

## Scheme and Execution of Health Care Monitoring System

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### **Abstract**

*This research work covers the concepts behind the management and scheduling of Health care activities, functional procedures and equipment's in the supply and use of medicines in broad concepts of human endeavor relating to health and privacy issues. However, it is noted that there are no well-defined methods for managing these processes when treatment is to be administered to patients, or even inventory management of prescriptions and acquisitions of drugs or medicines as the case may be creating room for possibilities of administering the wrong treatment to any patient at any given time and substandard prescriptions of treatments to illness that may or may not occur. This research work has carefully outlined the shortcomings of the old system and has made updates and corrections as well as additional functionalities added and integrated to formulate the Scheme and Execution of a new system to manage these operations and activities of health care.*

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### **Introduction**

Health care is an aspect that plays a vital role in the successful achievement of health curriculums. Health care work takes a succeeding step in managing its activities. Each step has a specified duration of time and a mapped-out work coed associated with it. The time stipulated to be utilized maximally to enable you to cover the workload elaborately. It's also, the maintenance or improvement of health via the prevention, diagnosis and treatment of diseases, illness and other physical and mental impairments in human being. Monitoring is the regular observation and recording of activities taking place in a project or programme. It is a process of routinely gathering information on all aspects of the project. To monitor dis to check on how project activities are progressing. It is observation are systematic and purposely observation Monitoring also involves giving feedback about the progress of the project to the donors, implementors and beneficiaries of the project Healthcare monitoring system is a system Schemed to ease the regular observation and recording of activities of the healthcare center In a hospital healthcare monitoring system, it is necessary to constantly monitor the patient's physiological parameters. For example pregnant woman parameters such as blood pressure (BP) and heart rate and movements of fetal to control their health condition, this project presents a monitoring system that has the capability to monitor physiological parameters from

multiple patient bodies. In the proposed system. Careful management of health care is directly related to a country's ability to address public health concerns. Even so, many health systems and Healthcare monitoring Systems run into difficulty achieving their goals because they have not addressed how the medicines essential to saving lives and improving health will be managed, supplied, and used. Medicines can be expensive to purchase and distribute, but shortages of essential medicines, improper use of medicines, and spending on unnecessary or low-quality medicines also have a high cost of wasted resources and preventable illness and death. Because medicines are so important and resources so limited; ways have been developed to improve the supply and use of medicines while minimizing costs. Health care management represents the whole set of activities aimed at ensuring the timely availability and appropriate use of safe, effective quality medicines and related products and services in any healthcare setting.

### **System Analysis**

This is an important stage in the system development lifecycle. According to Mc Nab (2004), System development with the identification and specification of both functional and non-functional requirements of the system. He said to achieve this objective, that there is need for analyst or researcher to use systematic approach to ensure that specification derived are accurate and the analysis process is carried out in a controlled manner. Analysis is the breaking down of a complex structure into smaller units so that an intensive detailed cross-examination can be effectively carried out on it. Effiong E. E (2001) defined System analysis as the process of breaking down system (problems) into subsystem and their component parts so as to analyze on details the information needs of a user and thereafter develop the system requirements." System analysis therefore is the study of a business problem domain to recommend improvements and specify the business requirements for a solution. It is also the dissection of a system into pieces to study how they interact and work.

### **Detailed Definition of The Problem**

Haven examined the existing system; our findings presents three fundamental problems that arise in the existing Health care monitoring system.

The first problem is to obtain a clear definition of value acceptable for the purpose of flexible Health care Management methods.

The second problem is to obtain a clear definition of the Health care monitoring system elements or interests that are to be valued.

The third problem is to determine the proper method, or methods, by which the defined value will be estimated.

Thus, the definition of value used in the process of Health care monitoring system is a set of assumptions about the methods in which the subject property may transact. It becomes the basis for selecting comparable data for use in the Health care monitoring system. Based on these factors, the manual Health care Management methods must identify the scope of work needed, including the methodologies to be used, the extent of investigation, and the

applicable approaches to value. The rule provided the explicit requirement that the minimum standards for scope of work were:

### Input Data (Specification)

Input specifications describe the types of records within the file, the sequence of the types of records, the fields within a record, the data within the field, indicators based on the contents of the fields, control fields, fields used for matching records, and fields used for sequence checking. For an externally described file, input specifications are optional and can be used to add functions to the external description.

