Software Development Agreement

This Agreement is made on this ______5th___day of ______May_____, 2025__, by and between:

Developer 1: Mercy Amaefule C.

Address: Lafia, Nasarawa Nigeria

Email: amaefulemercy499@gmail.com ,

Developer 2: Miracle Ezeh A.

Address: Lafia, Nasarawa Nigeria

Email: amichy07@gmail.com,

Client: ____

Address: ____

Email: ____

Project Title: Development of a Hospital Management System

1. Project Scope

The Developer agrees to design and develop a fully functional Hospital Management System ("the Software") as described in the project requirements document titled KUMANI DOCUMENTATION (hereinafter referred to as "the Project Document").

This shall include:
- UI/UX Design
- Front-end Development
- Back-end Development
- Integration of defined features as stated in the Project Document

Any feature or request outside the specifications in the Project Document shall attract additional charges and require a mutual written agreement before implementation.

2. Project Timeline

The Developer agrees to complete the Software within a time frame of three (3) to six (6) months starting from the effective date of this agreement.
Progress shall be reported bi-weekly through either:

- Scheduled virtual meetings, or
- Written updates via chat or email.

3. Compensation

The Client agrees to pay a fixed total of $500 (Five Hundred US Dollars) for the complete development of the Software.
This amount covers design, front-end, and back-end development of the application as detailed in the Project Document.
Any additional feature or modification not covered in the Project Document shall be charged separately and agreed upon in writing.

4. Payment Terms and Mode

The payment schedule shall be as follows (optional suggestion):
- 40% upfront upon signing ($200)
- 30% midway through development ($150)
- 30% upon completion and final delivery ($150)

Payment Method

All payments shall be made via MoMo Agent transfer.

MoMo Agent Account Detail

Account Name: Miracle Amarachy Ezeh

Agent ID / Phone Number: 8065557468

5. Intellectual Property

Upon full payment, all rights and ownership of the Software and source code shall be transferred to the Client.
The Developer may retain the right to reference the project in their portfolio.

6. Confidentiality

Both parties agree to maintain the confidentiality of any proprietary or sensitive information shared during the course of this project.

7. Termination

Either party may terminate this agreement with written notice if the other party breaches any material term of this agreement. Upon termination, the Client shall pay for work completed up to the termination date.

8. Miscellaneous

This Agreement constitutes the entire understanding between the parties.
Any amendment or modification shall be in writing and signed by both parties.
This Agreement shall be governed by the laws of Africa.

Signatures

Developer 1

Signature: ______________________
Full Name: ______Mercy Amaefule Chimnonso______________
Date: ________5th May 2025_________________

Developer 2

Signature: ___mira___________________
Full Name: ____Miracle Ezeh Amarachy_________________
Date: _________5th May 2025________________

Client

Signature: ______________________
Full Name: _____________________
Date: _________________________

KUMANI HEALTH SYSTEMS UPDATES

System Administration

The system administration module is intended for the designated personnel in charge of system administration. It allows for configuration of various aspects of business rules, user mandate & permissions, audit trails & help desk support. Key highlights are as follows:

User Management: User privilege, roles privileges & approval mandate management.

System Configuration: Allows configuration of various buiness rule & work flows such as branches, departments, clinics, insurance providers, medical schemes, work flows, required fields, que management system (QMS), etc.

System Audit: Allows viewing / audit various aspects of the the system processes such as online users, user activity, scheduled background jobs, system logs, database backup logs & error logs.

Receptionist:

a) Staffs:Biometric or QR code attendance verification with monthly report link to HR, Head of Finance and CEO

b) Visitors:(Purpose of coming,Name and phone number,whom to visit-If opd(patient admitted) or ipd (patient not admitted) client use visit number giving to client during attandance here client has to give this number to relative coming to visit and for staff they should give their staff numbers,date and time,note in text field and attach file)

c) Phone Log: name of phone number,date and time,next follow up date,type of call(incoming/outgoing),note in text field.

d) Postal:

a) Receiving(Received from, reference number system generated to be attached to item,address from,where to,date,time attach note and file

b) Dispatching(where to,reference number system generated to be attached to item,address to ,from title(e.g canteen,pharmacy),date,time attach note and file

Patient Registration

This module allows for management of patient demographic details. It is also the first point of contact of the patient journey in the health-care facility. Key highlights are as follows:

1. Patient Register: Allows the front-desk staff capturing & editing of patient demographic details as well as queuing of patients to various specialists change client insurance details and status like from insured to cash.
2. Allergy & Important Notes:Any patient’s allergies and important notes to be taken at registration and shown at nurses,pharmacy,lab and consultation including blood group.
3. Patient Queue: Viewing & management of queued patients that have been queued to various specialists. (track the patient’s processes in d hospital at each stage)

