

Hospital Management System (HMS) is a complete hospital suite serving all functional areas of the institution. Each of the department's work processes are in tandem with the system's business process. It user friendly software. The software is designed for multi-specialty hospitals, to cover a wide range of Hospital administration and management processes. It is an integrated client server application which uses .net technology and user choice database like SQL Server / Oracle. The software is open-ended and could be customized to the specific requirement of the hospital. The software could run seamlessly on hospitals regardless of their size. It could cater to both a 5-bed hospital as well as 5000-bed configuration

Modules	الأنظمة
<b>- Clinical Systems:</b>	
Patients Master Index	نظام تسجيل و فهرسة المرض
Out Patient And Clinic Management	نظام العيادات الخارجية و التخصصية
In Patients Management	نظام إدارة المنومين
Accident and Emergency	نظام الطوارئ
Medical File Recording	نظام السجلات الطبية
Medical Records Tracking	نظام متابعة موقع الملف الطبي
Doctor Desktop	نظام معاونة الأطباء
Global Order Entry	نظام الأوامر الطبية
Nursing Care, Admin and Patient Care Planning	نظام وحدات التمريض
Check List	نظام التأكد من الجودة
Admission Scheduling	نظام جدولة التنويم
Out Patient Waiting List	نظام قوائم الانتظار
<b>- Specialty Systems:</b>	
Pharmacy Order Processing	نظام الصيدلية – الوصفة الطبية
Pharmacy Unit Dose	نظام الصيدلية – الجرعة الواحدة
Laboratory Information System	نظام المختبر
Laboratory Quality control	نظام جودة المختبر
Radiology Information System	نظام الأشعة
Blood Bank	نظام بنك الدم
Operating Theatres And Anesthesia	نظام العمليات الجراحية و التخدير
Physiotherapy	نظام العلاج الطبيعي
Maternity & Delivery Room	نظام حجرات التوليد
Renal Dialysis	نظام وحدة غسيل الكلى
<b>- Financial Systems:</b>	
Budgeting Management	نظام الميزانية
Purchase Order Processing	نظام المشتريات

Inventory Management	نظام المستودعات
Accounts Payable	نظام حسابات الموردين
Patient Billing	نظام الفوترة
Patient Contracts	نظام التأمين الطبي
Accounts Receivable	نظام المقبوضات
Cash Book	نظام صندوق النقدية
Costing Management	نظام التكاليف
Fixed Assets Management	نظام الأصول الثابتة
General Ledger	نظام الأستاذ العام
Payroll	نظام الأجور و المرتبات
<b>- Administrative Systems:</b>	
Personnel Management	نظام شؤون الموظفين
Vacations and Ticketing	نظام الأجازات و التذاكر
Staff Scheduling	نظام جدولة الموظفين
Staff Housing	نظام إسكان الموظفين
Dietary and Nutrition	نظام التغذية
Maintenance Control System	نظام الصيانة الطبية و غير الطبية
System Security and rules	نظام السرية و الصلاحيات
Transcription & Deficiency Tracking	نظام متابعة و إكمال الوثائق الطبية

## Patient Admission Management

### Registration

The following information about each patient is captured during registration.

- Hospital ID
- ID No. / Iqamam / Passport No with Expiry date
- Patient Name
- Patient Fathers name
- Patient Family name
- Insurance Card Number
- Insurance Company Name
- Insurance Card Expiry Date
- Date of Birth with Automatic Age Calculation
- Weight
- Nationality
- Gender
- Religion

- Patient's Address
- Phone and GSM No.
- Next of Kin with address
- Employer with address
- Occupation
- Other Hospital ID and Hospital name
- Referring Doctor / Hospital
- Blood Group
- Allergies
- Chronic Diseases
- Family History
- Disabilities
- Patient Category (VIP - Management / Diplomat Etc.)
- Date & Time of Registration
- Name of registration clerk
- Warning / Alert about Patients: (The module has a field to alert staff when a patient has been identified as having relevant significant history. This Field is Password Protected)

Patient numbers will be system generated for both outpatient and inpatient. A patient registration card could be system generated, which is given to the patient. This card will be brought by patient for each visits

Search facility:

It is possible to search for a patient based on:

- Patient ID
- Saudi ID / Iqama / Passport Number
- Family Name
- First Name
- Fater's Name
- Company Name
- Insurance Card No.
- Date Of Birth
- Last Visit Date
- Telephone Number
- GSM Number

Demographic details will be shared with the following departments:

- Admissions
- Cashiers
- Wards
- Theatre

The system will Reports daily, weekly, monthly total of :

- patients seen
- admissions
- Patient Admitted and Discharged
- Patients is Waiting List

Emergency cases could or couldn't be treated before payment as desired by hospital.

The system will be having an integrated booking diary for outpatient appointments. An appointment slip will be generated and given to the patient. This diary will be visible to consultant when patient visits the consultant.

Since patient registration is system driven, the system will automatically separate outpatients from inpatients in all reporting and enquiry functions. All the patients are registered in system. History is maintained for each one of them

The following information will be entered for every visit:

- \* Arrival time
- \* Priority - OPD or emergency
- \* Consultants name
- \* Time seen
- \* Clinical notes

Outpatient department will select the appropriate charge code like first visit, follow up visit, free etc.

The system will automatically pick the applicable description when the fee/charge is entered.

The module will be able to book appointments for the pre-defined clinics in the hospital.

The system will cater for the fast lane queue - they pay more for consultation and have to book appointments before they arrive at the reception.

The Patient Name Labels could also be generated.

## **OPD**

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### Nursing

Inpatient details will be picked from the reception area.

The system will be able to queue patients as they arrive or on appointment basis

The following details about patients will be entered in the observation room:

- \* Temperature
- \* Pulse
- \* Respiration
- \* BP
- \* Priority - OPD or emergency
- \* Patients weight
- \* Consultants name
- \* Clinical notes

The system will make a provision for patients who are dead on arrival.

Laboratory and x-ray results will be sent back from the testing point over the network.

Authorised personnel will have online access to laboratory testing progress.

OPD personnel will have access to the bed status i.e. total number of beds, beds available and beds occupied for all wards.

Assigning of new admissions to wards and bed numbers will be done from the OPD department by the Sister-in-Charge.

On the first admission of a patient, a permanent record is created on the Master Patient Index. This data will be used for subsequent admissions.

The system will hold the following information about all wards:

- \* Ward name
- \* Total number of beds in each ward
- \* Bed numbers
- \* Room numbers in a ward if it is different from the bed numbers.

The system will have a list of all external consultants and their contact.

For revisits, patients history will be online.

It will be possible to enter any additional charges as they arise e.g. use of oxygen.

#### Doctors Desktop

System will be having a predefined glossary. Which will help the doctor in writing his clinical notes. Doctors can add new data in this glossary as and when they want.

The system will hold the Drugs list with brand name and generic name. The doctor can chose his prescription from Drug list and Dosage from Dosage list. Also system can hold details for the commonly used medicine in the diagnosed disease.

It will not be possible to edit clinical notes once they are entered and saved.

The doctor's module will capture patients demographic details filled in at the reception.

Laboratory results will be received via the network.

An out-of-stock list will be available from both the drug store and the pharmacy.

It will be possible to search for patients records using either the name or patient number.

#### In patient Management

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This module consists of administrative portion of the inpatient related functions and handles patient Admission, Discharge and Transfer.

Typically, rooms, wards are allotted at the time of admission. Booking for surgery etc. is done from the nurse station. The doctor gives discharge or transfer advise through the nurse station. Actual discharge is done through this module.

Admission: This function allows admission of patients in the hospital. Following types of admissions are possible: (a) Normal (b) Fast track. Normal admission goes through standard procedures. Fast track admission allows admission with minimum set of demographic details.

Transfer: This function allows user to transfer the patient from one ward/room to another ward/room.

### Discharge

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This function allows the ward to discharge patient from the ward after complying with all formalities. Discharge may be Normal, Maternity, Death, Maternity death and others. Accordingly reports such as birth report ,death report will be generated.

### Reception Module

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This module will carry out patient Registration.

This module will query patient appointment scheduling, Billing enquiries and location.

A Kiosk could be put at reception to help the relatives and friends to find out the patient locations.

The same kiosk could be used for finding out the medical facilities offered by the hospital.

### Clinic Management

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The system will allow for as many as clinics run by the hospital as well as by consultants.

The system makes it mandatory for patients to pay before they arrive at the clinic areas.

For all clinic payments made, the receipt number and amount paid will be reflected in patients records by the time they arrive at that specific clinic.

Patients details will be picked automatically from the outpatient department entry.

The following are possible.

- (a) Pre-definition of clinic rules such as start, recess, stop time.
- (b) Doctor defined/patient requested time slot for consultation/surgery should disable holidays.
- (c) System can permit over riding of holidays if required by doctor.
- (d) Pre-definition of doctors availability based on his days, other engagements, leave etc.
- (e) Maintenance of any number of clinics of any specialty.
- (f) Ensuring pre-requisites for any clinic.
- (g) System can record grade of doctor scheduled to see patient and who actually saw patient
- (h) System can generate list of patients seen by doctor on any day any time.
- (I) System can generate bills for services as desired.

### Scheduling/Rescheduling:

- (a) Maintenance of personal diary for clinical and non-clinical or personal engagements of doctors.
- (b) Scheduling of future appointments of doctor upto one year rolling.
- (c) Joint consultation by more than one doctor.

- (d) System can generate multiple appointments for same clinic or different clinics on same day.
- (e) The system can permit re-scheduling of appointments forwards or backwards
- (f) System provides clinic vacancy summaries in a user definable format. Consultants can be given request lists of their booked clinics one month in advance so that they can see vacancies and schedule follow up appoints accordingly.
- (g) System is capable of giving priority to patients previously cancelled.
- (h) System permits cancellations and rescheduling of outstanding of appointments by patient, clinic, doctor
- (i) System records referral letters from other consultants.
- (j) System permits query if patient does not remember his hospital ID while seeking appointment.

Pre-Consultation:

- (a) The system records time of arrival and departure of patient in a clinic.
- (b) The system checks compliance of pre-clinic requirements pertaining to each clinic, such as vision test for eye clinic etc.
- (c) System allows patients to be marked urgent, Soon, Routine etc. so that they can be given preference over normal patients. These patients will be given preference even if a reschedule is undertaken.
- (d) System allows patients to be given VVIP/ VIP / Normal status, to decide the priority to permit walk-in without prior appointment.
- (e) The system can serve a decision support role to the doctor or clinic manager.
- (f) The system permits carry forward of patients not seen to the next day or permits doctor to extend his clinic hours till the last wait listed patient is seen.
- (g) A patient arriving at hospital clinic for first time having made appointment over phone is directed to registry on arrival at the clinic for the registration formalities.
- (h) Visits involving a particular illness or any reason is treated as episode. Visits continue till patients get well and episode is closed - Patients can have concurrent episodes.
- (i) Priority is provided for Could Not Attends (CNA) for reasons not attributable to them.
- (j) Did Not Attends (DNAs) are given negative priority.