### User Registration

| DATA ITEM   | DATA TYPE | FIELD WIDTH |
|-------------|-----------|-------------|
| Username    | String    | 20          |
| Password    | Password  | 21          |
| First Name  | String    | 20          |
| Middle Name | String    | 20          |
| Last Name   | String    | 20          |
| Section     | String    | 20          |

### Patient Registrations

| DATA ITEM          | DATA TYPE | FIELD WIDTH |
|--------------------|-----------|-------------|
| Itr No             | Integer   | 20          |
| First Name         | String    | 15          |
| Middle Name        | String    | 10          |
| Last Name          | String    | 15          |
| Birth date         | Date/time |             |
| Health NO          | Integer   |             |
| Address            | String    | 250         |
| Age                | Integer   | 11          |
| Civil Status       | String    | 11          |
| Gender             | String    | 6           |
| Blood Pressure(BP) | Integer   | 3           |
| Temperature(Temp.) | Integer   | 3           |
| Pressure(PR)       | Integer   | 3           |
| Weight(kg)         | Integer   | 3           |
| Height(ht)         | Integer   | 3           |

### Complaint Table

| DATA ITEM | DATA TYPE | FIELD WIDTH |
|-----------|-----------|-------------|
| Itr No    | Integer   | 20          |

|             |        |     |
|-------------|--------|-----|
| First Name  | String | 15  |
| Middle Name | String | 10  |
| Last Name   | String | 15  |
| Complaint   | String | 250 |
| Remark      | String | 25  |
| Section     | String | 25  |

### Patient Update

| DATA ITEM           | DATA TYPE | FIELD WIDTH |
|---------------------|-----------|-------------|
| First Name          | String    | 15          |
| Middle Name         | String    | 10          |
| Last Name           | String    | 15          |
| Birth date          | Date/time |             |
| Health NO           | Integer   |             |
| Address             | String    | 250         |
| Age                 | Integer   | 11          |
| Civil Status        | String    | 11          |
| Gender              | String    | 6           |
| Blood Pressure(BP)  | Integer   | 3           |
| Temperature (Temp.) | Integer   | 3           |
| Pressure(PR)        | Integer   | 3           |
| Weight(kg)          | Integer   | 3           |
| Height(ht)          | Integer   | 3           |

### 3.4 Output Scheme

The output of the Health care monitoring system is Schemeed with a well outlined technique because the effectiveness of a system can be measured in terms of the output of the proposed system. The output success of the Health care monitoring system partly depends on its input. A badly Schemeed output or an output that fails to adequately present information expected of it tragically invalidates the system's purpose. The output format tells more on how the end product will look like. It contains the same data specification input.

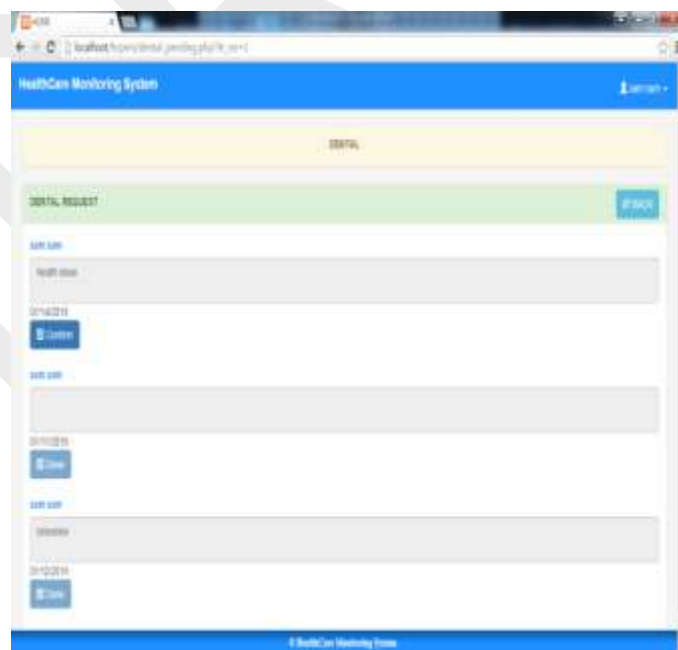
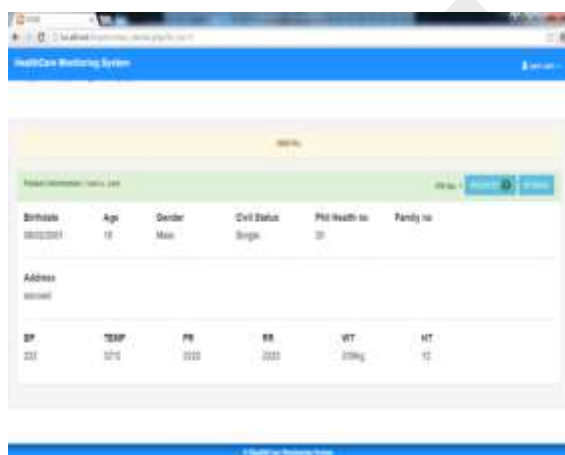
## User Page