4. Calendar: Allows the front-desk staff to schedule patient appointments & visit reminders.
5. Enquirers: Allows the front-desk staff to access a list of various services available in the facility alongside their charges
6. Print Patient Card, Wrist Band, and Label.With barcode or QR code behind patient card for faster service activation.
7. Patient ID Configuration:The patient ID numbering can be configured as required by the hospital. (generation of Patient ID and patient visitor's ID from facility's REG number)
8. Walk-In & Emergency Priority: Dynamic queue management for high patient volumes, with prioritization for emergencies and maternal cases.

Vital Checking at Opd

Date & Time	Patient ID	Temp (°C)	HR (bpm)	RR (breaths/min)	BP (mmHg)	SpO_2 (%)	RBS/FBS	Weight (kg)	Height (cm)	Notes / Initials

Payment Module

The payment module is intended for cashier or any personnel tasked with handling of payments (both payables & receivables). It supports various modes of payments such as cash, bank transfer, card, mobile money, insurance cover, waivers, etc.

Key highlights are as follows:

1) Receivables: Viewing & management of generated invoices, insurance claim schedules, payment receipt, refund request, client account deposits & pro forma invoices.
2) Payables: Viewing & management of payment vouchers, make payments to debtors, view payment listings & pre-payments.
3) Petty Cash: Intended for internal usage in the organization in handling petty cash. It supports management of petty cash request, payment request, imprest request & staff advance request.
4) Reports: Viewing of cashier collection, receipts & service backlog.
5) Billing: Reference of clients billing audit summary.
6) Enquiries: Allows the user to access a list of various services available in the facility alongside their charges. (see prices for each item/service in the facility)
7) Able to reprint payment receipt by picking what to show or print all items paid.
8) Discount and waivers (admin gives this but cashier can see who has them so it can affect their payment)
9) Client deposits (part payment)
10) NHIS Tariff Database: Embed NHIS-approved service and medication pricing flag non-covered items for out-of-pocket payment.(Allow to include various insurance body that will cover for fees during drug pricing)

11) Multiple Payment Types:Patients can pay for services with any combination of cash and mobile money.

Laboratory Management

The lab module handles end to end laboratory operations and designed to capture the details related to all phases in lab request management life cycle i.e sample collection, sample verification, report publication and report verification.

Key highlights are as follows:

1. Improved Workflows: The seamless integration with out-patient, in-patient, nursing and billing modules helps in improving the facility workflows. (see all patients that has been directed to the lab)
2. Intuitive User Interface: Lab requests can be searched and generated for a variety of tests with details such as status, priority, and referring physician. Users can capture sample collection and verification processes of multiple tests based on the common sample type with a single mouse click. (be able to see all lab tests entry on same page) - things to be entered for each test
3. Configurable Templates: The module supports templates for all kinds of invasive and noninvasive diagnostic tests i.e individual (single parameter), group or multiple parameter templates. - things to be entered for each test get from sent documents
4. Test Outsourcing: Option to outsource unavailable tests to external facilities (within the organization or outside) and integrate the results with patient record.(attach scanned record pdf to patient's record)
5. Communication: Email patient reports and send test report readiness details to the patient via SMS.
6. Blood Bank: Support for blood bank(Donor name and contact,DOB,Blood group,gender dad/mum name and contact,address and contact number of donor).
7. Reports-access to wide range or reports such as lab tests summary, lab results statistics, workload, amendments, turn around time and service backlog. Regional government regulatory reports such as IDSR Weekly Epidemic reports, Clinical Chemistry Report & Parasitologyy reports are available.
8. Lab analyzer data link for fbc haematology analyzer.

Pharmacy

This intended for managing pharmacy operations such as drug sales, dispensation & returns. It is tightly integrated with the inventory & payment modules meaning the pharmacy operations are visible in the inventory and payment modules. The following are the key highlights:

1. Point of Sale: Viewing, processing & dispensation of patient prescription (both for in-patient and out-patient). It also supports servicing prescription for walk in client.
2. Store Management: Management of storage area details, internal requisitions, stock level adjustment & batch items exipiry.
3. Configuration: Management of pharmacy information details such as drugs, drug categories, drug stock levels, pharmacoology & contraindications.
4. Reports: Detailed and summarized reports such as monthly workload, monthly revenue, drug consumption, batch expiry & service backlog.

