AUTOMATED HOSPITAL MANAGEMENT SOFTWARE

OVERVIEW DOCUMENT

1.0 BACKGROUND - PROBLEM STATEMENT

A significant part of the operation of any hospital involves the acquisition, management and timely retrieval of great volumes of information. This information typically involves; patient personal information and medical history, Lab investigations, billing, drug inventory and various facilities waiting lists. All of this information must be managed in an efficient and coastwise fashion so that an institution's resources may be effectively utilized.

Most Hospitals in Nigeria are currently migrating to automated system due to COVID-19 to reduce/eliminate paper work which might be of high risk in transferring diseases, for the management and maintenance of critical information.

The drawback of the manual system is that it is very difficult to retrieve data from case files. It is difficult to handle the whole system manually and it is less accurate and to keep the data in case files for future reference because it may get destroyed. Moreover, redundancy of data may occur and this may lead to the inconsistency.

It is clear that the manual system is quite cumbersome and inefficient. While the current system is functional, the hospital's human and capital resources are not being utilized in an efficient fashion.

1.1 PROPOSED SOLUTION

The proposed system (Hospital Management System) has been designed to complement the existing manual, paper-based system. The new system is to control the following information; patient information, drug inventory, billing statistics, patient invoices, lab results etc. 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.

The proposed system will increase staff productivity and efficiency by:

- ➢ standardizing data, resulting in fewer corrections and significantly lowering the incidence of missing or incorrect data
- ➢ consolidating data stores into one location ensuring data integrity and providing a database for future statistical and management reporting
- ➢ reducing the time spent by staff filling out forms, freeing resources for more critical tasks
- ➢ speeding up the billing process by having accurate, timely data, resulting in quicker payments and a better cash flow
- ➢ Eliminating the drawbacks of the existing system to a great extent providing tight security and confidentiality to the patient's record.

2.0 SYSTEM OVERVIEW

Any person on staff at the hospital will be able to use the system. Normally, cashier and admitting nurses will input patient information, the accountant compute and print invoices, while administration staff will manage users and analyze the record. Doctors and nurses will also be able to access the information. In short, the people involved with implementing the current manual system will be the end users of the automated system.

Generally, the system has seven basic modules which are:

1. Administrator
2. OPD
3. Pharmacy

4. Doctor

5. Nurses

6. Lab

7. Accounting

Each of these modules has its access privilege in the operation of the system

1. **Administrative Module:** The system administrator virtually has access to the entire system.

   Functions: The major duty discharged by the system admin is to add new user, delete user, analyze the system log, backup the database, and attend to often frustrated user.

2. **OPD Module:** The card room user's access is restricted to some areas in the system operation.

   Functions: user is responsible for registering new patients, input detail of case, retrieval of patient's card number, input daily sales record etc.

3. **Pharmacy Module:** This module is managed by a Pharmacist or Pharmacy Technician.

   Functions: The user is responsible for registering new drugs and having full access to the drug inventory form of the automated system.

4. **Doctor's Module:** This module is managed by Medical Doctors only.

   Functions: They have access to view and update a patient medical history, also they can prescribe drug for any patient.

5. **Nurses Module:** The management of this module is done by staff nurse.

   Functions: The Nurses are responsible for inputting any drug prescribed by the medical Doctor to the patient on bed (In-Patient) for easy generation of bill at the time of discharge.

6. **Lab Module:** The management of this module is done by Lab Scientist.

   Functions: The Lab Scientist are responsible for conducting lab test requested by Doctor, inputting lab result and printing of patient lab result when necessary/requested.

7. **Accounting Module:** The Accountant takes full access of this module

   Functions: The major duty of the accountant in this module is to use the automated system to generate individual bill of a patient, company's bill, keep appropriate record of debtors, and other billing computing in the Hospital.

