

**CCS 323 : GROUP PROJECT**

**TITLE : MEDICARE**

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A project report submitted in partial fulfillment of the requirement of the Bachelor of Science in Computer science.

# **DECLARATION**

We the undersigned, do hereby declare that this project is our original work and to the best of our knowledge it has not been presented to any other examination body.

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The project report is hereby presented for examination with the approval of the project supervisor:

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**ABSTRACT**

The Medicare project explores the relevance of management systems to the contemporary society where computers have made tasks easier, more efficient and organized. Medicare system is a planned system of the storage processing and dissemination of data around the hospital in the form of information needed to carry out various functions which come to simplify the tiresome manual way of physically having to visit the hospital, reporting and writing the details on papers. There is need for an automated doctors’ appointment management and emergency handling system that can be used to store all records in a centralized database which should replace the manual system that is currently being used. The manual system has few challenges that include the ever-increasing paper load, difficulty in enforcing access control as well as cases of missing files and information.

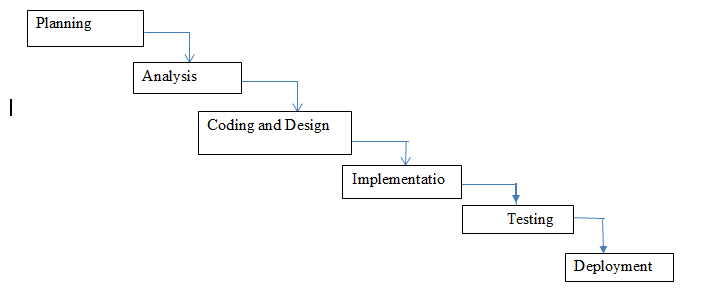
The scope of the project cuts across administrators and 2 types of clients; hospitals and other patients.

The research methodology used in this project was System development life-cycle, using waterfall method simply because the project was small and there are no uncertain requirements. At the end of each phase, a review takes place to determine if the project is on the right path and whether or not to continue or discard the project. Use-case diagrams and activity diagrams also helped in coming up with the database class diagram which we used to develop the database.

# **ACKNOWLEDGEMENT**

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Figure 2.1

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# **CHAPTER 1: INTRODUCTION**

## **1.1: INTRODUCTION**

Healthcare is one of the basic human needs that should be readily affordable to every person in an efficient way but most of the time people visiting health center do not receive a standard service. The problem is mainly attributed to the long waiting hours and poor communication between the patient and health providers.

Our project aims to solve these two main problems by providing a system that gives a better way of getting doctor appointments and communicating with health provides to acquire medical advice efficiently.

## **1.2: BACKGROUND STUDY**

In the technological advancement bid, computers have greatly contributed to the simplification of the way things are done and in return have contributed to the automation of the various activities that take place in and around our day-to-day activities. According to the way technology has been advancing and evolving, the use of computer and internet technology is slowly replacing some aspects of tedious paper work which can be implemented by using an online automated system. Now that many systems have been automated in Kenya, the health sector should not be left behind. Many systems so far have been developed in relation to medical issues. Software such Microsoft excel are being used to store medical records, but no system has been made to automate the record of medical appointments made by patients and emergency handling. The overall objective of this proposal was to develop an application that is sufficient to automate the medical appointment and emergency handling system.

## **1.3: PURPOSE OF STUDY**

Kenya as a nation needs a platform as far as health sector is concerned. This covers automation of hospitals record management system in medical sector, and all other. Considering the Kenya government, we need automated record management system that can be used to store medical records and all health-related issues. The manual system that is currently used is getting challenged by few problems it has. The current system poses problem that include the ever-increasing paper load, difficulty in enforcing access control as well as cases of missing files and information.