**Please Login Here...**

Username

Password

 Login

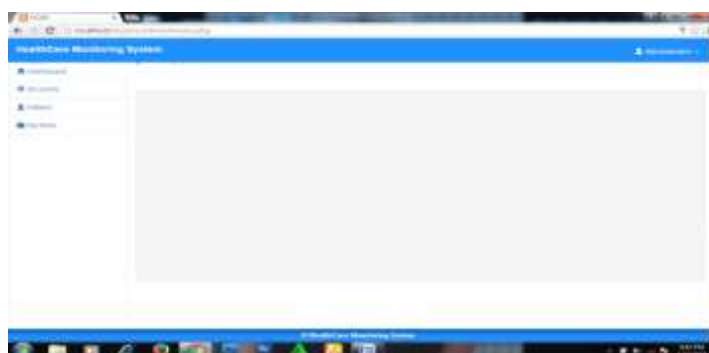


**Administrator**

Username

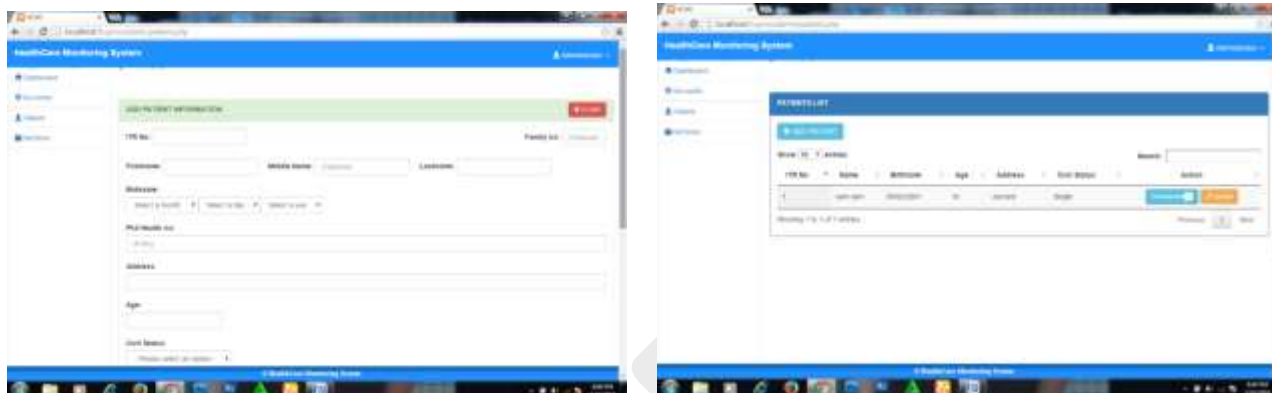
Password

 Login



### 8. Budgetary Monitoring System

The screenshot shows the 'HealthCare Monitoring System' web application. The interface includes a sidebar with navigation links: Home, Patients, Doctors, and Reports. The main content area displays a table of patients. The table has columns: Surname, Firstname, Name, Gender, and Status. Two patients are listed: 'Muganyizi Desirée' and 'Muganyizi Desirée'. Each row has 'Update' and 'Delete' buttons. A search bar is located above the table. The footer of the application says '© Muganyizi - Monitoring System'.