Consultations management

- (a) Consultation start time is flexible and determined by the doctor after returning from his ward duties, emergencies etc.
- (b) The doctor can preview various lists like joint consultation for the day, patients with urgency flag, patients Could Not Attend (CNA) in same episode, patients rescheduled earlier etc.
- (c) The doctor calls in a patient, previews his past records, his initial diagnosis prescribes a medicine, orders a test etc.
- (d) System gives a prior warning when it to go and readies next patient.
- (e) Doctor may suspend consultation and order for another test on pre defined formats which can be called on screen and post the patient to be seen later in the day or another day with test results.
- (f) Doctor may refer the patient to another doctor in which case system generates a referral number with date.

(g) Doctor may admit the patient in which case the patient is treated as I/P or he may close the episode.

(h) At the end of pre-appointed time slot system gives message consultation over. Doctor may overshoot by ignoring the warning.

(i) The system can generate reports doctor wise, clinic wise, speciality wise, no. of patients seen, no. of patients could not be seen, no. of patients did not attend etc

## Laboratory Module

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This module {also known as Lab Information System (LIS)}, facilitates in carrying out investigations and entry of investigation findings. Initially, investigation advice is given by consultants to diagnostic centre.

Diagnostic centre gets instructions from consultants through TEXHMS from clinics or wards. The patients sample is collected and his ID is bar-coded and loaded on to the machine with bar-coded instructions for the test. The machine is linked to the LIS portion of TEXHMS for bi-directional communication. The results are updated on to LIS and patients medical records.

For pathological tests microscopic examination results is manually entered

Bar coding and bi-directional communication ensure that correct tests are carried out and results posted to the correct patient every time. Since manual entry is done away with, chances for data entry error are eliminated.

Investigation, code wise, analysis wise and doctor wise diagnostic reports are taken for analysis.

The module will also be able to accept data about patients who:

- \* self request for particular tests
- \* External referrals

If any test is performed twice, an alert will be send out.

It will be possible to perform more than one test on a single specimen.

With appropriate security measures and approval from doctors pathologists will have access to records of patients for whom testing are being carried out.

The Laboratory module will keep track of patients movement within the hospital for purposes of result distribution i.e. inter-ward transfers.

The total cost for laboratory tests per patient will be calculated depending upon the number of tests performed.

For inpatients with tests prescribed daily for a specified duration, a standing order with the time of test specified will be placed.

It will be possible to track specimen from collection point to processing and finally the release of results.

Results that are not ready will have a processing message for any inquiries made.

The system will have a memo field for comments on unusual results.

The system will allow verification and approval of results by either the lab manager or the pathologist on duty.

All the tests will be having normal range for comparison.

## Pharmacy Module

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This module facilitates creation and maintenance of different stocking locations within a hospital with one main drug store and geographically dispersed sub stores. Reorder level is maintained for all items and purchase order is generated.

- While receiving drugs, stocks and corresponding details have to be updated.
- Expiring drugs are forecast.
- User can see supplier wise, location wise expiry list.
- System generates MIS reports as combination item, daily issues summary and daily purchase summary.

The module will accept prescriptions from the following sources:

- Outpatient department
- Inpatient department - treatment sheets
- Consultants
- Walk-ins

Prescriptions will give the following information:

- Patients details picked from OPD or ward
- Medicine and dosage
- Quantity of drug(s)
- Prescribing doctor
- Doctors signature

The system will be able to print prescription dosage labels.

The system will have a list of all drugs stocked in the pharmacy, their codes and prices per unit. New or revised prices will be entered periodically.

When drugs are returned from the ward it will be credited to the patients account. (Inpatients only)

### Main Store

The activity of the main store includes Maintaining Item and Vendor masters, Raising of Material Purchase Request, Receipt of material from Factory store/supplier, Processing indents and issue of material to different sections (like OPD counter, Laboratory, X-Ray dept, Nurses Room), Generating issues returns to the vendors and stock adjustments.

### SCOPE:

- Main Store
- Vendor Details
- Raising MPR
- PO Entry
- Items Receipt
- Inspection
- Return Note
- Damage Note
- Issues

- Local Purchase
- Adjustment of stock
- Valuation of items

## Nurses Module

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Nursing caters to the care requirements of the patients who are admitted in the hospital. Nursing care provided is based on instructions given by the attending doctor. The nurse follows the nursing instruction and updates the bedside information charts, monitors the vital functions - temperature, pulse and pressure, placing orders, administer medicine and any other function as desired by the doctor. All record of the patient is recorded in the system. This information is maintained as a part of the patient's medical records. The nurse gets the privilege to login into this module and the doctors can view some of the functionality.

The various activities carried out by nursing modules are listed below:

Doctor Assignments - The system allow the assignment of attending doctor and allow the change of consultants.

Patient look up - The system gives the facility to view the list of patients based on various parameters.

Monitoring - The system allows the nurse to record the monitoring details of temperature, pulse, pressure and any other parameter as prescribed by the consultant.

Ordering pharmacy and material & posting charges to folio - This involves the placing of orders for supply of pharmacy, material etc and posting charges to patient's folio.

Sub store - Nursing has substore functionality to keep some important material and keep its accounts.

Administering - The system records the details of the drugs administered to a particular patient with time and date during his stay in the hospital.

Diet intake - The system facilitates the recording of quantity of food taken by a patient for each meal as prescribed by the dietician.

Patient transfer and bed allocation - The system gives facility to transfer a patient and allocate bed to a new patient.

Discharge patient - The system give the facility to discharge a patient or revoke discharge.

## Operation Theatre

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This module records the matters regarding the Operation theater.

- Recording and managing OT related masters
- OT Scheduling.
- Managing waiting list & generating intimation to patients on waiting list.
- Tracking status of communication with patient.

- Listing of patients who do not respond to communication and removing the patient from the list with reallocation to new patient.
- Convenient access to order communication, Operation Theatre schedule etc.
- Display & Printing of O.T Schedule.
- Pre-operative check for the patient by surgeon, physician and anaesthetist.
- Recording details regarding an operation.
- Generating indents to materials, Pharmacy, Blood bank and CSSD departments.
- Recording nursing order for post operative care and monitoring.
- Posting of charges to patient folio.

### Blood Bank

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The main functionality of the blood bank system is to effectively carry out the function of collection, storage & Dispensing of the blood / blood product, for the efficient running of the blood bank.

Blood Bank Module carries the following functions.

- Recording site specific parameters for blood bank.
- Donor Registration.
- Lookup facility of available donors.
- Processing donor visit.
- Accepting blood samples.
- Component separation.
- Testing blood samples.
- Blood bank as sub-store of main stores.
- Blood inventory management.
- Request processing.
- Issue processing.
- Handling outside procurements and outside transfers.

### Sterilisation Service

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The main functionality of the Sterilisation Service Department (SSD) is to receive medical/surgical instrument, syringes, linen and other items from various clinical departments of the hospital for sterilisation, and to return these after sterilisation. The system keeps track of the accounts of material.

- The process involves the following functions.
- Recording receipt of items to be sterilised.
- Recording receipt of sets of items.
- Recording discarding of items.
- Recording washing and sterilising.
- Generating indents.
- Recording issue of items.
- SSD Reporting facility.
- P&L account of the department.

### Diet

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This module caters to the provisions of diet to inpatient as per the advice of the attending doctor and under direct supervision of the dietician. The

workflow of the diet management module can be divided into five different stages.

- Diet Prescription.
- Diet assessment.
- Food Planning.
- Distribution of exchange.
- Menu Planning.

Diet Management.

- Onsite customisable parameters.
- Facility to view patients diet requirements.
- Recording of dietician's assessment
- Development of food plan
- Planning the distribution of exchange
- Developing the menu plan.
- Sending an order to the kitchen.
- Browsing and altering the diet plan.
- Browsing the intake details.
- Diet plan templates.
- Diet management reports.

## Kitchen

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A kitchen serves as a sub-store to the general store. This section lists the additional facilities to be provided for the kitchen management modules

- Raising intends to main store.
- Selecting menu for the week.
- Meal order processing.
- Cash collections at canteen.
- Kitchen reports.

## Billing and Cash

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The system will allow for partial billing of an invoice amount.

The system will maintain daily AR billing control totals with supporting details.

It will be possible to generate tear-off remittance advices to be returned with payment.

The system will post cash receipts on-line.

The system will display all open customer invoices during payment posting.

The system will allow for partial payments to be applied.

It will be possible to write-off a receivable amount at the time of cash application.

It will be possible to use cash deposits to credit an open invoice.

It will be possible to store partial payments and over-payments as separate open items against the original invoice amount until the invoice is fully cleared.

The system will produce the following standard reports:

- Billing Statements, including beginning open items, new charges, credits and payments, ending open balance and aging recap. Other details include invoice number, date and date due, customer name, patients name, staff number, admission number and hospital number.
- Detailed Aging for each active customer showing open invoice across all customers.
- Customer Master List for all active customers including name, address, telephone number and contact person information.
- AR Invoice Register - list of automated and manually entered invoices with control totals.
- Billing and Payment History for all invoices, adjustments and payments by customer for a user-specified period of time.
- Cash Receipts Journal, list all payments received each day by either customer or receipt number.

The system will have a provision for deposits to be paid.

The system will have a facility to charge different rates for the same services rendered depending on the customer classification i.e. resident, non-resident or insured.

It will be possible to review on-line all static data relating to payment by:

- Cheque number
- Customer number
- Date of document

Invoice information:

- Admission date
- Discharge date
- Patient name and number
- Third party name and details
- Surgicals and drugs
- Theatre fees
- Use of machines fee
- Optional consultation fee
- Optional resident mother fee
- Miscellaneous charges

Cash receipts:

- Cheque number
- Amount
- Date of payment
- Date of entry
- Account number
- Allocation of cash received against various invoices.

Charges will be picked on-line from the following departments:

- Pharmacy
- Drug store
- Laboratory department
- X-ray department

- Theatre
- Casualty – outpatient
- Miscellaneous – from items used in ward e.g. cotton wool, spirit, and accommodation.

Cashiers will receive money under sundries for the following:

- Telephone calls made at the main reception
- Salary advance repayments
- Rent from the doctors
- Any other cash paid in

The system will alert cashiers when patients have overpaid.

### Medical Records

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The following functions are computerized:

Facility for entry and creation of a catalogue for International classification of codes for diseases (ICD-10) and International classification of codes for Procedures(ICP). This module provides facility for In Patients and Out Patients to enter ICD and ICP for diseases and diagnostics procedures and surgery procedures by users in Medical department.

This module will be integrated with Registration for picking up patient details on entry of patient ID. Facility will be provided by on-line help for users to view catalogue while entering.

Highly useful statistical report is generated under

- Surgery Medical Statistics
- OP Medical Statistics
- IP Medical Statistics
- ICD, Code wise Disease Statistics

### Eenterprise-wide scheduling

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The enterprise-wide scheduler's primary job is to provide a convenient facility to.

Schedule tasks/assignments for the resources in a hospital, and,

Schedule services provided by a hospital to patients i.e., determine and reserves specific days and times for the services to be provided to the patient.

Resources can be active, e.g., doctors, nurses, lab technicians, or passive, e.g., rooms, beds, etc. Active resources have working hours outside of which tasks cannot be assigned to it. In addition, an active resource may mark certain days and times as non-working or busy (e.g., during vacations or personnel appointments), as and when required by resources. No tasks can be assigned during these times either.

There are several services that a hospital provides to its patients. The following examples of services provided by a hospital.