2.1 SOME SCREENSHOTS OF THE PROPOSED SYSTEM
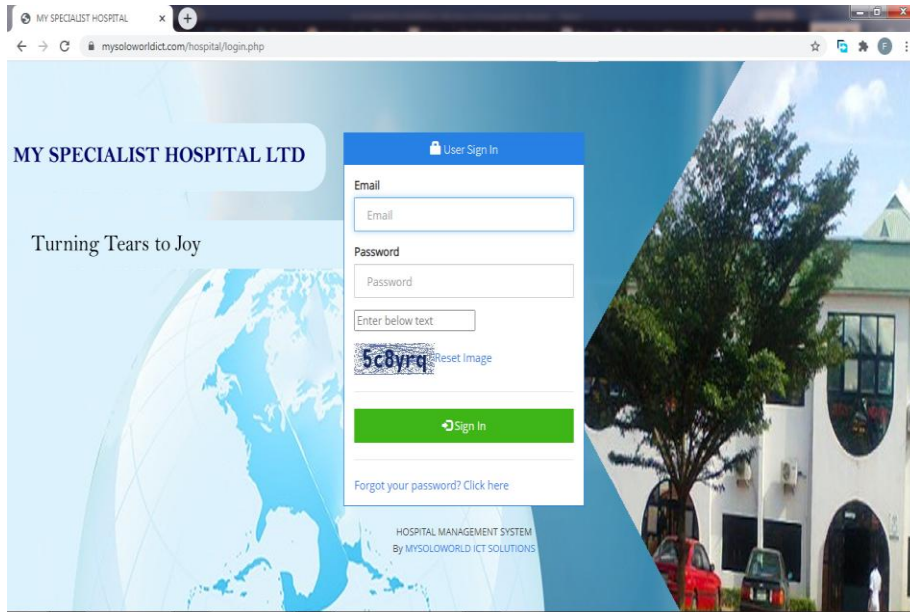
Login Screen

This login screen is a very sensitive and intelligent part of the proposed system. Here, users must login with his /her own username and password created by the system admin. It authenticates the user's identity if it's right or wrong. If the user identity is correct, it will grant the user access to his/her privilege to the system else access will be denied, below is the Dashboard which shows the statistics of what of the records in the system
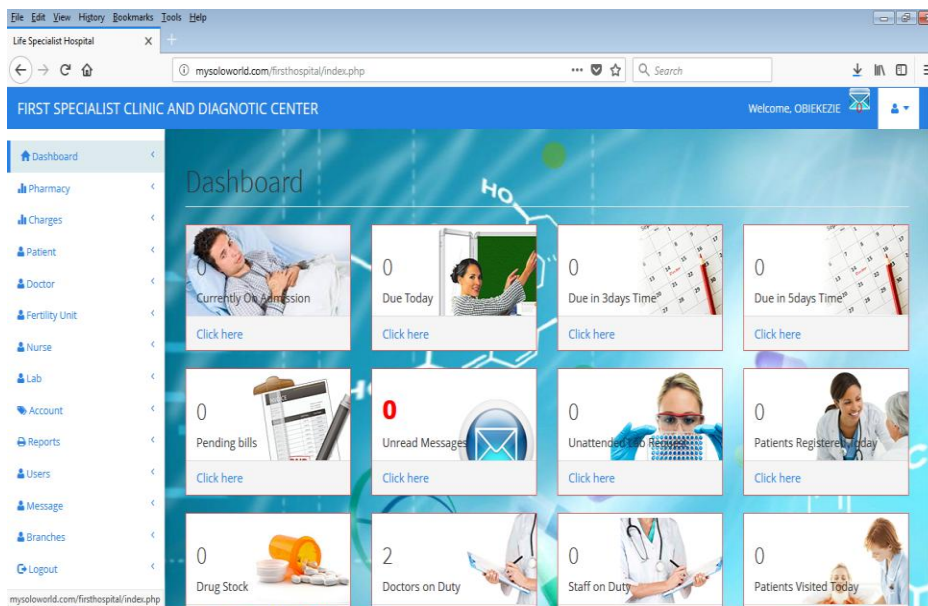
General In and Out Patient Form