#### 4.1 Justification of The Programming Language System Control

For the Health care monitoring system, we have chosen PHP as tool in the development of the system because more hardware support is available for this language, many API (application interface) are available and much research is being done on this Programming language, it also supports trusted platform. As survey was also conducted in June 2002 regarding which Programming language will be useful in future. The survey was completed by 633 development managers; the survey showed that this Health care monitoring system framework had already gained a strong place in the IT industry.

#### 4.2 System Requirement

The need to run a perfect Health care monitoring system depends on specified system requirement, whether hardware or software. Care is taken to identify input, process, storage, control and output functions. Documentation as well is needed so as to provide detailed system description. The degree of dependency and accuracy is the key to an effective and smarter Health care monitoring system which personnel managers, staff, patients, etc can trust to its operation and reliability on the hardware and software configuration.

#### Software Requirement

These are written sets of instructions, procedures and associated documentation which help the users to achieve their processing objectives using the hardware components. In acquiring software, the organization considers the basic activity cost which helps in determining the cost of software to be used. The following software components are required in the proposed system

Windows Operating System

Microsoft Internet Explorer 9 or later

Xampp/Wamp server control panel

Text editor (e.g sublime text, notepad/notepad++, Dreamweaver, e.t.c)

Antivirus Scan of Avast, AVG, and McAfee 2012 update antivirus recommended. The above listed materials will create room for computerized efficiency in the system operation of the security techniques.

### **Hardware Requirement**

This is a physical component system that houses the software components under which the instructions work. The under listed devices are required in the configuration of the hardware components of the Health care monitoring system (proposed system)

Complete computer system comprising;

System Unit Pentium IV or later, mother board with speed of at least 1GHz.  
VDU

Windows Enhanced Keyboard

Mouse

Laser Jet Printer

Uninterrupted Power Supply (UPS)

Other consumables – flash, CD etc

### **4.3 Execution DETAILS**

Execution of the Health care monitoring system is one of the main means for a change in the organization administration for effective growth. To build high performance standards, the management is unimaginable without the functioning of a system for accessing Health care Management methods. It is the backbone of their carrier development, training, reward and retaining. In the recent decades the concept for the importance and the essence of the Health care monitoring system achieved a significant progress and they are now regarded as a key component for organization development. For administration of management activities, the effective Execution of a Health care monitoring system and the commitment in achieving of its targets is a guarantee for increasing the effectiveness of the management itself. This Execution is a projection of the understanding that the administration team can be improved through the improvement of each one of its Health care Management methods activities monitor and through focusing on the priority activities wherein achieving of results is needed. The present system regards the practice of implementing the Health care monitoring system. The practical difficulties, most often met in the process of Health care Process Management, and the reasons for their occurrence have been tracked and analyzed. Some of the changes in the regulations, which are aimed at improving the Execution of the Health care monitoring system, are also being presented. A special attention has been paid to the problems of giving of formal performance of Health care Management methods and the necessity for establishing of an effective Health care transaction between the customer and the Health care organization. The separate Health care monitoring system indicators and the difficulties in their usage, as well as the mistakes most often made in Health care Management Executions, have been analyzed.

### **Coding**

The coding system has been developed to meet the following main objectives:

- To support the objectives of the Organization.
- Compliance with the functional Health care standards to enable standardized deliveries and transfer of Health care experience.
- To contribute to a quick project initiation and minimum project execution time.
- To ensure common coding for multifunctional teams and multi-skilled personnel.
- To support functional breakdown of a facility and related documentation of systems, subsystems and equipment to ensure standardization and reuse.

### **System Testing**

This defines the test requirement, which the software should meet and it is progressively integrated into complete package. The process of test plan is concerned with providing that a package produces correct and expected result for all possible input data.

For this software testing, we have three basic testing that should be adopted:

- a. System Testing
- b. Integrated testing and
- C. module testing

### **System testing**

Before bringing and data processing system into use, it is of vital importance that the system is both comprehensive within its intended limits and fully correct. So, each routine must have been written according to specification and tested to complete satisfaction. Also, bugs must have been removed completely and the program run produced exactly what is required of it.