- Lab investigations.
- OPD consultations.

- Radiology.
- IP admission.
- Services are available at pre-determined service centres. The schedules can be :
  - One time schedule.
  - Repeat schedule.
  - Event driven schedule etc.

It has the following functional modules.

- Site specific customisable parameters.
- Calendar manager.
- Scheduling of service orders.
- Managing waiting lists.
- Cancelling schedule.
- Re-scheduling a schedule.
- Display of current schedule for a department.
- Checking in a patient for a scheduled service.
- Availability of the scheduler functionality.
- Scheduling reports

### Housekeeping

The main functionality of the Housekeeping Department is to manage the procurement, storage, retrieval, circulation, use and disposal of various Housekeeping items. In order to provide the highest quality housekeeping and linen management services to the Health care industry. A conscientiously applied Housekeeping program is necessary to provide a safe, pleasant and functional environment for both the patients and personnel.

- Sub Stores - Inventory Management.
- Raising Indents in Sub Stores.
- Issuing Items.
- Discarding Items.
- Linen Sent for Cleaning.
- Receiving Cleaned Linen.
- Released Beds.

## Financial Accounting

### Chart of accounts

The chart of accounts will include:

Categories for assets, liabilities, revenue & expenditure

- Cost & profit centres for
  - \* each ward
  - \* laboratory
  - \* theatre
  - \* catering

- \* pharmacy
- \* OPD
- \* miscellaneous
- Input details for each new account will include:
  - \* Code
  - \* Title
  - \* Description
  - \* Opening balance

## Purchase ledger

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### 1.1 Ledger structure

- (a) The purchase ledger will be fully integrated to the general ledger and the cash book.
- (b) The format of the supplier code will be at least eight alpha-numeric characters.
- (c) The supplier codes in each ledger will be capable of being maintained in separate ranges.
- (d) It will be possible for mnemonic abbreviations to be set up for use in accessing supplier accounts during:
  - \* transaction entry,
  - \* enquiry
- (e) Periods for accumulating and reporting purposes will be defined as calendar months within a one year reporting framework.
- (f) The following types of transaction will be allowed for:
  - \* supplier invoices,
  - \* supplier debit notes and credit notes,
  - \* adjustment journals and quasi services for donations, bonuses and discounts,
  - \* payments (both automatic and manual),
  - \* cash receipts (refunds).
  - \* returns outwards

### 1.2 Supplier master file record

- (a) A facility will be available to add, modify or delete supplier master file records at any time.
- (b) The following user maintainable fields will be on the supplier record:
  - \* code,
  - \* name,
  - \* address,
  - \* payee name (if different from the supplier),
  - \* payment address (if there is a different payee),
  - \* telephone number,
  - \* fax number,
  - \* credit terms,
  - \* discount terms,

- \* payment method,
- \* currency of the account,
- \* contact names.
- (c) The due date of payment will be calculated from the transaction date plus the details for:
  - \* standard credit terms,
  - \* discount terms.
- (d) It will be possible to append comments to a supplier record, and for such comments to be amended without accessing the supplier file maintenance menu (e.g. during supplier enquiry).
- (e) The system will maintain an annual turnover field per supplier.

### 1.3 Irregular suppliers

- (a) It will be possible to set up an "irregular suppliers" account for processing transactions for rarely used suppliers so as to obviate the need to set up individual master file records.
- (b) It will be possible to see the identity against each transaction on enquiry on the "irregular suppliers" account.
- (c) It will be possible to pay invoices on the "irregular suppliers" account through the automatic payment processing function.

### 1.4 Invoice register

- (a) The system will incorporate an invoice register facility by which invoices can be logged prior to entry in the ledgers.
- (b) The system will record to whom invoices have been sent for approval and coding.
- (c) Invoices will be posted to the purchase and general ledgers only on input of the full general ledger coding.
- (d) It will be possible to input only the missing components to initiate posting to the purchase and general ledgers of invoices already input.
- (e) Reports will be generated showing:
  - \* who is holding what invoices,
  - \* the total value of invoices outstanding,
  - \* invoices outstanding for more than a specified period,
  - \* the date that the invoice was sent to an individual for approval.

### 1.5 Invoice input

- (a) The system will validate stocks so that it rejects input from the invoice if the pricing is different from the PO.
- (b) The purchase manager will be the sole person with authority to revise varied prices.
- (c) If transaction batching is used by the system, it will support batch control on input. Agreement of batch controls will be mandatory before batches are accepted for a posting.
- (d) Bar Codes will be allocated by the system.

- (e) Batches will be limited to:
  - \* a single Expiry,
  - \* a single Sales Price.
- (f) The minimum number of transactions required to constitute a Bar-Code will be one.
- (g) Items will be written to a "holding" file, and will be available for recall and modification before posting.
- (h) Agreement of batch controls will be mandatory before batches are accepted for posting.
- (i) It will be possible for valid batches to be posted selectively by the user.
- (j) It will be possible for supplier accounts to be looked up during transaction entry, using the alpha abbreviation.
- (k) It is anticipated that the following fields will be input on supplier invoices if purchase order processing is not used:
  - Header level:
    - \* supplier code,
    - \* transaction reference (internal),
    - \* supplier transaction reference,
    - \* transaction date,
    - \* due date calculated by the system from the credit terms,
    - \* posting period,
    - \* transaction value,
    - \* order number (to which the invoice relates),
    - \* narrative (for purchase ledger entry),
  - General ledger breakdown:
    - \* general ledger account code,
    - \* general ledger narrative,
    - \* value,
    - \* debit/credit indicator,
    - \* quantity (optional field),
    - \* analysis code (see general ledger requirements).
- (l) There will be no practical limitations to the number of general ledger postings which can be input on a transaction
- (n) It will possible for the calculated date to be overridden during data input (either at batch input or at full general ledger coding input) and to specify a different due date.
- (o) When a different due date is specified, there will be an exception report on the transaction flagged on the payment report.
- (p) It will be possible for transactions entered into the purchase ledger to be given a default status, e.g. `authorised for payment` or `not yet authorised`.

#### 1.6 Payment cycle

- (a) The payments procedure will use transaction discounts, and due dates to generate a list of proposed payments for approved invoices.
- (b) By default the system will exclude unmatched invoices, but have a facility to force such generation.

- (c) The proposed payment lists will be able to be run at any time.
- (d) It will be possible to select items for payment interactively by the following methods:
  - \* all items older than an input date,
  - \* all outstanding items on an account,
  - \* individual items on an account,
  - \* all items up to "X" Saudi Riyals in total.
- (e) The system will be able to prevent payments to suppliers of more than a user specified amount.
- (f) The criteria for a proposed payment run will be able to be stored so that they need not be entered several times during a run.
- (g) It will be possible to specify certain items as "suspended" and therefore not to be brought up for payment until unsuspending.
- (h) The proposed payment list will also show for each supplier authorised items not yet due for payment and suspended items.
- (i) This list will be used as the basis for selecting payments, but with facilities to modify or delete them as follows:
  - \* specific exclusions:
    - by supplier,
    - by invoice,
  - \* inclusion of items not yet due or suspended,
  - \* part payments,
  - \* additional discounts.
- (j) If a supplier item is selected for non-payment, such status will attach to the supplier or invoice until deleted, i.e. it must be specifically unset to allow payment in the future.
- (k) The payment list will show both the discount taken and the net cash due:
  - \* by supplier,
  - \* by invoice per supplier.
- (l) The system will automatically take account of debit notes or credit notes in determining the net amount due.
- (m) Payment will not send a supplier into a debit balance state, although this will be possible to override.
- (n) The payment will support automatic payment by:
  - \* check,
  - \* letter of credit,
  - \* cash.
- (o) The system will produce a remittance advice for all payments made (irrespective of method of payment).
- (p) Cheques and remittance advices will be printed in the same sequence.
- (q) The remittance advice layout will be user defined.
- (r) The remittance advice will contain, at a minimum, the following information:
  - \* supplier name and address,
  - \* supplier account code (internal),

- \* transaction references (internal and external) and net amounts for items settled,
  - \* net amount settled,
  - \* where there has been part matching, all relevant transactions.
- (s) The system will maintain a cumulative register of cheques
  - (t) In the event of a printer problem it will be possible to restart printing for the last good check.
  - (u) It will be possible for a check printing run to be declared void after production of the cheques.
  - (v) A check register print will be generated automatically immediately after printing.
  - (w) The system will provide tight security controls to avoid check duplication.
  - (x) Payments will be posted to the cash book automatically and will automatically update the general ledger:
    - \* supplier ledger control account,
    - \* bank account,
    - \* settlement discount account,
    - \* expense accounts.
  - (y) It will be possible to specify from which bank account a payment run is made.
  - (z) Cash payments generated during a run will be posted and allocated against the transactions to which they relate.

## 1.7 Allocation

- (a) Manual cash payments, purchase credit notes and adjustments entered into the purchase ledger will be allocated by the user at the time of input against uncleared transactions on the supplier account on one of the following bases:
  - \* unallocated,
  - \* allocate to specific transactions,
  - \* allocate to a range of transactions,
  - \* allocate to oldest transactions,
  - \* allocate to whole account.
- (b) The system will provide a facility for allocating transactions already on an account against each other.
- (c) During allocation, the system will display all unallocated transactions on the screen, or a user defined range of such transactions.
- (d) Where more than one screen of transactions is displayed, the user will be able to move rapidly backwards and forwards between screens.
- (e) A facility will be available, suitably protected, to `undo` allocations previously carried out on an account.
- (f) It will be possible, during screen enquiries on cleared transactions, to see which transactions have been cleared against each other on an account.

## 1.8 Data output

### 1.8.1 Posting to general ledger

- (a) It will be possible to post purchase ledger transaction information to the nominal ledger in detail or summary form.
- (b) It will be possible to post to previous and future general ledger accounting periods and years as well as the current period.

### 1.8.2 Enquiry facilities

- (a) The following information will be displayed on input of supplier code:
  - \* supplier name, address and telephone number,
  - \* payee name, address and telephone number (if different),
  - \* credit terms,
  - \* account balance analysed by period,
  - \* individual transactions in date sequence, including paid items and suspended items,
  - \* entries on the invoice register.
- (b) The fields shown at transaction level will include:
  - \* transaction type (i.e. invoice, credit note, journal etc),
  - \* transaction date,
  - \* transaction period,
  - \* transaction reference (internal),
  - \* transaction reference (suppliers),
  - \* order number,
  - \* narrative (if any),
  - \* net amount due.
- (c) The system will be able to display the items paid by a selected payment
- (d) The system will be able to display the general ledger postings arising from a selected transaction, without having to exit from the purchase ledger module to the general ledger.
- (e) It will be possible to enquire on the purchase ledger without exiting the application currently being worked on.
- (f) It will be possible to ask for a selective display of transactions by:
  - \* period,
  - \* date,
  - \* payment status,
  - \* transaction type,
  - \* batch,
  - \* combination of the above.

