functional requirements. When a number of components are

complete, it will test to ensure that they integrate well with each other, the operating system and other components.

- System testing: after all of the above testing is checked we will test our system by other peoples and we will conduct some comments how they get our system.

1.9.6 Deployment Method

This system is developed for Batu Health Center to Advice mothers. We understanding the health problems faced by mothers, motivated us to develop this system for the Batu Health Center so that mothers can easily communicate with the health professional on their mobile phones.

1.10 Feasibility study

Since Mobile assisted maternal health advisory system is very useful for the mothers in that it provides different information in their health, it is expected that this application system will also grow faster and more productively if mothers or physicians recognize the role of strategic financing from the system and interventions in to using it. This application simplifies their work by providing much functionality.

1.10.1 Economic feasibility

The development cost is one of the affecting factors of which results in inefficiency of the new system. On the current system users get the problem of cost in different situations. This means the proposed system should be economically feasible to reach its desired goal. In addition the developing materials are freely available the only thing the user requires is that mobile phone. As all the resources are already available, it give an indication of the system is economically possible for development

1.10.2 Technical feasibility

The technical issues that are involved in the system such as the normality and strength of the mothers mobile from the hardware part, the software should work properly in the proper inputs from its users from both user and the software point of view should be considered to determine the feasibility. There are also other services provided from the mobile for which we don't need to rebuild it again. Additionally, in simple terms long range portable mobile device required for the betterment of the application usage.

1.10.3 Time feasibility

Time feasibility is the most important and superior thing to be considered. The period of time considered as a resource under user control and sufficient to accomplish some work and it is an instance or single occasion for

some work. This system is feasible by time since it reduces the time required to work through with physical contact.

1.10.4 Operational feasibility

The user should not misuse the system. To determine the operational feasibility of the system we should take into consideration the knowledge level of the users. Initially this system is proposed to be designed to who use mobile phone. The application is expected to be very flexible for its users. And this is also one of the factors that make it operationally feasible.