### **The Integration Test**

So far, the various modules have been tested and each proved efficiency as an entity. (i.e. module). Though sometimes, the modules can perform their respective functions but when put together, they can function together. So this test therefore checks that when the modules are integrated they can combine to perform their respective functions. Hence, integration testing was done to entire program structure to uncover errors associated with interfacing. These errors were debugged to produce desired results. The essence of integration testing is to ascertain that these modules do not lose their efficiency and reliability. The Integration involved the main form which serves as coordinator and driver for another module.

### **Module Testing**

In this Scheme we have many modules which when triggered up at certain events perform a specific function. So, module testing involves testing of each of the modules in software to verify that they meet their respective objective module

Testing was carried out to ensure that information properly flows into and out of the program module under test.

#### 4.4 Training and Re-Training of Staff

This stage in system Execution involves the production of handbooks organization of courses and lectures regarding the new system. The handbook contains the description on how the Health care management process is to be done with the software manual, system specification, clerical procedures manuals and security aid are Schemed to assist the users to carry out the required instruction.

During the training phase in the Execution stage of the new system, the researcher did not find it difficult to bring the staff and customers to view the Health care monitoring system because they are already computer literate.

They easily understood the Health care monitoring system as one of the Health care monitoring system they use. However, they were put through on how to properly start the application Properly login into the system

Enter new details and update previous entries

Capture and update records

#### 4.5 Maintenance Details

System Maintenance follows successful Execution and incorporates also evaluation of the system in order to give the desired or necessary improvement. It includes monitoring the process of the other stages of system development to ensure that the development plan and objective are being accomplished.

There are three types of system maintenance which include;

Corrective maintenance

Adaptive maintenance

Preventive maintenance

**Corrective Maintenance:** This covers maintenance, which is needed to put right coding errors and other faults, which may be introduced into the software. It include, the routine “debugging” of newly produced or recently amended code and emergency error correction in response to report faults.

**Adaptive Maintenance:** This covers the changes which are made to the software to meet new or changed circumstances, such as restructuring of a database, alternatives in operating procedures and changes to hardware or software versions.

**Preventive Maintenance:** This covers attempts to make the software perform more effectively. It includes user requests for enhancement, improvement due to experience, changes to make the software easier to use and rewrite the code to make the maintenance that is specifically used for the new system to reduce its chances of breakages. Hence, the researcher advised the use of preventive and corrective maintenance to reduce the chances of breaking down to all and subsequently advise these;

1. Proper staff orientation on the use and operation of the Health care monitoring

2. Frequent checking of the system and list base to facilitate easy access and integration of the staff
3. Consultation of IT professionals periodically to render services that may be of need to meet the modern technology demands.

### **Conclusion**

Health care Management schemes can benefit both the organization her patients. They can improve patients and staff performance and suitability for promotion while at the same time helping to use technology more effectively. In addition, they can improve human health services and the quality of working life and make patients free unplanned health issues. The following will help to ensure that Health care monitoring system is both effective and successful: Health care process needs the commitment and support of all levels of management. Administrative Staff and representatives should be consulted before new Health care Management methods are introduced. Health care Management software should not be seen in isolation but should be closely linked with policies and practices in other areas, such as human resource planning, equal opportunities and training. Paperwork should be kept to a minimum and Health care monitoring system forms should be simply and clearly Schemed. Health care Management methods should be reviewed periodically to ensure they meet changing needs. The introduction of a formal Health care system does not remove managers' responsibilities for reviewing performance on a day-to-day basis.

### **Recommendation**

There is need for a better understanding of Health care Management methods so as to evaluate the significance of the impacts generated by Health care Management challenges. The proposed Health care monitoring system could be used to identify Health care Management respondents and provide information about the resources of Health care Management response for patients and Health care personnel. Health care should take adequate care during the Execution and maintenance of the system. This should be given proper consideration due to its importance for effective and efficient deployment and operation of the system by adopting parallel change-over procedure and applying the technique of preventive after the Execution, corrective maintenance should be done to fix it up.

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