Currently all operations for managing day to day activities in medical department are not computerized. These results in the following problems:

1. Increased delay in response time during emergencies. The common Kenyan currently lacks a proper platform to report medical emergencies encountered on different parts of the country.
2. Missing files containing health reports. This result in inconsistency of the patient records.
3. Health fatalities due to poor handling of emergencies and mismanaged hospital wards.
4. Time wastage in hospitals since there is no clear system to handle the medical appointments by patients.

**1.4 OBJECTIVES**

The main objectives of this project ae:

1. Reduce waiting times in hospitals by providing a better system to schedule doctors’ appointments.
2. Provide a better system to deal with health emergency by allocating doctors in real time for the emergency.
3. Encourage patients to seek medical attention by providing a way to seek medical advice anonymously.
4. Provide a system that saves patient and doctors time by providing a way for medical inquiries without visiting a health center.
5. Provide a system for faster response to medical emergencies by allocating ambulances automatically when an emergency is reported
6. Monitor available wards and ICU rooms in a hospital so as to better handle emergencies and new admissions
7. Provide a door-to-door health service.

**CHAPTER 2: SYSTEM ANALYSIS**

## **2.1: Introduction**

The project methodology used in the development of the system is the System Development Life Cycle (SDLC) specifically following the waterfall method which is illustrated in *Figure 2.1*. The SDLC is the process of understanding how information system can valid to the user needs, then designing the system, building it and delivering it to the potential users. This methodology is composed of some phases. The structured design methodology will be waterfall development.

## **2.2: System Planning**

In planning phase which was first step was to identify needs for a health management system. This was first phase of the system and it entailed determining the necessary information that was required for the system to be fully operational as well as function in the expected manner. The requirements that we captured were subjected to thorough scrutiny to determine the level of essence of it as well as eliminate the unwanted requirements. We did this based on the fact that though the requirements might have been raised by the target users found through our research, they might not be realistic or might not be so much important.

## **2.3: System Users**

For our system we have three types of users:

1. Admin User
2. Staff User
3. End User

### **2.3.1: Admin User**

This is the user who is in charge of managing the system configuration and database configurations.

The admin user will be responsible for handling any system errors that may occur in the system while in use. Maintenance of the system is also the work of the system administrator. This user will have access to all areas of the system including the databases schema. For security purposes the administrator will not be granted access to the information in the database which contains sensitive information like details patients, doctors and the anonymous users.

### **2.3.2: Staff User**

This are the users in charge of providing services to the end user e.g assigning appointments and treatment. These users include the hospital staff and doctors.

Attributes of these users are:

1. USER ID
2. NAME
3. ADDRESS
4. EMAIL
5. PHONE NUMBER
6. NATIONAL ID
7. PASSWORD

### **2.3.3: End User**

This are the end users who receive the medical services .

Attributes of these users are:

1. USER ID
2. NAME *(OPTIONAL)*
3. ADDRESS
4. EMAIL (OPTIONAL)
5. PHONE NUMBER (OPTIONAL)
6. NATIONAL ID (OPTIONAL)
7. PASSWORD

### **2.4: SYSTEM REQUIREMENTS**

### **2.4.1: Hardware requirements**

The Web Application should run on its own server. However,  
installation on systems running other applications is also possible.  
The minimum hardware requirements are:  
Item Requirement

#### 1. PC Requirements

RAM, we recommend about 100 MB per concurrent user session. Thus, if 1000  
users are logged on simultaneously, you can expect memory usage of around 2GB.

For personal computers any operating system should be able to run the web application of the Medicare Application.

#### 2. MOBILE Requirements

Smartphone device.

RAM of at least 2GB.

ROM at least free storage of 2GB for performance.

The latest version of android or IOS is recommended for better performance and standard features , android versions ranging from (4.5 – latest)

### **2.4.2 Software requirements**

### **2.4.3Application requirement / environment**

**CHAPTER 3: SYSTEM DESIGN**

# **CHAPTER 4: SUMMARY AND CONCLUSION**

# **REFERENCE**

# **APPENDIX**