### 1.8.3 Reporting facilities

- (a) A creditors report will be produced on demand, showing balances for:
  - \* all creditors,
  - \* user defined range of creditors,
  - \* optional inclusion of open items, supporting the balances.
- (b) An aged creditors report will be produced on demand for:
  - \* all creditors,
  - \* user defined range of creditors,
  - \* account balances aged over 1 month, 2 months and 3 months & over.
  - \* aged by transaction date,

- \* aged by due date.
- (c) The information on the aged creditors report will be available at transaction level as well as supplier level.
- (d) Transaction aging periods will be user definable.
- (e) An open item transaction report will be produced on demand for:
  - \* all creditors,
  - \* user defined range of creditors.
- (f) The system will provide a report of unallocated cash or credit notes.
- (g) The system will provide a projected cash outflow report based on invoice due date analysed by future period. The user will be able to vary the periods to fit in with the payment cycle.
- (h) A turnover report will be available listing the turnover by supplier for the current financial year.

## Accounts Payable

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### **General Features**

AP1 The system will be able to handle on-line data entry for:

- \* vendor details
- \* voucher entry
- \* payment processing

### **Vendor Information**

AP1 Vendor codes will be alphanumeric with a minimum of 4 characters.

AP2 The vendor code will be either system generated or manually entered.

AP3 A short name, mnemonic or vendor codes will be used to access vendors during transaction entry and enquiries.

AP4 The system will cater for the following information on the vendor record:

- \* vendor code
- \* vendor short name
- \* vendor name
- \* vendor address
- \* vendor telephone
- \* vendor facsimile number
- \* vendor contact person
- \* vendor type
- \* optional or user-defined multiple credit terms or contract information
- \* currency details
- \* payment method
- \* credit limit
- \* last date of activity

- \* lead time
- \* history
- \* GL codes for purchases, creditors and cash

AP5 It will be possible to set up an "irregular suppliers" account for processing transaction for rarely used suppliers or one-time vendors.

AP6 The system will produce a listing of vendors with no activity for a specified period of time.

### Voucher Entry

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The system will provide:

- \* invoice register facilities
- \* certification of invoice values

The system will optionally register and certify the invoice at the same time.

The system will record to whom invoices have been sent for either approval, GL coding or adjustment.

The system will allow for the following fields in the transaction record:

- \* vendor code
- \* vendor reference invoice number
- \* transaction reference for internal use
- \* invoice type
- \* terms
- \* invoice date
- \* invoice receipt date
- \* posting date
- \* due date
- \* period
- \* gross amount
- \* discount
- \* net amount
- \* optional quantity
- \* optional unit price
- \* transaction currency
- \* currency rates
- \* payment method e.g. cheque
- \* bank details
- \* order number and link to order details e.g.. item code, type, order quantity
- \* GL code
- \* hold information - before updating GL
- \* status code - delivered or not
- \* flag prepaid for items

The system will check for duplicate vendor invoice numbers.

There is no limit to the number of lines per invoice.

General ledger code distributions will be entered on:

- \* purchase orders
- \* vendor record
- \* individual lines on an invoice

GL distribution codes will be validated online in the AP and invalid transactions rejected.

The system will check that the total recorded against the distribution lines equals the total invoice sum.

The system will be able to handle discounts as either a percentage or an amount.

The system will automatically post a discount to the correct general ledger account for discounts.

It will be possible for a group of invoices to be authorised for payment together.

Matching will be available for both:

- \* the whole invoice and
- \* line by line

It will be possible to process and authorise a goods received note.

A credit note can be matched with parts of one invoice

Amount transactions entered on-line can be posted at the end of the day or period.

Posting will update the

- \* accounts payable
- \* general ledger

### Processing Options

AP1 The system will allow processing of more than one accounting period typically previous and future periods.

AP2 The system will handle accruals with automatic reversal in the next period.

AP3 The system accept open item accounting.

AP4 It will be possible to search using:

- \* supplier name
- \* supplier short name
- \* invoice number
- \* invoice reference
- \* purchase order number
- \* cheque number
- \* transaction date

### **Payments**

AP1 It will be possible to process manual cheques and they will appear on the cheque register.

- AP2 The system will provide automatic processing of recurring payment transactions.
- AP3 It will be possible to specify an end date for recurring payments.
- AP4 It will be possible to report automatic payment on a separate payment register.
- AP5 It will be possible to pay more than one cheque for a vendor.
- AP6 It will be possible to stop payment of a specific invoice temporarily.
- AP7 It will be possible to make a payment during the same processing cycle that the invoice was entered.
- AP8 It will be possible to pay invoices as specified without regard to the payment scheduled date.
- AP9 The system will allow for part payments to be made.
- AP10 It will be possible for individual items to be paid on the next payment date to be listed in advance of the cheque processing cycle.
- AP11 Duplicate payments will be identified and alerted.
- AP12 Individual general ledger codes will be specified for each bank account.
- AP13 The system handle advance payments.
- AP14 The interface with the general ledger will allow the cheque number reference to be passed into the general ledger to assist with bank reconciliation's.
- AP15 If a posted payment is voided, the GL posting will automatically be reversed.

### **Cheque Printing**

- AP1 The system will print cheques with the remittance advice above the cheque.
- AP2 Customisation will be possible.
- AP3 The cheque printing routine will print asterisks characters to fill up the numeric and description blocks not being used in the amount and word fields of the cheque.
- AP4 There will be a line up facility for the beginning of the cheque printing process.
- AP5 There will be a recovery procedure in the event of a failure in the cheque printing process.
- AP6 The system will have controls to prevent the same cheque from being printed in both the original and the recovery process run.

### **Cheque Reconciliation**

- AP1 The system will provide cheque reconciliation capabilities.
- AP2 Gaps in cheque sequence will be identified and reported.
- AP3 A listing of outstanding cheques will be provided.
- AP4 Voided, cancelled or returned cheques will be reconciled.
- AP5 During reconciliation, the system will calculate uncleared payments by vendor.

### **Cash Management**

- AP1 A report will be generated before the payments run to list payments to each

vendor.

- AP2 Current invoices input be can be temporarily and selectively held.
- AP3 There a will be a cheque voiding routine to delete a payment from the run.
- AP4 The system will produce comprehensive cash requirements reports:
  - \* by period planned payment run date
  - \* by bank
- AP5 The system will show amounts expected to be paid in all planned payment runs in a user specified period.
- AP6 cash requirements reports and enquiries will take into account projected payments in respect of goods received but not invoiced.

### **Purchase Order Processing**

- AP1 The system will facilitate matching, of purchase orders, receiving reports and vendor invoices.
- AP2 Matching will be available for both:
  - \* the whole invoice and
  - \* manual matching.
- AP3 The system will produce exception reports of unmatched invoices.

### **Foreign Currency**

- AP1 The system will maintain open items in both local and foreign currency (if the need arises).
- AP2 The system will maintain standard currency exchange rates for each foreign currency.
- AP3 For exchange rate the following decimal places will be used for:
  - \* input (at least 3)
  - \* calculations (at least 7)
  - \* output/reporting (At least 3)
- AP4 The system will handle multiple standard exchange rates for a given currency based upon effective dates.
- AP5 It will be possible to override the standard currency exchange rate with each input transaction.
- AP6 When the standard exchange rate is overridden, an output report will be generated showing:
  - \* the standard exchange rate
  - \* the overridden exchange rate
  - \* the person entering the override transaction.
- AP7 For user-defined items postings and account balances will be maintained in both local currency and user-defined foreign currencies.
- AP8 The system will calculate foreign exchange gains/losses.
- AP9 The system will post foreign exchange gains and losses to a user defined general ledger code at either:
  - \* payment generation or

- \* after reconciliation of a payment

### **Interfaces**

AP1 The user will have the option to post to the general ledger:

- \* at the detail level and
- \* summary level by voucher

AP2 The general ledger will be posted at the same time as the accounts payable subsidiary ledger is posted.

AP3 The system will support interfaces to other systems including:

- \* purchasing
- \* receiving
- \* general ledger
- \* stock control

### **Generic Capabilities**

AP1 It will be possible to request standard output records by:

- \* range of vendor numbers
- \* range of posting dates
- \* due dates

### **Vendor Purchase Analysis (Reports)**

AP1 It will be possible to report a purchase according to the following options:

- \* major vendors
- \* foreign

AP2 There will be a report summarising purchase and payment history by vendor.

AP3 There will be a report listing open items and paid items.

AP4 There will be a report of unmatched invoices.

AP5 The system will print vendor statements.

AP6 The system will produce a vendor ledger listing:

- \* by vendor number
- \* alphabetically

AP7 The system will be able to produce an accounts payable invoice/voucher register.

AP8 The system will produce an aged outstanding balance report by vendor in both detail and summary.

AP9 Aging bands ( e.g.. 30,60, 90 days)

### **Enquires**

AP1 On-line enquiry capabilities will exist to report:

- \* all open invoices per vendor
- \* vendor payments activity

- \* standard terms
- \* vendor purchase activity:
  - this period
  - previous periods
  - previous years
- \* payments matched to specific invoices
- \* transactions with different status indicators

AP2 The system will perform on-line sorted enquiries whereby all vendor information is presented at the user's option:

- \* in posting date sequence
- \* in voucher number sequence
- \* in due date sequence
- \* in payment status sequence

### **Audit Listings**

AP1 A register of cheque numbers will be maintained by the system.

### **Adjustments and Corrections**

AP1 The system will print debit/credit memos

AP2 The system will automatically generate and post debit/credit notes to the general ledger.

AP3 The system will be able to relate a debit/credit note to a number of invoices for one vendor.

### Sales ledger

#### 1.1 Ledger structure

- (a) The sales ledger will be fully integrated with the general ledger and cash book.
- (b) The structure will have a facility for third party (employer or insurer) billing so as to ensure the correct company or insurer is billed.
- (c) All employees under one company or a particular medical cover will have individual accounts.
- (d) The structure will allow covered claimables to be billed separately to the responsible third party and non-covered (e.g. telephone) items to be billed to the individuals.
- (e) When an employee leaves a company it will be possible to delete them from the scheme but still maintain any outstanding bills to that company.
- (f) The patient numbers will be system generated at the OPD by OPD system (3<sup>rd</sup> Party SW)
- (g) It will be possible for a mnemonic abbreviation to be set up for use in accessing accounts during:
  - \* transaction entry,
  - \* enquiry.
- (h) There will be a facility for patients to be linked where they form part of a group e.g. company cover. Such a facility will not be dependent on the account code.

- (i) Periods for accumulating and reporting purposes will be defined as calendar months within a one year reporting framework. It will be possible for the user to define other periods if desired.
- (j) The sales ledger will be an open item, i.e. all transactions will be retained on the system until cleared.
- (k) It will be possible to post to all nominal ledger accounts through the sales ledger.
- (l) The sales ledger will be able to receive transactions automatically from a separate invoicing module.
- (m) The following types of transactions will be for:
  - \* inpatient invoices,
  - \* inpatient credit notes,
  - \* adjustment journals,
  - \* cash receipts,
  - \* cash refunds.

## 1.2 Patient masterfile record

- (a) The following user maintainable fields are required on the patient record:
  - \* patient number,
  - \* patient name,
  - \* date of birth
  - \* patient address,
  - \* patients next of kin,
  - \* next of kin contact - telephone, fax, email, pager
  - \* name of company or insurer liable
  - \* contact of company or insurer
  - \* contact person at company or insurer institution
  - \* credit terms,
  - \* cover limit,
  - \* invoice address
  - \* is the patient covered for outpatient or only inpatient.