5. Include printing labels be done quickly and efficiently allowing busy pharmacies to serve more patients. Modify pharmacy label printout, especially for the consumption instruction. (enter the drug prescription days/time and printed added to drug)
6. Queue Number:Manage patient queue in pharmacy unit so they wait orderly.
7. Revision Prescription:Capability to revise prescription from doctor to speed up prescription fulfillment process NB: Kept an audit trail of this with time date and name of the person. (change drug prescription and record it)
8. Prescription Iteration:Enable the pharmacy on creating and monitoring repeated prescription, especially for chronic diseases.
9. Payments:Pharmacy staff can take payments and issue receipts to patients that must pay for their own medications.
10. Endemic Disease Tracking: Prioritize inventory alerts for malaria, TB, and HIV/AIDS medications. Track donations and equipment warranties

INSURANCE:

1) Easily generate and submit of claim that are valid per the NHIS validation protocols. The application should identify inefficiencies in claims generation, collation and storage for both providers and the NHIA.
2) Track NHIS reimbursement delays (dashboard alerts).
3) NHIS Reports: Claims success rate, rejection reasons, fraud detection (duplicate claims).
4) Financial Reports: Revenue split (NHIS, private, mobile money)
5) NHIS Reimbursement Reports: Streamline claims submission to NHIS with pre-formatted reports

Pharmacist Medicine Intervention Report Form

PRESCRIPTION INFORMATION: *(please tick all that apply)*

Status:

□ new prescription □ repeat prescription □ hand written □ computer generated □Other (Specify) *Origin of Prescription:*

Presented by: □ Patient □ Patient Representative □ Nurse □ MD by phone □ Other (Specify)

Patient Sex: □ Female □ Male

Patient Age: □ Infant (<3yrs) □ Child (6-11yrs) □ Adolescent (12-17 yrs) □ Adult(18-64yrs) □ Elderly (65+ yrs) □ Unknown

TYPE & REASON FOR INTERVENTION: *(please tick all that apply)*

□ Problem with prescription form □ Problem with item

Problem with prescription form: □ No Dr. signature □ No date □ No patient address □No patient name □ No age

Problem with item:□ Duplication

Drug(s): Dose: □ Too low □ Wrong □ Too high □ Missing-standards and Practice Guidelines for Pharmaceutical Services

Others:

□ drug item/brand □ Strength □ patient name □ Contraindication □ Different from previous Rx □ Quantity □ incorrect spelling □ Interaction □ Frequency of administration □ Rx ambiguous □ Allergy
Strength: □ Wrong/Need clarification □ timing for dose (exc. duration)
□ Rx illegible/incoherent □ Not covered by NHIS □ Dosage form □ supply/availability problem □ Possible ADR
Form: □ inconvenient dosage form
Drug(s) involved: ____ ¢

____
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____
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____
¢

Name Strength Form Directions Quantity Total Cost

Therapeutic Category of Drug(s):

____
___

Disease condition: ____

Other (please state on reverse of form)

QUERY SOLVED BY CONSULTING: *(please tick all that apply)*
□ Physician/Doctor □ PMR □ Patient □ Drug Information Centre
□ Own reference source □ Other clinic authority contacted
□ Took own action – without doctor contact □ Consulted other information sources (please state):____

____
___

RECOMMENDATIONS: *(please tick all that apply)*
Change: □ Drug
Change: □ Form/route *Rx:* □ Clarify, no specific changes *Drug:* □ Stop
Dose: □ Increase □ Decrease
□ Strength □ Quantity □ Add missing information □ Add
□ Directions □ to Drug Plan Product Standards and Practice Guidelines for Pharmaceutical Services
Total cost

OUTCOME *(please tick all that apply)*
Rx: □ Confirmed as written with specific intent
Patient/ □ Verbally counselled
Others: □ Resolved by phone call □ Not dispensed
Representative: □ Provided written information □ Resolved by letter
□ Changed due to Pharmacist's advice □ Took Rx away □ Resolved by personal visit □ Changed but not due to Pharmacist 's advice
□ Not dispensed-patient referred to doctor