1.11 Project Plan

A. Schedule

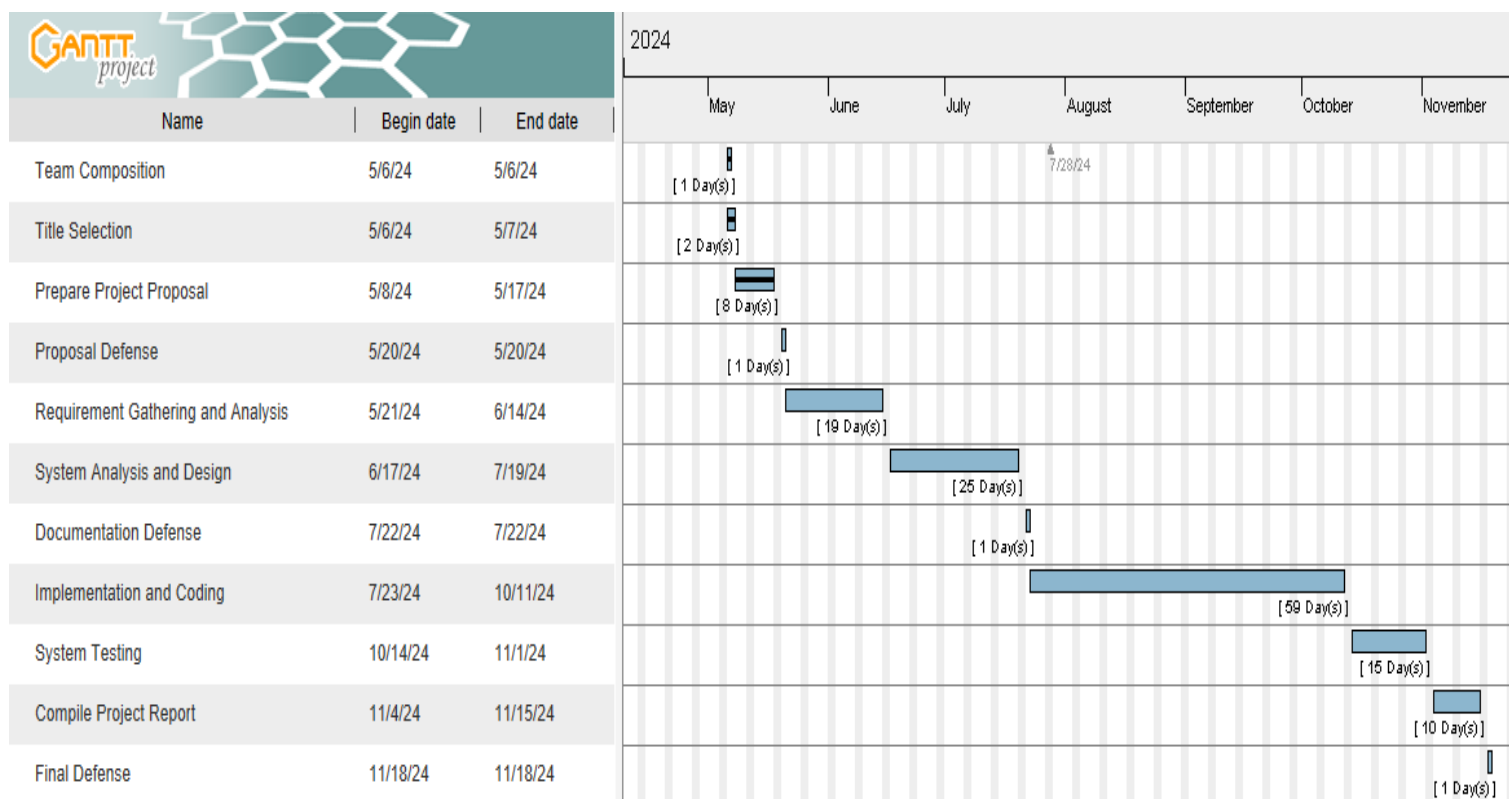


Figure 3: Time Schedule

B. Budget

➤ Hardware Requirements cost

No	Materials Required	Amount	Price Per Unit	Total Cost
Material				
1	Printing document	100	5	500
2	Pen	5	25	125
3	Paper	1pack	800	800
Hardware				
1	Flash Disk	32Gb	450	450
2	Laptop	I core 5	52,000	52,000
3	RAM	8Gb	2000	2000
Total		55,875		

Table 2: Hardware Requirement Cost

➤ Software Requirements Cost

No	Software Required	Price Per Unit
1	Microsoft Word 2013/2010	Free
2	SQLite	Free
3	Mozilla Firefox	Free
4	Windows 10 OS	Free
5	Edrawmax	Free
6	Android Studio	Free
Total		Free

Table 3: Software Requirement Cost

1.12 Team Composition

Project Title	Mobile assisted maternal health advisory system			
Prepared By	NAME	EMAIL/PHONE		Responsibility
	1. Lense Adugna	lenseadugna@gmail.com	0919576405	All activity
	2. Aseggedech Deressa	aseggedechderessa@gmail.com	0932278930	All activity
	3. Gebi Kedir	gebikedir71@gmail.com	0922144171	All activity
Date	12/09/2016			
Advisor	Ins.Yigermal Semahegn			

Table 4: Team Composition

Conclusion

This proposal the development of a mobile-assisted maternal health advisory system for Batu Health Center. The system aims to improve access to healthcare services and communication between mothers and healthcare professionals. With features designed to provide guidance and support, the system has the potential to empower mothers and contribute to better health outcomes. The project's feasibility study indicates its viability, and the proposed project plan outlines clear milestones for successful implementation. By leveraging technology and collaboration, the system can make a positive impact on maternal health at Batu Health Center, aligning with the organization's mission of creating a healthy community.

Reference

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2. <https://poe.com/chat/2b29fj4g83g3c50siia>
3. MOH: National Reproductive Health Strategy 2006 - 2015. Federal Democratic Republic of Ethiopia, Ministry of Health.: Addis Ababa, Ethiopia; 2006.

Questioner

1. What is the background of the organization?
2. What is the current system?
3. Is there any special help for mothers in the organization?
4. What are the strengths and weaknesses of maternal health care delivery?