*Additional items for inpatient*

  - \* attending physician
  - \* some patients are covered for inpatient and others not.
  - \* optional - the mothers bed charges
- (b) It will be possible to append comments to a patient record, and for such comments to be appended without accessing the patient file maintenance menu (e.g. during invoice entry).
- (c) It will be possible to modify and delete a patient, company or insurer when patients are no longer covered or the company/insurer withdraw from their scheme from Mohammad Dossary Hospital Co.
- (d) It will not be possible to delete a patient, company or insurer account unless there is no account balance or transaction activity on the account.
- (e) It will be possible to record an annual sales budget against each company or

insurer account.

### 1.3 Irregular patients

- (a) It will be possible to set up an "irregular patients" account for processing transactions with one-off patients so as to obviate the need to set up individual master file records.
- (b) For these accounts, the identity of the patient will be shown against each transaction:
  - \* on account enquiry,
  - \* in cash allocation.

### 1.4 Invoice input

- (a) If transaction batching is used by the system, it will support batch control on input. Agreement of batch controls will be mandatory before batches are accepted for posting.
- (b) Batch numbers will be allocated by the system.
- (c) Batches will be limited to:
  - \* a single period,
  - \* a single transaction type.
- (d) The minimum number of transactions required to constitute a batch will be one.
- (e) Batches will be written to a holding file, and will be available for recall and modification before posting.
- (f) Agreement of batch controls will be mandatory before batches are accepted for posting.
- (g) It will be possible for valid batches to be posted selectively by the user.
- (h) It is anticipated that the following fields will be input for generation of invoices if sales order processing is not used:
  - \* patient number,
  - \* invoice reference,
  - \* invoice date,
  - \* due date,
  - \* period of service delivery,
  - \* value,
  - \* sales ledger narrative (minimum 20 characters),General ledger breakdown:
  - \* general ledger account code,
  - \* general ledger narrative,
  - \* value,
  - \* debit/credit indicator,
  - \* quantity (optional field),
  - \* stock code and description,
  - \* analysis code.
- (i) The system will calculate the due date from the patient's, company's or insurer's credit terms for any invoices input.

- (j) The calculated due date can be overridden by the user.

### 1.5 Cash posting and allocation

- (a) Cash can be posted and allocated in one step.
- (b) Allocations within an account can be based on any of:
  - \* allocated to specific transactions,
  - \* allocated to oldest transactions,
  - \* allocated to whole account.
- (c) Transactions can be part paid as well as fully paid.
- (d) During the allocation, the system will display all unallocated transactions on the screen, or a user defined range of such transactions.
- (e) Where more than one screen of transactions is displayed, the user will be able to move rapidly backwards and forwards between screens.
- (f) Items for allocation will be selected by cursor movement or by entering a line number, rather than keying in the reference number of each item.
- (g) A facility will be available, suitably protected for undoing allocations previously carried out on an account - it will be done before updating the nominal ledger, thereafter it will be a journal adjustment.
- (h) It will be possible during screen enquiries on cleared transactions, to see which transactions have been cleared against each other on an account.

### 1.6 Data output

#### 1.6.1 Posting to general ledger

- (a) Items entered into the sales ledger will be posted to the general ledger automatically.
- (b) It will be possible to post sales ledger transaction information to the nominal ledger in detail or in summary form.
- (c) It will be possible to post to previous and future general ledger periods as well as the current period from the sales ledger.

#### 1.6.2 Enquiries

- (a) The following information will be available on specification of a patient, company or insure number or code:
  - \* patient, company or insurer name and address and other static data,
  - \* account balance analysed by period,
  - \* individual transaction details in date sequence (including items paid but not yet cleared from the transaction file).
- (b) The fields displayed at item level will include:
  - \* reference,
  - \* type,
  - \* description,
  - \* date,
  - \* due date,
  - \* initial value,

- \* outstanding value,
- \* early settlement date,
- \* discount available,
- (c) The system will be able to display the general ledger postings arising from a selected transaction, without having to exit from the sales ledger module to the general ledger.
- (d) It will be possible to ask for selective display of transactions by:
  - \* period,
  - \* transaction dates,
  - \* payment status,
  - \* transaction type,
  - \* transaction reference,
  - \* batch,
  - \* combination of the above.

### 1.6.3 Reporting

- (a) A debtors report will be produced on demand showing outstanding balances for:
  - \* all debtors,
  - \* user defined range of debtors,
  - \* optionally including open items supporting the balances.
- (b) An aged debtors report will be produced on demand for:
  - \* all debtors,
  - \* user defined range of debtors (either individual or third party),
  - \* account balances aged over current and three earlier periods,
  - \* aged by transaction date,
  - \* aged by due date,
  - \* displaying account balances only, or all uncleared transactions within the accounts as well as the balances.
- (c) Transaction aging periods will be user definable by month rather than by accounting period.
- (d) The system will provide a report of unallocated cash, credit notes and credit adjustments.
- (e) The system will provide a projected cash inflow report based on invoice due dates, analysed by periods.
- (f) Statements will be printed on demand.
- (g) Statements will be selective by:
  - \* all open item debtors,
  - \* user defined range of debtors.
- (h) A statement will show uncleared transactions from the previous month's statement and all the current month's items. The system will have the option of suppressing cleared transactions for previous periods or printing them.
- (i) Transaction information shown on a statement will include:
  - \* invoice date,

- \* invoice reference,
  - \* original value,
  - \* where there is part payment, both invoices & receipts,
  - \* debit and credit values in separate columns,
  - \* aging analysis over current, 1, 2 and 3+ months,
  - \* highlighting on overdue items.
  - \* patients name
- (j) It will be possible for statements to be suppressed for specific customers (part of customer setup master details).
- (k) The system will produce standard chasing letters, based on the age of the debt. It will be possible to specify:
- \* choice of letter,
  - \* age of debt,
  - \* customers to be suppressed.

## Accounts Receivable

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### ***General features***

- AR1 The system handle on-line data entry for:
- \* Customers and
  - \* Billing/Invoicing
- AR2 The system will maintain paid items in the open item file until month-end.
- AR3 With the appropriate security it will be possible to purge all paid invoices on file for a user-defined period.
- AR4 The system will be able to display the open item/balance forward status and aging for a customer.
- AR5 The system will allow invoices, credit/debit notes and payments to be entered.
- AR6 The system will automatically generate invoice information from orders existing on the system.
- AR7 Customer statements will be generated at period end.
- AR8 Invoice numbers will be generated by the system.
- AR9 The system will maintain customer balances on open item basis.
- AR10 It will be possible to define the following aging categories: current, 30, 60, 90,120,180 days.
- AR11 Adjustments to the AR module will be recorded including a reference number and reason.
- AR12 With appropriate controls the system will display:
- \* Customer name and address
  - \* Telephone number
  - \* All open items and paid items for the current and previous months.
  - \* Aged balances

### **Credit management**

- AR1 The will system track full exposure by customer (i.e. customer credit limit minus outstanding receivables).
- AR2 The system will permit authorised users to override customer credit limits.
- AR3 The system will permit credit note entries to update accounts receivable and sales analysis.

### **Credit/Debit Memos and Adjustments**

- AR1 Debit and credit note entries will be handled individually.
- AR2 The system will be able to handle internal adjustment (e.g. negative credit notes).
- AR3 Credit note numbers will be generated either by the system or manually.
- AR4 Any credit notes generated within the system will affect invoice balances.
- AR5 Debit /credit notes can be printed on request.

### **Billing**

- AR1 The system will allow for partial billing of an invoice amount.
- AR2 The system will maintain daily AR billing control totals with supporting details.
- AR3 It will be possible to generate tear-off remittance advices to be returned with payment.

### **Cash Application**

- AR1 The system will post cash receipts on-line.
- AR2 The system will display all open customer invoices during payment posting.
- AR3 The system will allow for partial payments to be applied.
- AR4 It will be possible to write-off a receivable amount at the time of cash application.
- AR6 It will be possible to use cash deposits to credit an open invoice.
- AR7 It will be possible to store partial payments and over-payments as separate open items against the original invoice amount until the invoice is fully cleared.

### **Inquiries**

- AR1 It will be possible to search and view customer data by:
  - \* Customer code
  - \* Customer name
- AR2 It will be possible to review on-line, all customer accounts above their assigned credit limits.
- AR3 It will be possible to review on-line all customer accounts past due.
- AR4 It will be possible to review on-line activity for specific accounts.
- AR5 It will be possible to review on-line customer aging and other statistic data such as last payment date.
- AR6 It will be possible to review on-line all static document data for customer accounts by:

\* Customer number

\* Receipt numbers

AR7 It will be possible to review on-line all static data relating to payment by:

- Cheque number
- Customer number
- Date of document

### **Reports**

AR1 The system will produce the following standard reports:

\* Billing Statements, including beginning open items, new charges, credits and payments, ending open balance and aging recap. Other details include invoice number, date and date due, customer name, patients name, staff number, admission number and hospital number.

\* Detailed Aging Trial Balance for each active customer showing open invoice and AR activity (e.g. payments, debit and credit memos, write-off, comments) and summary total balance across all customers .

\* Customer Master List for all active customers including name, address, telephone number and contact person information.

\* AR Invoice Register - list of automated and manually entered invoices with control totals .

\* Credit/debit Notes Register for all memos generated .

\* Billing and Payment History for all invoices, adjustments and payments by customer for a user-specified period of time.

\* Cash Receipts Journal, list all payments received each day by either customer or receipt number.

\* Sale Journal, list invoices sent by customer, invoice number, customer code, amount due and related general ledger account.

\* General Ledger Distribution to summarise the distribution of AR general ledger transactions by account and date.

### **Data items required for the systems**

AR1 Customer Data:

\* Customer number

\* Customer name and address

\* Contact name

\* Credit limits

\* Customer type

\* Customer group

\* Credit and payment records

\* Date account open

\* Year-to-date sales

\* Last year sales amount

\* Last date activity

AR2 Customer billing and payment history:

- \* Date and amount of last billing
- \* Date and amount of last payment
- \* Year-to-date billing and payment

AR3 Invoice information:

- \* Admission date
- \* Discharge date
- \* Patient name and number
- \* Third party name and details
- \* Surgicals and drugs
- \* Theatre fees
- \* Use of machines fee
- \* Optional consultation fee
- \* Optional resident mother fee
- \* NHIF rebate
- \* Miscellaneous charges

AR4 Credit Note information:

- \* Customer number
- \* Invoice number
- \* Amount of credit
- \* Reason for credit
- \* Authorisation reference
- \* GL account distribution

AR5 Cash receipts:

- \* Cheque number
- \* Amount
- \* Date of payment
- \* Date of entry
- \* Account number
- \* Allocation of cash received against various invoices.

**Interfaces**

AR1 The system will support interfaces to/from other systems including:

- \* General Ledger - cash receipts, sales invoices, and credit notes.
- \* Inventory
- \* Order Entry/Invoicing - invoices and credit notes posted to AR accounts.
  