Drug(s) involved:
____ ¢
____ ¢
____ ¢
____ ¢

Name Strength Form Directions Quantity Total Cost
Total cost

QUERY INITIATED BY: *(please tick all that apply)*
□ Pharmacist □ Other pharmacy staff □ Patient/Patient representative
□ Patient Medication Record (PMR) □ Other (state) ______
SERIOUSNESS OF PROBLEM:
Based on the available information, in your estimation of the seriousness of the im pact, you not intervening have on the health of the patient
(please tick all that apply)
□ Potentially serious □ Type B: Major nuisance □ Minor serious □ Trivial
TIME TAKEN TO RESOLVE QUERY:
□ Approximate time taken (mins):_________ □ No. of internal calls made to re-

solve__________ □ No. of outside calls made________
PERCEIVED PATIENT BENEFIT: *(please tick all that apply)*
□ Increased therapeutic effectiveness □ Prevent toxicity/side effects □ Improved compliance □ Improved monitory of therapy
Intervention ID No.: Date: _________________
Pharmacist Performing Intervention
____
__
Name & Location of Doctor Responsible for Rx:
____
___
____
____
____
Kindly outline any further relevant information or impediment encountered whilst performing the intervention on the prescription below.
(Please endeavour to attach a photocopy of the prescription to this form):
……………………………………………………………………………………………
…………………
……………………………………………………………………………………………
…………………
……………………………………………………………………………………………
…………………
……………………
Intervention ID Number Format:
Kindly use the following number format to log in the Intervention ID; i.e. 0001/17, 0002/17 etc. For example, the fifty fourth (54th) prescription intervention by SME Pharmacy for the year 2004 will have the following intervention identification number: SME 0054/17. *Prototype Pharmacy Department Unit Codes:*
Use the respective code for the unit as the prefix before the ID number. MAIN – Main Pharmacy MED – Medical / Drug Information SCC – Sickle Cell Clinic SURG – Surgical Pharmacy O&G – Obstetrics & Gynaecology Pharmacy ADC – Adherence Counselling POLY – Polyclinic Pharmacy SME – SME Pharmacy PAED –

Child Health Pharmacy CHST – Chest Clinic Pharmacy MFT – Manufacturing Unit

Medication error reporting form
(A blame free reporting tool)
Please tick (√) the appropriate box. All fields must be filled. Detail of reporter is optional.
1.
Date of event………………..
Time of event………………..
2. Patient Details
Name…………………………………………………………….Age…………
Sex…………. Weight…………
Diagnosis…………………………………………………………
3. Type of Error
Prescribing……….. Dispensing…………… Administration………………
Others (specify)……………….
4. Location of Event
Ward……………. Consulting room…………….. Pharmacy…………….
Others (specify)………………
5. Where event/error was detected
Ward……… Consulting room………. Pharmacy………… Others (specify)……………
6. Details of medicines involved in the event
SN Dosage form…….Generic Name……. strength……. Frequency…….. Duration……….
7. Please describe the error. Include the intervention/corrective measures taken
……
……………………………………………………………………………………
8. Indicate the possible error cause(s) and contributing factor(s)
Illegible prescription…………Wrong labelling on dispensing envelope or bottle/container………………Look alike medication/packaging…………… …….Inadequate patient information…….Others (Pleasespecify)………….
Standards and Practice Guidelines for Pharmaceutical Services
9. Which category made the initial error?
Doctor………… Nurse…………. Pharmacist…………….Pharmacy Asst…………. Physician Asst………………. Others (specify)…………..
10. Which category detected the error or recognised the potential error?
Doctor…… Nurse… Pharmacist.Pharmacy Asst . PhysicianAsst…………
Others (specify)……………
11. Did the error reach the patient?
Yes / No If yes Summary of error outcome
Caused no harm, no need for monitoring
Caused no harm, monitoring required
Caused temporary harm, treatment required
Caused permanent harm
Near death event Death
12. Details Of Reporter *(optional)* Name of Facility Name/Designation of Reporter
Mobile number

Institutional vaccines/sera monthly returns
Institution: …………………………………………………………………….………...
Month: …………………………………………………………………………...……..
Type of Vaccine/Sera: ………….
Balance B/F: …………………………………………………………………………...

Date:
Name of Patient :
Registration Number :
Quantity Prescribed :
Quantity Used :
Remarks:
Balance
C/F………………………………………………………………………………
Prepared by: Name …………………….Signature ………….Rank …………….…
Date …

Counter signed by: Name ……………....Signature……..… Rank ………Date ………

Defective product complaint form
1. Complaint:
a. Complainant b. Complaint c. Date d. Time
2. Identity of product a. Name of product b. Dosage form c. Batch number d. Manufacturing date e. Expiry date f. Source of product
3. Problem verification
a. Describe patient reaction
i. How used ii. When last administered iii. Duration of use iv. Other medications
v. For what indication product is used vi. Known allergy / Idiosyncrasies etc.
b. Describe product defect
i. Dis-coloured ii. Tablet broken iii. Bad consistency iv. Did not dissolve v. etc.
4. Report on preliminary investigation
Date …….Time…
5. Action taken after preliminary investigation
a. Continue use b. Suspend, recommend alternatives and investigate c. Inform management 6. Final investigation result/report
7. Action taken after final investigation
a. Recall b. Continue use
Head of Dept:…………………………..……………………………..
Signature:…………………………...……………………………..
Date form was completed:……………………………………………..
Dangerous drug record form(this a table)
No. Date Supplied- Name of Drug -Quantity Supplied
Name & Address of Recipient- Signature of Supplier Signature/Thumbprint of Recipient
Name & Address of Giver of Prescription