This form is used to record new Individual, company's patents information, payment history, form location and many other vital information of the patient or company. From this form user can enter the detail of case of a patient. This form is managed either by users in Card room, Doctors, system Admin and Nurses as the case may be.
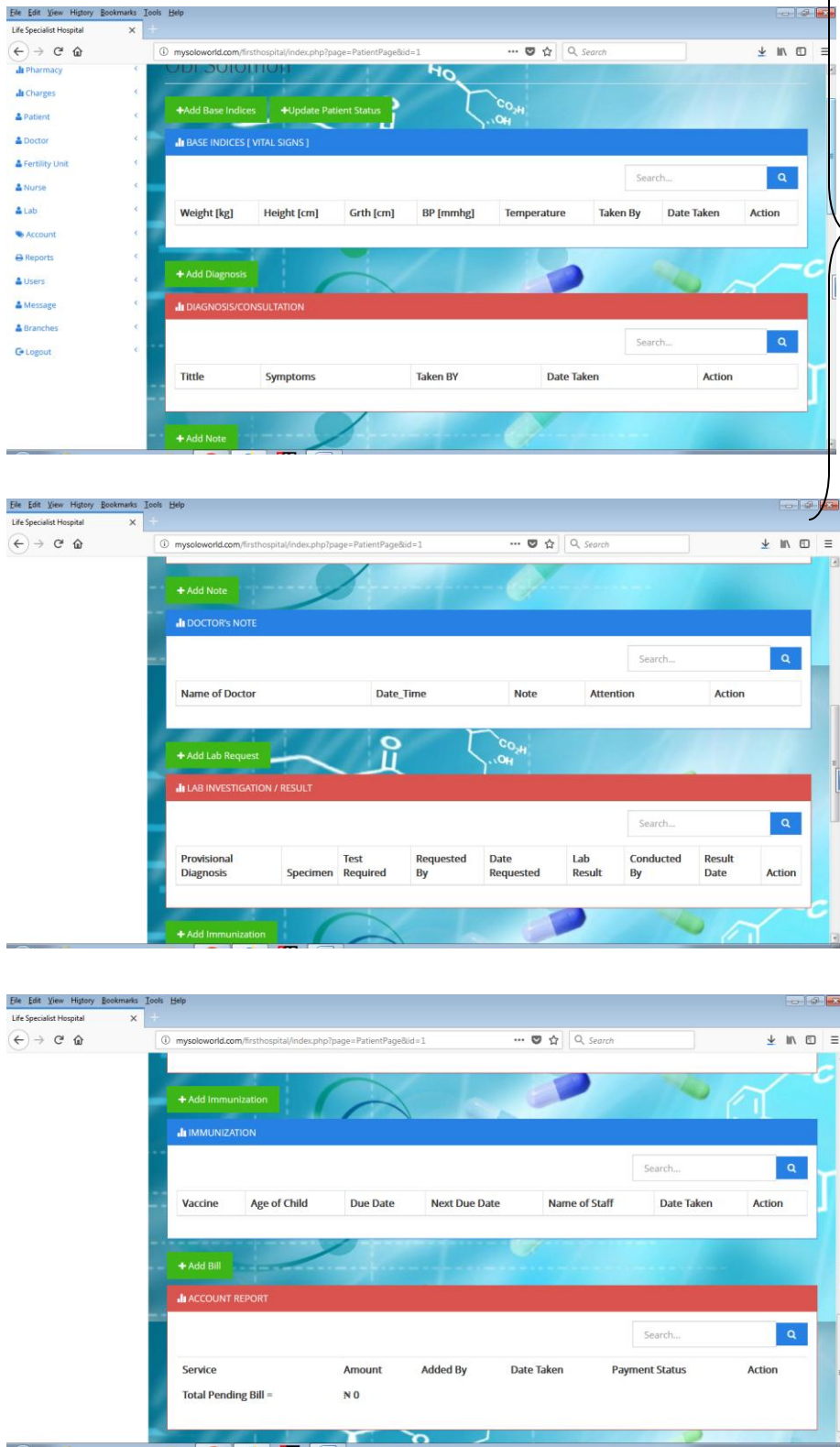

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Patient Folder

Patient folder contains; Base Indices, Diagnosis, Doctor's Note, Lab Request, Lab Result, Immunization, Bills, drugs prescription and the price are being inputted in this form. Doctors majorly manage this form to maintain patient's confidentiality. The medical history of a particular patient can be viewed by the medical doctors only.

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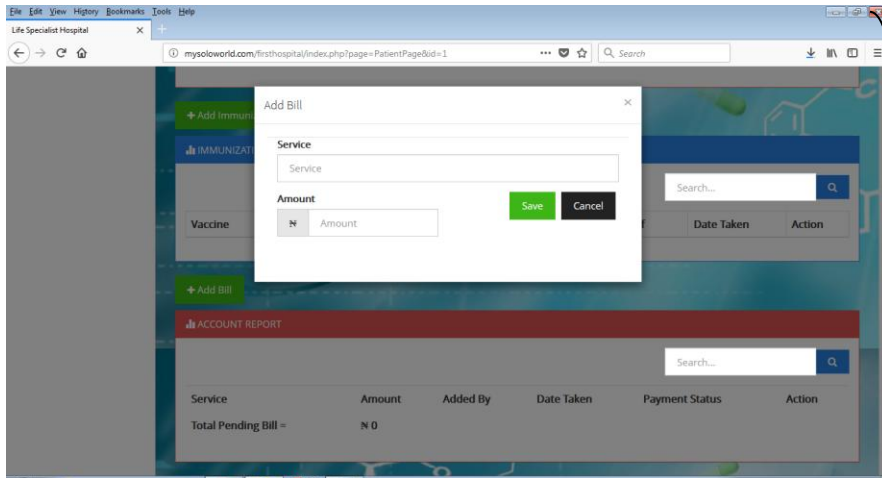
Billing Form