- \* Sales Analysis - sales and credit note information will be automatically provided to the sales analysis application

- AR2 The user will have the option to automatically post to the GL at:
- \* a detail level
  - \* a summary level by period

### **Audit Trails**

AR1 The system will produce an audit trail of all entries or changes to:

- \* Invoices
- \* Credit Notes
- \* Debit Notes
- \* Cheques/Payments

2.3.63 The system will print portions of the audit trail for:

- \* Specified customer accounts
- \* Specified GL account

## Cashier Requirements

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### ***General requirements***

- C1 Patients information will be picked from the casualty department. Admission Module (3<sup>rd</sup> Party SW)
- C2 This information should include: (3<sup>rd</sup> Party SW)
- \* Patients names
  - \* Date of birth
  - \* Consultant
  - \* Ward patient is admitted to
  - \* Bed number
  - \* Admitted by
  - \* Sex
  - \* Religion
  - \* Residential address
  - \* Saudi resident or non-Saudi resident
  - \* Next of kin
  - \* Next of kin address
  - \* Identification of the person, institution or medical scheme paying the bill
- C3 The admissions module should have a facility for printing adhesive labels with necessary demographic information such as patients name, ward, bed number, date of admission, age and estimated discharge date.
- C4 The admissions module should have a provision for Gosi no entries.
- C5 The system will have a provision for deposits to be paid.
- C6 There should be a provision for following dates and time:
- \* Admission date
  - \* Discharge date
  - \* Date of departure

- \* Admission and discharge time for day care cases.
- C7 The system should be able to hold information about the following modes of payment:
  - \* Cash
  - \* Credit card - at least 12 digits
  - \* Cheque
- C8 Third party billing will cater for payments by:
  - \* Company
  - \* Medical card
  - \* Insurance cover
- C9 There will be different ward charges for the following:
  - \* Child's bed/cot daily rate
  - \* Mothers bed daily rate - either lodger or resident
  - \* Special Care Unit daily rate
  - \* Late discharge rate
- C10 The system will have a facility to charge different rates for the same services rendered depending on the customer classification i.e. KSA resident, non-resident or insured.
- C11 Daily rate charges will be numeric.
- C12 The daily charge rate will cover accommodation or and meals.
- C14 Charges will be picked on-line from the following departments:
  - \* Pharmacy
  - \* Drug store
  - \* Laboratory department
  - \* X-ray department
  - \* Theatre
  - \* Casualty - outpatient
  - \* Miscellaneous - from items used in ward e.g. cotton wool, spirit, and accommodation.
- C15 The invoice will pick up patients details from either casualty or admissions.
- C16 The invoice will pick up the following daily charges:
  - \* Bed charges
  - \* Drugs and dressings
  - \* Theatre drugs
  - \* Theatre fee
  - \* Laboratory fee
  - \* Medical officer
  - \* X-ray fee
  - \* Resident mother charges for child patients
  - \* Cannula fees
  - \* Incubator fee
  - \* Admission fee

- \* Clinics
- \* Sundries
- Machines*
- \* Theatre gas charges
- \* Cardiac monitor fee
- \* Servo Ventilator
- \* Nebulized oxygen
- \* Phototherapy
- \* Grouette
- \* Heater
- \* Steam
- \* Airshield warmer fee
- \* etc. will be decided at the time of implementation

C17 All charges are numeric.

C18 The net amount due will total all daily charges and deduct the deposit paid from the total due.

C20 The inpatient system will have a reservations module to facilitate advance booking.

C21 Cashiers will receive money under sundries for the following:

- \* Telephone calls made at the main reception
- \* Salary advance repayments
- \* Rent from the doctors
- \* Any other cash paid in

C22 The system will alert cashiers when patients have overpaid.

### ***Data input***

C1 The system will allow for rebates on bed charges.

C2 The following details will be input for the person paying the bill:

- \* Mode of payment
- \* Name of paying person or company
- \* Address
- \* Telephone number(s)

C4 If the mode of payment requires a card or company letter to be submitted, there will be an indication.

C5 The system will have a provision for financial notes for details such as payment arrangements, poor track record of paying, details of guarantors.

C6 Well wisher (mother) will have the option to be either resident or lodgers.

C7 For resident well wisher (mother), the system will hold the following information:

- \* name
- \* Patients name

- \* Mode of payment
  - \* Name of paying person or company
  - \* Credit card name and number (when applicable)
  - \* Date of admission
  - \* Ward of admission
  - \* Admission number
- C8 It will be possible to enter the following all relevant charges.
- C9 All charges are numeric and greater than 10
- C10 Reservations will have the following features:
- \* Bed reservations
  - \* Theatre scheduling and slot allocations
  - \* Occupancy projections
  - \* Confirmation letters, fasting instructions incase of surgery patients
- C11 Cashiers will receive money under sundries for the following:
- \* Telephone calls made at the main reception
  - \* Salary advance repayments
  - \* Rent from the doctors
  - \* Any other cash paid in
- C12 The system will hold the following forms:
- \* Admissions
  - \* Discharge
  - \* Company claim form
- C13 It will be possible to enter and delete names of employees and their dependants.
- C14 Over weekends the cashiers give out funds for emergency purchases, the system will have a provision for this.

### ***Data stored***

- C1 The deposit field will not be less than 999.99
- C2 If the mode of payment requires a card or company letter to be submitted, the system will flag.
- C3 When theatre appointments are entered, the system will display the number of times the procedure has been performed, its average duration and the average length of stay this and last year for the consultant in question and for all consultants.
- C4 The theatre diary will be optionally available online.
- C5 The system will contain a list of all companies who provide cover for their employees.
- C6 The system will contain a list of all employees (in the medical schemes) and their dependants.

### ***Data output***

- C1 The module will calculate a daily rate total and net amount due.

- C2 It will be possible to print unnumbered interim invoices for in-patients on request.
- C3 Doctors receive their cheques from the cashiers. The system will be able to print a list of all doctors in this list and print a pick-up list which the doctors will sign.

#### *Reports*

- C4 It will be possible to print any of the following reports as the need arises:
  - \* A daily record of all admissions
  - \* A daily record of all discharges
  - \* Admissions register
  - \* Discharge register
  - \* Daily and monthly deposits paid
  - \* Daily, weekly and monthly credit card summaries
  - \* Doctors bill
  - \* Inpatient invoices
  - \* Liability form
  - \* Cheques
  - \* Daily and monthly revenues with a facility to display or print in detail and summary.
    - by department
    - by consultant
    - by service type or account code
  - \* Bed occupancy with dates admitted and estimated discharge date, accumulated charges, by ward and consultant.

### CASH BOOK

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#### 1.1 General requirements of an hospital

- (a) The system will be capable of maintaining up to unlimited current and deposit accounts.
- (b) The cash book will receive automatic postings from the purchase and sales ledgers and the payroll system, together with manual batch posting of other payments and receipts.
- (c) The cash book will be integrated with the general ledger. Postings will update specified general ledger accounts and general ledger cash book balances.
- (d) The system will facilitate bank reconciliations, using bank statements input either manually or automatically.
- (e) Receipts and payments from the sales and purchase ledgers and the payroll will be posted as separate posting runs.
- (f) A full audit trail of cash book transactions will be produced automatically.

#### 1.2 Data input

- (a) The system will support input on a batch basis. Batch numbers will be system by users.
- (b) The following references will be posted to the cashbook:

- \* customer/supplier account number,
  - \* transaction reference number,
  - \* general ledger full code,
  - \* transaction amount.
- (c) Bank giro credit references will be made up of the customer account number and the transaction reference number; the customer name will be brought up automatically on input of the customer account number.
- (d) For manual receipts and payments there will be fields for:
- \* cheque number (for payments),
  - \* narrative to allow for payee name or narrative on receipts,
  - \* general ledger code(s),
  - \* amount.
- (e) Batch totals will equate with banking amounts to enable matching by the system on the automatic bank reconciliation.
- (f) When entering a bank statement, either automatically or manually, there will be fields for:
- \* cheque number,
  - \* amount,
  - \* date on statement,
  - \* reference number for bank giro credits.

### 1.3 Data stored

- (a) The following data will be stored within the system:
- \* balance on each bank account,
  - \* uncleared cheques,
  - \* standing orders and direct debits,
  - \* bank account details for payments by direct debit.
- (b) The system will aggregate totals of payments and receipts on a daily, weekly and monthly basis on the following classification:
- \* sales ledger,
  - \* purchase ledger,
  - \* other receipts,
  - \* other payments.
- (c) The system will maintain totals for other receipts and other payments by general ledger posting code and this information will be available on enquiry.
- (d) It will be possible to load onto the system a budgeted cashflow following these main categories and for the system to report actual cashflow against budget showing variances for these main categories. It will be possible to alter the forecast.

### 1.4 Data output

- (a) The following reports will be produced:
- \* a daily position report on each account including details of receipts and payments with totals for each, and for all accounts aggregated,

- \* full audit trail reports on a monthly basis,
  - \* bank reconciliation report for each bank account
  - \* general ledger distribution report with total for each general ledger account
  - \* automatic cheques,
  - \* remittance advices,
  - \* a cashflow position report against budgeted cashflow.
- (b) It will be possible for the user to access the individual payee names for automatic cheque runs without having to access the purchase ledger or payroll modules.

## Company Requirements

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- C1 It will be possible to extract the following details in any combination in the claim forms:
- \* Patients full names
  - \* Employees medical numbers
  - \* Nature of illness
  - \* Cause of illness
  - \* If the ailment is congenital
  - \* HIV question
  - \* Clinical summary
  - \* Nature of treatment given
  - \* For inpatients the following details:
    - Average length of stay in the hospital
    - Names of drugs used for treatment
    - Surgical supplies used
    - Names of surgical supplies used
    - Consultants name
    - Ward of admission
- C2 For companies that have a medical scheme with **Mohammad Dossary Hospital**, it will be possible to print out a patients daily list (both in and out patient).
- C3 The claim forms will be able to include the following optional information:
- \* Cost of procedures
  - \* Whether or not the mother is admitted with the child
  - \* Standard charges e.g. for consultation, admissions, etc
  - \* Standard fee structures chargeable by consultants

## Fixed assets

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### 1.1 General

- (a) There will be no restriction on the number of assets held.
- (b) The name of the company will be displayed at all times.

- (c) There will be an interface with the general ledger.
- (d) There will be an interface with the purchase ledger.
- (e) There will be additions to an asset subsequent to initial purchase (eg sunroof for a car). There can be up to 10 additions to an existing asset.
- (f) Assets will be grouped together to form a larger asset, eg a PC and a printer form a computer system.
- (g) The straight line life in years depreciation methods will be used:
- (h) There will be no restriction on the number of general ledger categories (eg freehold land) set up.
- (i) Assets will be allocated to departments.
- (j) It is intended that the depreciation history for each asset will be held indefinitely, but it will be possible to purge this information selectively by asset type.
- (k) The system will maintain details of Regional Development Grants per asset.

## 1.2 Transaction input

- (a) Asset reference codes will consist of 10 alphanumeric characters.
- (b) The system will optionally be able to generate a sequential number per asset.
- (c) Asset descriptions will be up to 100 characters long.
- (d) It will be possible to access any asset by reference codes.
- (e) Original cost and cumulative depreciation to date will be entered for existing assets.
- (f) Each asset will have its own useful life, but this will default to the asset category life.
- (g) When assets are re-categorised, eg from long leasehold to short leasehold, the system will transfer all balances automatically.
- (h) The following transactions will be analysed to the responsible department:
  - \* additions,
  - \* adjustments,
  - \* disposals,
  - \* depreciation,
  - \* profit/loss on disposal.
- (i) There will be separate accounts up-dated in the general ledger for each asset category for:
  - \* cost b/fwd,
  - \* additions,
  - \* adjustments,
  - \* disposals,
  - \* profit/loss on disposal,
  - \* depreciation b/fwd,
  - \* depreciation for the period,
  - \* depreciation on disposals.
- (j) Transactions will be posted to the general ledger on command.
- (k) Gains and losses on disposals will be calculated and posted automatically.