Prepared by: Name …………………….Signature ………….Rank …………….…
Date …

Counter signed by: Name ……………....Signature………. Rank ………Date ………

Tracer medicines list for health centres(table)
NAME OF FACILITY: …………………………………….
DATE: ……………………
No. -Generic Name -Available
Institutional psychotropic quarterly drugs report
INSTITUTION: ……………………………………………………………………
QUARTER: ……………………………………………………………………..
Date- Drug Opening Stock- Quantity procured- Quantity Available- Quantity issued Balance- Average Monthly Consumption- Expiry Date- Remark
Prepared by: Name …………………….Signature …………Rank …………….
Date …

Counter signed by: Name ……………....Signature………. Rank ………Date ………
Quarterly drugs report
REGION: ……………………………………………………QUARTER: …………
…………
No.-Generic Name- Expiry Date- Opening Stock-Quantity Purchased- Quantity Available- Quantity Used- Closing Stock-Unit Price-Value of Closing Stock

Prepared by: Name …………………….Signature …………Rank …………….
Date …

Counter signed by: Name ……………....Signature………. Rank ………Date ………

Managerial Accounting

This module is intended for back office finance administration staff. It allows the finance managerial staff to manage various aspects of the facilities financial such as chart of accounts, general journal, general ledger, payment modes & budgeting. Key highlights are as follows:

1. Financials: Viewing & management of chart of accounts, general journal, general ledger, payment modes & budgeting.
2. Bank: Viewing, management and transaction reconciliation of bank account details .
3. Configuration: Management of products & service price lists, suppliers, insurance providers, medical schemes, consultant fees & ledger mapping.
4. Debtor Management: Management of debtor details such such as claim schedules, eClaims processing, client deposits, bulk allocation.
5. Invoice & Voucher Settlement: Settlement of debit & credit notes.
6. Reports: Viewing of various financial reports such as daily collections, daily payments, receipt summary, patient count summary, debtor & creditor statements, debtors ageing report, comprehensive income, insurance allocation & settlement, unposted revenue & units P&L reports.
7. Financial Statements: Viewing of financial statements such as trial balance, income statement, balance sheet & cash flow statement.

Inventory Management

The inventory module is allows various relevant staff tasked with the responsibility of managing stock items to manage & carry out operations such as inventory items management, store management & purchase management. Key highlights are follows:

1) Inventory Management: Provices management of inventory item details such as store location, batch details, cost, ledger mappings, etc.
2) Store Management: Management of storage area details, internal requisitions, stock level adjustment & batch items exipiry.
3) Revenue Analysis: Revenue summary reports based on billable items / services, department units, in-patient, outpatient & staff.
4) Purchase Management: Management of purchase requisition, purchase orders, LSO requisitions & LSO processing.
5) Supplier Management: Management of supplier / vendor details.
6) Inventory Reports: Detailed reports giving insights of the inventory stock item such as stock movement report, stock adjustment report, product consumption trends, store product levels, stock replenishment report, purchase deliveries & spot check tracking report,specific product report.
7) Approvals:To maximize the control process by setting the approval steps before processing the purchasing order.Example unit head approve purchase order before it moves to [[Head of Finance or HR] to [CEO or Admin]] =>make an option to activate and deactivate approval (Implement staffs to request they need a product)
8) Stock Out and Over Stock Prevention
Threshold levels and warnings to ensure that stock is always on hand, but staff are prevented from over-ordering stock that’s re-order levels.
9) Receipt Management
Ability to manage goods received, including multiple partial deliveries.like you ordered four from a supplier and he brings part.

Radiology
The radiology module is for use by radiologists & it manages all radiology services provided by the facility. As the radiology tests are booked, the request is automatically sent to the respective radiology department.