Billing and Drug prescription managed by Doctor
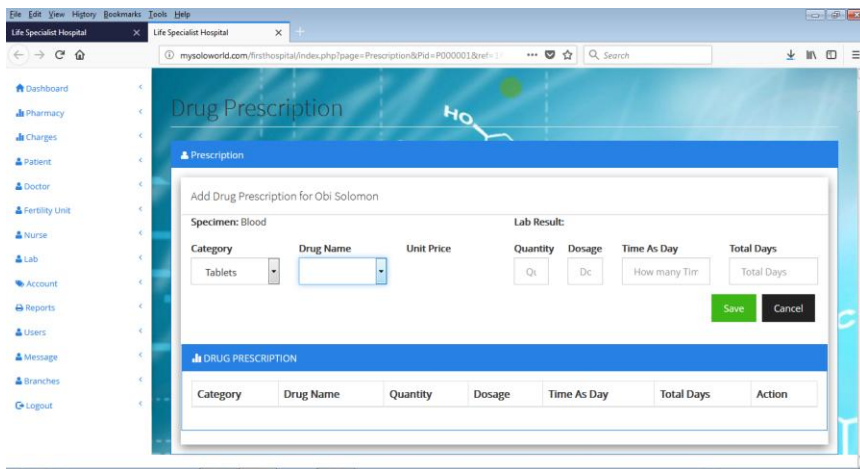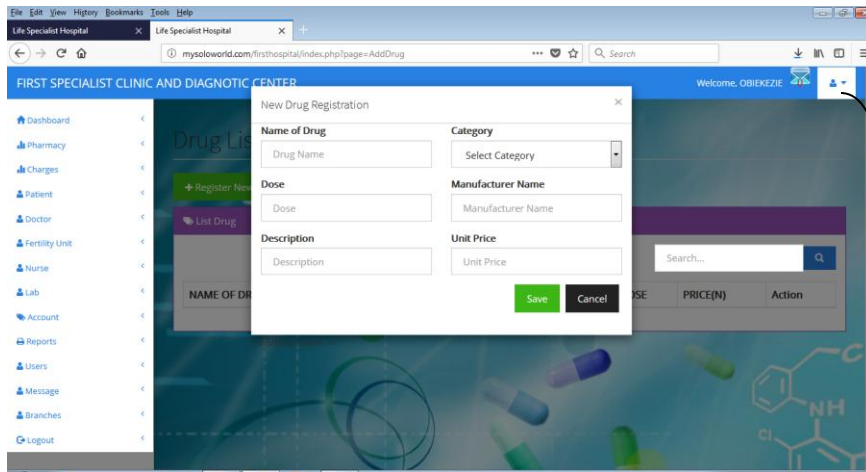
DRUG INVENTORY

This form is managed by the pharmacist or pharmacy technician. This form takes proper inventory of all the drugs in the pharmacy and how the drug was dispensed. Reports of drugs are generated daily, monthly and yearly. It can also be used for statistical analysis.
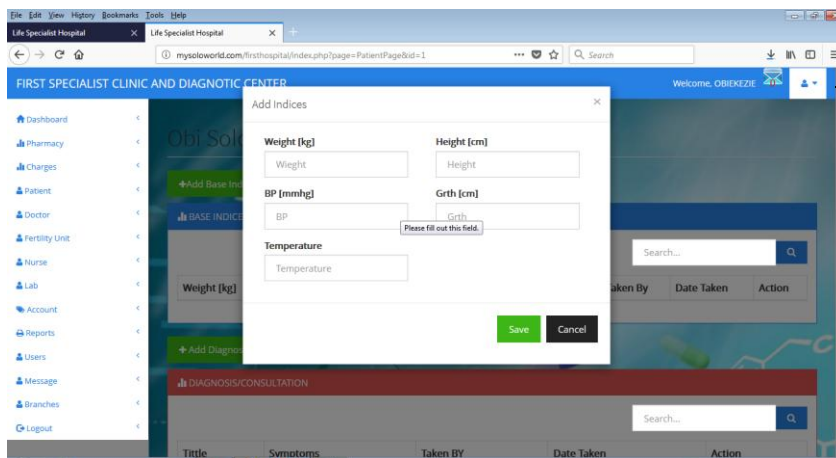
VITAL SIGN FORM

This form is used to capture the vital sign of a patient before treatment. Its Primarily managed by users in Card room and staff nurses

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3.0 BENEFITS

1. The hospital management system provides an effective solution to hospitals that plan to reduce the costs of administrative and clinical transactions, and at the same time, provide better service to their clients

   ➢ It aids hospital administrators by significantly improving operational control and streamlining operations

   ➢ It enables improved response to demands of patient care because it automates the process of collecting, collating and retrieving patient information

   ➢ It provides doctors and hospital staff with the decision support system that they require for delivering patient care, which is comparable to global standards

2. By enabling an automated and intelligent flow of patient information, the automated hospital information management system enables hospitals and doctors to better serve their patients

3. Additionally, the automated hospital information management system provides a host of direct benefits such as easier patient record management, reduced paperwork, faster information flow between various departments, greater organizational flexibility, reliable and timely information, minimal inventory levels, reduced wastage, reduced waiting time at the counters for patients and reduced registration time for patients

4. The indirect benefits would be an improved image of the hospital and increased competitive advantage

Thank you for your time as we await your response.

Contact us for more details and implementation

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