### 1.3 Depreciation calculations

- (a) Calculation of depreciation can be run for all or a range of assets.
- (b) A flag will be maintained within the system to indicate the state of the calculation, eg:
  - \* ready to run depreciation this period,
  - \* depreciation has been calculated this period,
- (c) The depreciation calculation will generate a general ledger distribution report containing postings by general ledger code for the period.
- (d) It will be possible to run the depreciation calculation:
  - \* monthly,
  - \* quarterly,
  - \* annually.
- (e) It will be possible to weight calculations according to the number of weeks within the period.
- (f) The depreciation calculations can be based on straight line over x years
- (g) Depreciation for the year will be automatically added to the depreciation b/fwd at the start of the next year.
- (h) Depreciation will be rounded to the One Saudi Riyal.

### 1.4 Data stored

- (a) The following details will be held for each asset:
  - \* asset reference code,
  - \* description,
  - \* short name,
  - \* memorandum notes (optional, and up to 1,000 characters),
  
  - \* depreciation type,
  - \* depreciation formula,
  - \* addition date,
  - \* disposal date,
  - \* asset category (general ledger category),
  - \* asset life,
  - \* remaining life (if not derived),
  - \* cost,
  - \* expected final written down value (WDV),
  - \* depreciation:
    - period,
    - year to date,
    - cumulative,
  - \* adjustments,
  - \* written down value,
  - \* insurance value,

- \* disposal proceeds,
  - \* supplier,
  - \* invoice number,
  - \* invoice date,
  - \* supplier reference,
  - \* location,
  - \* department,
  - \* serial number,
  - \* whether the item has been acquired as a finance lease, hire purchase or ordinary purchase item.
- (b) Asset life can not exceed 100 years.

## 1.5 Reporting

### 1.5.1 Enquiries

- (a) The user will be able to view the full details on any asset by means of entering:
- \* the reference number and
  - \* the short name.
- (b) The user will be able to view a listing of all assets in a department by means of entering a department code.
- (c) The listing by department will display for each asset:
- \* short name,
  - \* addition date,
  - \* cost,
  - \* written down value.
- (d) The user will be able to view a listing of all assets in an asset (general ledger) category by means of entering the general ledger code.
- (e) The listing by assets category will display for each asset:
- \* short name,
  - \* addition date,
  - \* cost,
  - \* written down value.

### 1.5.2 Reports

- (a) The following list shows the principal reports available. The user will be able to specify the precise contents and amend the default fields.
- (b) The reports required include:
- \* asset register print - an audit list of all assets giving full details of each one,
  - \* additions audit trail - for the additions in the period or year,
  - \* adjustment audit trail - listing all assets where there has been an adjustments posting in the period or

year, including the adjustments' values and reasons,

- \* disposal audit trail - listing all assets disposed in the period or year,
- \* period depreciation report - giving the depreciation for the period and cumulative for each asset,
- \* depreciation history report summarising the depreciation by period for the year per asset category,
- \* general ledger distribution report - giving the values to be posted for the period per general ledger account,
- \* forecast depreciation report - showing the expected depreciation over six user-defined periods,
- \* insurance valuation report - showing the gross and net values per location by asset category.

(c) It will be possible to sort the following reports by department:

- \* asset register,
- \* additions audit trail,
- \* adjustments audit trail,
- \* disposals audit trail,
- \* period depreciation report,
- \* depreciation history report,
- \* general ledger distribution report,
- \* forecast depreciation report,
- \* insurance valuation report.

(d) It will be possible to restrict the following by department:

- \* asset register,
- \* additions audit trail,
- \* adjustments audit trail,
- \* disposals audit trail,
- \* period depreciation report,
- \* depreciation history report,
- \* general ledger distribution report,
- \* forecast depreciation report,
- \* insurance valuation report.

## General ledger

### 1.1 Ledger Relationships

- The system will provide the facility to have multiple, independent general ledgers.
- It will be possible for information to be consolidated within and across general ledgers for month end reporting purposes.
- Each general ledger will be capable of supporting and be fully integrated with the sales and purchase ledgers, payroll and cash book.
- Each subsidiary ledger will relate to a separate control account in the general ledger.

- Postings to subsidiary ledgers will result in automatic postings to the control accounts in the general ledger.

## 1.2 Account coding

- The system will support an account code of the following format:
  - \* at least three alphanumeric characters for the cost centres (departments),
  - \* at least five alphanumeric characters for the expense / income account codes,
  - \* at least 3 alphanumeric characters for the analysis codes.
- It will be possible for individual elements of the code to be set up separately, so obviating the need to set up every valid combination of elements.
- The system will only prompt for analysis codes on those expense / income codes for which they are relevant.

## 1.3 Budgets

- The system will allow for three sets of budgets to be held against an account:
  - \* original budget,
  - \* revised budget,
  - \* latest forecast.
- The system will allow the following year's budget(s) to be set up without overwriting current year budgets.
- It will be possible to budget at a higher level than that at which transactions are input, e.g. some accounts are only budgeted at income/expense code level, others at a more detailed level.
- There will be facilities for phasing an annual budget over the various accounting periods on the basis:
  - \* of equal monthly apportionment,
  - \* a specified monthly profile (of which there can be more than one).
- It will be possible for budgets to be generated automatically from previous year actuals or budgets, with a percentage increase or decrease by income / expense code range.
- There will be facilities for loading budgets from a micro computer based spreadsheet.

## 1.4 Transaction input

- Transactions will be online but with a facility for batching.
- If transaction batching is used by the system, it will support batch control on input. Agreement of batch controls will be mandatory before batches are accepted for posting.
- Batch numbers will be allocated by the system.
- Batches will be limited to:
  - \* a single period,
  - \* a single transaction type.
- Batches will be written to a 'holding' file, and be available for recall and modification before posting.
- It will be possible for valid batches to be posted selectively by the user.

- The system will provide the facility for the users to define their own transaction types, e.g. month end allocation journals, payroll journals etc.
- It is anticipated that the following fields will be input on transactions:
  - Header level:
    - \* transaction type (unless input at batch level),
    - \* transaction reference,
    - \* transaction narrative (minimum 20 characters),
    - \* transaction date,
    - \* accounting period (unless automatically derived from date).
  - Line level:
    - \* account code,
    - \* description (minimum 20 characters),
    - \* value,
    - \* debit/credit indicator,
    - \* quantity (optional),
    - \* analysis code (see below).
- Analysis codes will be available on transaction records for analysis separate from that based on the account code, e.g. on some transactions a staff code will be entered, to facilitate analysis of certain types of expense by staff member.
- Separate tables of valid analysis codes will be maintained for validation purposes and appropriate descriptions displayed on entry of the analysis code.
- The system will support the following types of journal:
  - \* accrual and prepayment journals, which automatically reverse themselves in the following period,
  - \* skeleton journals, where the bulk of the information is pre-coded, only the date and amounts needing to be entered,
  - \* recurring journals, which are similar to skeleton journals but with the values pre-entered, though capable of modification.
- It will be possible for account codes to be looked up during data entry (on the basis of all or part of the account name).
- It will be possible for trial month ends to be carried out, i.e. month end reports produced etc, but still allowing for further transactions for the month to be subsequently input, and reports re run.
- It will be possible for bank statement information to be entered, and a bank reconciliation statement automatically produced.
- The system will allow bank statement information to be entered automatically from a magnetic tape supplied by the bank.
- It will be possible for specified account balances to be automatically reallocated over a range of other accounts, according to pre-determined apportionment ratios, i.e. a number of account balances are apportioned over departments using various bases, such
- The system will automatically transfer balance sheet account balances forward at the end of each financial year, and zero-ise P&L account balances.

- It will be possible to keep the previous year open for at least six months while processing the next year's data.

## 1.5 Data stored

- The general ledger will hold balances for each account code as follows:
  - \* each period,
  - \* year to date,
  - \* budgets for each period,
  - \* budgets for year to date,
  - \* budgets for year,
  - \* each period previous year,
  - \* total for previous year,
  - \* year to date last year.
- The general ledger transactions will contain the following fields:
  - \* full account code
  - \* transaction type,
  - \* batch number,
  - \* transaction reference,
  - \* transaction date,
  - \* accounting period,
  - \* transaction narrative,
  - \* value,
  - \* debit/credit indicator.

## 1.6 Data output

### 1.6.1 Enquiries

- Account level enquiry: The following information will be available on entry of account code:
  - \* net movement by period,
  - \* net movement by period compared with:
    - budget, and variance,
    - previous year, and variance.
  - \* on selection of a period it will then be possible to see all the transactions making up the net movement,
  - \* the following fields will be displayed at transaction level:
    - transaction type,
    - transaction reference,
    - transaction date,
    - transaction narrative,
    - transaction value,
    - supplier or customer code for postings derived from purchase or sales ledgers.

- \* it will be possible to see all the other general ledger entries relating to a particular transaction on the screen, if required.
- Transaction enquiry: It will be possible to enquire on the transaction file on a variety and combination of different fields, the system displaying all transactions which meet the defined criteria. Such criteria will include:
  - \* transaction type,
  - \* period,
  - \* range of transaction references,
  - \* range of account codes,
  - \* range of transaction values.
- It will be possible for wild carding to be used in the search criteria (e.g. display all transactions with 04 in positions 3 and 4 of the account code).

### 1.6.2 Reporting

- The following reports will be available:
  - \* trial balance,
  - \* profit and loss account at company, cost centre and analysis levels,
  - \* balance sheet,
  - \* net movement by account, showing opening balance at start of month, net transactions value (or detailed transactions) and closing balance,
  - \* current months transaction listing (by account code).
- Other ad hoc reports, particularly in relation to transactions, will be available.
- The report writer will be able to access all data items in the database to enable a wide range of custom reports to be written.
- It is anticipated that most reports will be produced by means of a general ledger report writer. At a minimum, it will be able to report the following values:
  - \* current month actual,
  - \* current month budget,
  - \* current month last year,
  - \* current month variance,
  - \* year to date actual,
  - \* year to date budget,
  - \* year to date last year,
  - \* year to date variance.
- It will support the following features:
  - \* sort routines,
  - \* extraction by criteria,
  - \* control level breaks,
  - \* suppression of zero prints,
  - \* ability to round reports to the nearest thousand,
  - \* automatic formatting,
  - \* on line view,
  - \* variable width,

- \* user defined columns,
- \* user defined rows,
- \* arithmetic calculation facilities.
- The system will maintain a transaction history file online for at least 2 years.
- The user will be able to define a range of account codes, so that each account and its description and other selected fields is automatically displayed (i.e. no need to define each code and description individually).
- It will be able to access transaction data as well as account level data.
- The system will maintain an organisational structure for cost centres, but will also be able to use alternative hierarchies for reporting purposes.
- It will be possible for wild-carding to be used in the selection and format criteria (e.g. display total values for each cost centre that has a 1 in the third position for expense/income codes that have a 0 in their first position).