1. Test Scheduling: Calendar/Slot-wise views by day/week for one/multiple resources with automated patient SMS/email alerts.
2. Patient Flow Management: Capturing arrival state at the diagnostics department. ~~The system supports manual updating of test results or send/receive automated HL7 messages from equipment or external RIS/DICOMS/PACS~~. (Allow entry of pdf/image/docx) scan results
3. Inventory Tracking: The system automatically tracks and updates consumables consumption based on the service accorded to the patient.
4. Report Generation and Sign-off: Generate template based test reports, capture user and print signed off doctor signature or import PDF results from outhouse/external RIS applications.
5. Equipment Integration: The system should have RIS integration to facilitates the examination process in radiology services, including result entry and interpretation, as well as attachment of imaging results.PACS/DICOM viewers, external RIS.

.**Out Patient**
The out-patient module is designed for doctors & clinicians encounter interaction with their patients. Users can access medical records, capture doctors notes, request for imaging, lab investigations & prescriptions. Key highlights are follows:

1) Medical Records: Access patient's medical history, triage vitals captured by the triage nurse and pediatric growth charts for infants.
2) Doctor's Notes: Capturing of HPI(get the HPI document for input from client), chief complaints, physical examinations, clinical profile, & patient management notes & diagnosis.
3) Treatment: Capturing / ordering for treatment (minor & major procedures), family health procedures, anciliary care treatment & drug prescriptions.
4) Investigations: Request and view investigations (laboratory tests & imaging). Doctors can also view radiology study images from the module.
5) Calendar: Scheduling & viewing of patients patient appointments.
6) Medical Reports: Access a collection of clinical & operational detailed medical reports. Clinical reports entail diagnosis summary, laboratory tests, patient vists summary, vaccination register & diagnosis register.The operational reports entail current admissions, ward admissions & ward bed occupancy.
7) Traditional Medicine Tracking: Optional field to record patient use of traditional/herbal medicines in medical history.

Vital Checking at In-Patient

Date & Time	Patient ID	Temp (°C)	HR (bpm)	RR (breaths/min)	BP (mmHg)	SpO_2 (%)	RBS/FBS	Weight (kg)

In-Patient Module:

The in-patient module is designed for doctors & clinicians encounter interaction with admitted patients. Users can access medical records, capture doctors notes, request for imaging, lab investigations & prescriptions. Key highlights are follows:

1) Billing: Automatic daily billing based on the configured ward charged & service accorded to the patient.
2) Theater: Scheduling of surgery procedures and booking of theater rooms. It also allows capturing of operation notes, pre-theater checklist & post-theater checklist.
3) Blood Transfusion: Requesting of blood transfussion procedures which gets sent to the laboratory.
4) Labor Monitoring: Allows doctors and clinicians to view partograph details as captured by the maternity nurses.
5) Medical Records: Access patient's medical history, nursing care notes, vitals captured by the nurses and pediatric growth charts for infants.
6) Doctor's Notes: Capturing of HPI, chief complaints, physical examinations, clinical profile, & patient management notes & diagnosis.
7) Treatment: Capturing / ordering for treatment (minor & major procedures), family health procedures, anciliary care treatment & drug prescriptions.
8) Investigations: Request and view investigations (laboratory tests & imaging). Doctors can also view radiology study images from the module.
9) Calendar: Scheduling & viewing of patients patient appointments.
10) Medical Reports: Access a collection of clinical & operational detailed medical reports. Clinical reports entail diagnosis summary, laboratory tests, patient vists summary, vaccination register & diagnosis register. The operational reports entail current admissions, ward admissions & ward bed occupancy.
11) Transfer:Easy transfers between units means that patients can be moved faster
12) Discharge Summaries:Upon discharge from a critical care unit, a discharge summary can be produced for ward doctors so that they do not have to read the detailed clinical information entered by the critical care unit.
13) Admission, Discharge, and Transfer:Must Support the process of admission to inpatient care, transfer between rooms, and discharge of patients.
14) Referrals and Follow-up Appointments:Making referrals or appointment for follow-up examinations after patient discharge can be done easily.
15) Traditional Medicine Tracking: Optional field to record patient use of traditional/herbal medicines in medical history.