## Human Resource Development

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HR1 The HR module will be integrated to the payroll and general ledger.

HR2 Each employee will have a unique employee number.

HR3 The employee numbers can be either manual or system generated.

HR4 The module will hold the following details about each employee:

- \* Personnel Number
- \* Surname
- \* First name
- \* Middle name
- \* Job title
- \* Department name
- \* Section name
- \* Head of department
- \* Payroll reference
- \* Employment status - probation, contract, permanent.
- \* Passport Number and Expiry Date
- \* Iqama Number and Expiry Date
- \* Gosi Number
- \* Government Licence Number for Health Worker
- \* ID number
- \* Bank and branch
- \* Bank account number
- \* Date employed
- \* Date contract expires - for expatriate employees
- \* Permit details
- \* Date of Birth
- \* Nationality
- \* Sex

- \* Marital Status
- \* Spouses full names - if married
- \* Address
- \* Telephone Number
- \* Place of Origin
- \* Dependants
- \* Estate of residence
- \* Start Date
- \* Emergency Contact Number
- \* Next of kin contact

HR5 The following items of rewards and performance information will be in the module:

- \* Appraisal date
- \* Appraisal rating
- \* Disciplinary action code
- \* Date of disciplinary action

HR6 The following health and safety information will be included in the module:

- \* Accident type
- \* Date of accident
- \* Days absent
- \* Date(s) of birth of children
- \* Emergency Contact Name(s)
- \* Emergency Contact Address(es)
- \* Emergency Contact Telephone Number(s)

HR7 The system will support the following employment history details for each employee:

- \* Name of previous employer(s)
- \* Previous job title
- \* Start Date
- \* End Date
- \* Source of recruitment

HR8 The following education and training details will be held:

- \* School qualification level
- \* School qualification subject
- \* School year of qualification
- \* College/University level – diploma, undergraduate, etc.
- \* College/University area of specialisation
- \* Year of certification
- \* Professional qualifications
- \* Qualification area of specialisation
- \* Qualifications awarding body
- \* Year other qualification obtained

HR9 The following details will be held about the current job:

- \* Date job started
- \* Job title
- \* Cost Centre
- \* Permanent/Temp/Casual status, Acting
- \* Current monthly basic salary
- \* Current monthly Gosi basic salary
- \* Current monthly HRA and TA
- \* Grade
- \* Pay review date
- \* Passage Details for Expatriate employee and his kins
- \* Contractual hours
- \* Bonus entitlement
- \* Benefits held
- \* Quit notice required
- \* Medical cover number
- \* Others

HR10 The system will be able to produce the following reports:

- \* Letters of employment
- \* Letters of regret
- \* Invitations to interview
- \* Applications for salary advance
- \* Leave application and approval form
- \* Personnel action form
- \* Personal details form
- \* Nationalitywise, positionwise, religionwise reports

HR11 The system will handle the following aspects about all employees:

- \* promotions,
- \* demotions,
- \* joiners/leavers,
- \* grade profiles,

HR12 The system will keep track of training sponsored by **Mohammad Dossary HospitalService CO.**

HR13 The following data will be maintained about employee training:

- \* course name,
- \* course duration,
- \* training provider,
- \* internal training flag,
- \* course completion date,
- \* course result,
- \* cost - employee or employer

HR14 The system will maintain a training schedule for employees.

HR15 The system will come with a report generator to allow for user-defined reports.

HR16 Searches for employee details can be done using either employee names or number.

HR17 The system will keep the following details about each post:

- \* the post name
- \* cost code
- \* holiday entitlement
- \* benefit entitlement
- \* skills profile
- \* job description

HR18 The system will maintain a record movement of inter-departmental transfers.

HR19 The system will maintain a balance of medical cover used to date.

HR20 The following data will be maintained about track employment:

- \* internal recruitment
- \* external recruitment

HR21 The system will make a provision for vacant positions arising from either:

- \* retirement
- \* resignation
- \* termination
- \* new post

HR22 With the correct authorization it will be possible to modify and delete employee records.

HR23 The system will have an audit trail.

HR24 The System will generate alerts for following conditions

- Passport Expiry
- Iqama Expiry
- Visa Expiry
- Late Comings
- Late reporting after vacations
- Vacation due
- Ticket Bookings

## PAYROLL

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### 1.1 General

- (a) Payroll will be prepared monthly.
- (b) A maximum of 15 addition elements are allowed.
- (f) A maximum of 20 deduction elements are required.
- (h) A record of the payments made will be kept.
- (l) The system will maintain holiday records in terms of days entitlement and usage.
- (m) The system will allow for the following additional elements to make up gross pay:

- \* a basic monthly rate
  - \* up to 10 overtime rates,
  - \* expenses,
  - \* bonus payments,
  - \* up to five permanent variations,
  - \* up to five temporary variations.
- (n) Permanent variations will run for a fixed time span of two or more periods or for an open-ended time.
- (o) Temporary variations will run for the current period only.
- (p) For temporary variations it will be possible for the user to define the description of the variation, such description appearing on output reports including payslips.
- (q) The system will allow for pay elements to be calculated on the basis of a standard period basic pay.
- (r) The system will be able to calculate back pay when backdated rises are made.
- (s) The system will cater for deductions as follows:
- \* PAYE,
  - \* Gosi
  - \* up to five temporary variations.
  - \* up to five permanent variations,
- (t) For each employee it will be possible to maintain up to five reducing balance loans.

## 1.2 Data input

- (a) All input will be subject to full validation and reasonability checking.
- (b) It will be possible to delete leavers from the system once all their year end reports have been produced.
- (c) When inputting variable pay data it will be possible:
- \* to optionally cycle through employees rather than entering each employee number,
  - \* to use an abbreviated alpha code rather than number to locate the employee.
- (d) When changing pay data or reference data for a number of employees, the system will default to the same field on the next record rather than requiring the user to tab through fields before editing.
- (e) When payroll payments are made to employees outside the system, e.g. manually, it will be possible to amend the employee record to reflect the payment.
- (f) It will be possible to suspend an employee or one of their pay elements for one or more pay periods; it will be possible for the period of suspension to be open ended.
- (g) The payroll will be integrated to the cashbook and general ledger, with :
- \* default general ledger codings for posting the expense items,
  - \* automatic posting of relevant control accounts,
- (h) It will be possible to define a default general ledger coding for each pay component.

- (i) It will be possible, alternatively, to allocate the expense for each employee in proportions to one or more general ledger expense/cost centre accounts; it will be possible to allocate each expense item in this way to up to up to 15 different expense accounts.

### 1.3 Data stored

- (a) The following details will be maintained for each employee :

#### Standing Data:

- \* upto Eight digit employee number,
- \* status e.g. starter, transfer, left etc,
- \* name (surname, title, initials),
- \* grade,
- \* payment method,
- \* budget centre code,
- \* department,
- \* date of birth,
- \* start date,
- \* monthly rate,
- \* date left or end of contract,
- \* private address,
- \* values for user-defined pay elements,

#### Pay History:

- \* gross for each pay period,
- \* Gosi for each pay period,

#### Bank Details:

- \* bank account number,
- \* bank account name,
- \* bank branch name,
- \* bank code,

### 1.4 Data output

#### 1.4.1 Payslips

- (a) For each pay period payslips will be produced and will comply with the existing format.
- (b) Payslips will be sorted into employee number sequence within department.
- (c) It will be possible for users to revise payslip formats.

#### 1.4.2 Reports

- (a) The following reports will be produced for each pay period :
- \* payroll summary (current period and Y T D build to gross and deductions for each employee),
  - \* cash requirements,
  - \* manual cheque listing,

- \* Gosi Paid Details
  - \* pay elements for period and to date in summary and for each employee,
  - \* arrears
  - \* balances on outstanding loans for each employee,
  - \* Denomination report for cash paying employees,
  - \* overtime analysis by employee within department.
- (b) It will be possible to sort all of the above reports into any of the following sequences:
- \* employee reference number within budget centre sub totalling on budget centre/department,
  - \* employee surname.
- (c) At the year end the following reports will be produced :
- \* Employee Salary Drawn Montwise
  - \* Employee salary ledger
- (d) Each employee will be able to be paid by:
- \* bank transfer
  - \* manual cheque,
  - \* cash.
- (e) The report writer will be able to access all data on the system and produce reports with summaries, sub-totalling and sorting.
- (f) All modifications to pay elements will be shown on an audit trail report.

## Security

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System security is a very essential feature of any application. In a system where there are multiple users logging in and handling varied kinds of data, the system calls for a process to restrict users to specific kind of data that they are eligible to handle or view. The system has to be flexible enough to grant privileges and access to the minutest of process in the system. The below describes system attempts to provide a flexible and reliable process to safeguard the hospital information system and data from misused.

### Security - System Privileges - Description.

- Every menu item / command button that invokes a process or a functional part of process should be available as privilege levels in the system.
- Every department / store or in brief a hospital location should also be available as a privilege in the HMS security system.

The main features are :

- The system administrator is responsible for creating and removing users for the system.
- No person other than registered users in the system can access the HMS system.

- A user cannot access a process that has not been granted to him / her by the system administrator.
- A system log file is to be maintained.
- The system may have more than one system administrator at a time.
- Creating, modifying, and deleting user profiles.
- Change of user password.

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## Appendix C

### Quality Assurance

Software quality assurance is generally characterized as the verification that software products (including documentation) are meeting standards during the initiation, development, and operation phases of the IPMS lifecycle.

The objectives of SQA are summarized as the following:

- Provide management with the data necessary to be informed about software quality.
- Verify that software work confirms to documented requirements and standards.

To ensure technical qualities we will be using rational Rose suite to check the performance of the code and optimised the unnecessary codes. Following principles will be applied :

- Structured walkthroughs or peer reviews are conducted on work products for every stage of the project.
- A report of each structured walkthrough findings (i.e., defects) is maintained.
- In-Stage Assessments (independent reviews) of software work products and deliverables are performed for each stage of the project life cycle.
- Software quality representatives audit software work products to ensure compliance with standards and procedures and to facilitate the early detection of problems, which could affect the quality of the software product.
- Software quality representatives periodically report their results to the project team.
- Deviations in software activities and work products are identified, documented, and controlled according to a documented procedure.
- Non-compliance issues that cannot be resolved project managers will be addressed by project director.

### Project Tracking

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Software project tracking is generally characterized as a process for establishing an status of actual activity against planned.

The objectives of software project tracking are summarized as the following:

- Tracking and reviewing actual software accomplishments and results against documented estimates, commitments and plans.
- Revising the project plan to reflect actual accomplishments and replanning the remaining work to be done and/or taking action to improve the performance.
- Providing visibility into the actual progress so that management can make corrective actions when project performance deviates significantly from the original software plans.

## Testing

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Testing is generally characterized as validation that requirements have been met and that the deliverables are at an acceptable level in accordance with existing standards during the initiation, development, and operation phases of the IS life cycle.

The objectives of testing are summarized as:

- Provide confidence that a product performs as expected without undesirable side effects.

## Training

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The objectives of training are summarized as follows:

- Ensure all assigned personnel are able to use the system commensurate with their function and responsibilities.
- Ensure the system documentation accurately reflects the system.
- Ensure the structure for future training is established.