Nursing

The nursing module manages all the nursing operations for both out-patient and in-patient. It allows nurses to capture nursing care notes, cardex, vitals as well as access medical history. Key highlights are follows:

1. In-Patient Care: Allows nurses to view current ward admissions and manage patients nursing care notes / cadex, treatment, labour monitoring, theater queue & shift summary.
2. Out-Patient Care: Allows nurses to attend to queued patients by viewing & recording triage vitals, administered treatment (minor & major procedures, injection, vaccination & ancillary care).
3. Labor Monitoring: Allows nurses to capture & track partograph details for patients in labour.
4. Medical Records: Access patient's medical history, nursing care notes, pediatric growth charts for infants and vitals captured by the nurses.
5. Medical Reports: Access a collection of nursing operational detailed medical reports. The operational reports entail current admissions, ward admissions & ward bed occupancy.
6. Morgue
7. The morgue module manages all the morgue operations. The journey starts either from the in-patient module (for in-patient mortalities) or patient register module (for deceased persos brought from outside). The following are the key highlights of the module;
8. Billing: Automatic daily billing based on the service accorded to the deceased.
9. Register: A register listing all morgue admissions and cabinet allocations. Morgue staff can mark the deceased as received or mark as released.
10. Procedures: Allows the morgue staff to record treatment accorded to the deceased i.e embalming.
11. Reports: Access a detailed report of mortalities handled by the facility.

Business Intelligence

The business intelligence module allows various stakeholders to view various reports. It also comes packed with analytics & dashboards for various roles, e.g., CEOs, clinical managers, finance, and nurses. Key highlights are as follows:

1. Operations Analysis: Dashboards & reports of various facility operations such as patient visit analytics, clinical processes, inventory trail & service backlog,
2. Collection Analysis: Summary payment collection reports such as unit monthly summary, payment mode summary, casheer collection & debtor collection.
3. Revenue Analysis: Revenue summary reports based on billable items / services, department units, in-patient, outpatient & staff.
4. Performance Analysis: Department / units summary reports showing the income perfomnace baseed on the following details ledger account, MTD expenditure, MTD income, MTD net profit, YTD expenditure, YTD income & YTD net profit.
5. Financial Statements: Viewing of financial statements such as trial balance, income statement, balance sheet & cash flow statement.

6. Medical Reports: Collection of clinical & operational detailed medical reports. Clinical reports entail diagnosis summary, laboratory tests, patient vists summary, vaccination register & diagnosis register. The operational reports entail current admissions, ward admissions & ward bed occupancy.
7. Inventory Reports: Detailed reports giving insights of the inventory stock item such as stock movement report, stock adustment report, product consumption trends, store product levels, stock replenishment report, purchase deliveries & spot check tracking report.
8. Operational reports:Ability to generate operational reports to facilitate the day-to-day processes.
9. Performance reports:Ability to generate performance reports to monitor the performance of each department.
10. Non-functional reports:Ability to generate reports that are not directly related to the operational processes, such as user security access and audit log.
11. Data Visualization:Clinical and hospital statistical data should be visualized into graphical dashboard for easier monitoring and tracking
12. KPI monitoring:Ability to help hospital management and directors to monitor key performance indicators that include, but not limited to:
13. Average Length of Stay
14. Bed Occupancy Ratio
15. Bed Turn Over
16. Outpatient Visit Rate
17. Turn Over Interval
18. Barber Johnson Graph
19. Other performance indicator monitoring

    Ability to facilitate tracking and monitoring other performance indicators in the hospital

Human Resources

The HR module allows the facilities HR admin staff to manage the information of all their staff (both permanent & contractual). This module is tightly integrated with both the payroll & manegerial accounting modules. The following are the key highlights:

1) Employee Information: Management of employee employment details (job group, job scale, benefits, employement type), tenure, conduct cases, etc.
2) Leave Management: Management of time off or leave requests from staff. Other operations include leave adjustment and leave approvals.
3) Training: Plan an schedule for staff training. Training material can also be uploaed and shared with a specific target group.
4) Performance: Manage performance reviews by creating KPI review templates for each role designation which will be completed by the staff and their supervisors.
5) Reports: A collection of detailed reports such as termination reports, employee status changes, new hires, leave entitlement reports, perfomnace reports, turnover analysis, shift audit etc.

Payroll
The payroll module allows the facility's finance admin staff to manage and process payroll of all their staff (both permanent & contractual). This module is tightly integrated with both the human resources & managerial accounting modules. The following are the key highlights:

1. Payroll Processing: Management of payroll period & processing approval levels. Bank payment schedules can be generated once the payroll has been processed.
2. Earning Configuration: Configuration of staff earning & benefits, earning categories, ledger linkage, job group / scale and individual staff earning.
3. Deduction Configuration: Configuration of payroll deductions such as deduction types, deduction category, ledger linkage, staff advance repayment schedule & staff individual deduction.
4. Relief: Management of staff personall & insurance relief.
5. Reports: A collection of detailed reports such as tax deduction , payment deductions, payroll aggregate, variance report, payroll item listing & earning matrix.

Asset Register
The asset register allows the hospital administration maintain the information about their assets in an organized fashion. This module tightly integrates to the inventory & managerial accounting module. The following are the key highlights:

1) Register: Management of asset information details such as capitalization, revaluation, exchange, and transfer of assets. The following is a sample of information captured: Name, category, make, model, location, serial number, asset tag, current value, depreciation percentage, etc.
2) Purchase Order: Management of asset procurement. Purchase order creation for assets can also be initiated and processed from this module.
3) Accounting Linkage: The calculation, recording, and reporting of depreciation of an asset, as indicated by the organization's depreciation policy can be achieved via this module; this information is incorporated into the manegerial accounting module.
4) Depreciation Calculation: All items in the asset register have a unique identification and used for calculation of depreciation, including year-wise Net Asset Value.

CRM
The CRM module is a mobile SMS based communication channel that the facility can use to interact with its customers by scheduling both bulk and individual messages. The following are the key highlights:

1. OutBox Messaging Scheduling of both bulk messaging to a target contact group or single contact.
2. InBox Messaging: Allows the facility's admin staff to read responses & messages sent by customers via SMS/Whatsapp.
3. Contact Management: Allows the facility's admin staff to manage message recipient contacts as well as target groups contacts.
4. Timely reminders for appointments strengthen patient-provider relationships and retains recurring patients.

Sales & Marketing

This module has been designed to help more established facilities with sales and marketing staff to better manage their day to day operations by keeping track of of their sales campaigns, workplans and set targets. The following are the key highlights:

1) Campaign Management Allows users to create and manage campaigns, leads, campaign schedules & work plans. (creating campaigns means ability to send patients and vistors via mail about the campaign (enter campaign texts and images)
2) Enquiries: Allows the users to access a list of products and services offered by the facility.
3) Reports: Access to the campaigns dashborads, work plan targets report, achievements report, feedback analysis & referring facility statistics.

Quality Assurance

The quality assuarance module empowers the hospital clinical administration staff to set integrity enforcement / restrictions on the offered services based of various patient parameters such as age, gender, vitals range limit, etc.

1. Clinic Age & gender restrictions for queueing patients to specific clinics i.e Child Welfare Clinic only accepts children below 5 years.
2. Vital Type: Age, gender and range indicators restrictions on which specific vitals can be captured. i.e UAC readings can only be applied to infants below 5 years.
3. Minor Procedures: Age & gender restrictions for specific minor procedures i.e IUD procedures can only be applied to the female gender of ages above 18 years.
4. Major Procedures: Age & gender restrictions for specific minor procedures i.e C-Section procedures can only be applied to the female gender.
5. Family Health: Age & gender restrictions for specific family heath procedures i.e Injectible contraceptives procedures can only be applied to the female gender of ages above 18 years.
6. Ancilliary Care: Age & gender restrictions for specific ancilliary care services i.e ITNs can only be distributed to persons above 18 years.
7. Vaccine: Age & gender restrictions for specific vaccination services i.e HPV vaccine can only be administered to female of ages above 9 years.
8. Prescription: Age & gender restrictions for specific prescription treatments i.e Doxycycline medication for Malaria can only be administered to persons of ages above 12 years.
9. Laboratory: Age, gender and range indicators restrictions on which specific laboratory tests can be requested for i.e HVS can only be applied to female patients.
10. Radiology: Age & gender restrictions on which specific radiology imaging examinations can be requested for i.e Breast MRI can only be applied to female patients over 12 years.

Board

The Board is a global module that is accessible to all system users in the facility and has no role permission restrictions. It's used for common global functions such as purchase requisitions, store requisitions, leave request, etc. The following are the key highlights;

1) Notifications Create and view internal memos commmunication.

2) Requests: Initiate payment requests, imprest request, staff salary advance requests & transport request.
3) Requisitions: Initiate store item requisition, purchase requisition & LSO requisition,
4) HR & Payroll: View payslips, view payroll details (Earning & benefits, deductions, relief), view leave entitlement, leave request, view training invitations, view training material, respond to performance reviews & bank account details.

OTHERS

1. GHS Compliance: Auto-generate reports on notifiable diseases (malaria, cholera) and maternal mortality for district health directorates.
2. Local Language Dashboards: Offer admin analytic in English, French, Twi,

3. Localisation

4. Multi-Language UI: Support English, French, Twi,. Allow switching languages mid-session.
5. Local Formats: Use GHS currency, DD/MM/YYYY dates, and address autofill by region/district
6. Antenatal/Postnatal Tracking: Schedule ANC visits, immunization reminders, and growth monitoring for children under 5.
7. High-Risk Alerts: Flag high-risk pregnancies for referral to tertiary hospitals.