

2010

An Overview Document on

Kurera - Unified Healthcare Management

Contents

1. ABOUT KURERA	3
<i>History</i>	3
<i>Convergence of business & healthcare</i>	3
<i>Challenges Faced by hospitals.....</i>	3
<i>Adopting Latest Technology & Business Processes</i>	4
2. FUNCTIONAL DESCRIPTION OF KURERA	5
<i>Front Office</i>	5
<i>Clinical module</i>	6
<i>Services module</i>	9
<i>Hospital Administration.....</i>	10
<i>Order Entry & Billing.....</i>	10
<i>Collection & Refund</i>	11
<i>Accounts</i>	11
<i>Stores.....</i>	12
<i>Approvals.....</i>	13
<i>Reports.....</i>	13
<i>Admin Tools</i>	13
3. MODULE WISE COMPARISON WITH STANDARD HIMS	14
4. TECHNICAL DETAILS & REQUIREMENTS.....	15
<i>Technology.....</i>	15
<i>Hardware.....</i>	15
<i>Software.....</i>	15
5. DEPLOYMENT PLAN.....	15
<i>Application Installation.....</i>	15
<i>Application training to end users</i>	15
6. WHY KURERA?.....	15

1. About Kurera

History

Kurera is a Unified Healthcare Management solution that unifies the business solutions with Healthcare Decision Systems to provide a better client (patient) experience. Kurera has been developed over the last few years in association with a large Healthcare Management Company having presence in most parts of the South East Asia.

Kurera, with an installed base of around 40+ healthcare facilities across Asia Pacific has been performing and delivering value added services to healthcare community. The administrative fraternity of this hospital chain is using the application extensively for their Front Office and Back Office functions with the desired results of increase in efficiency and reduction in costs.

The medical fraternity - doctors, nurses and paramedics - utilize the Clinical modules to increase their efficiency to provide a healthy client experience.

Convergence of business & healthcare

Healthcare professionals across the board are facing challenging times. As costs continue to increase along with growing regulations and consumer demands of more control over their healthcare decisions, the barriers to access information can very soon become formidable. This leads to slow and expensive processes and procedures and can also lead to errors in treatment.

Challenges Faced by hospitals

Emergency Department State of Emergency

- Chronic overcrowding in Emergency Departments have reached a feverish pitch
- Wait times are increasing to unsupportable levels.

Reaching Critical Mass in Nursing

- Chronic shortages of healthcare professionals in nursing
- Providers will seek innovative ways to schedule their existing personnel to maintain the right staffing levels

Baby Boomers and Senior Citizens

- On the Cusp of an Explosion - In 2009, many health systems will invest in new facilities
- Budgets for oncology, cardiology and orthopedic departments will grow

Performance Improvement Initiatives Hit the Mainstream

- Maximizing equipment and minimizing waste will become the universal mantra of hospital administrators.

Impact of Defensive Medicine Strains

- All Hospital Resources Studies have shown that over 90% of all physicians engage in defensive medicine, with 59% often ordering unnecessary procedures and tests.

Greater Calls for Transparency

- From pricing to performance, all types of hospital data will be scrutinized by CMS, private insurance companies, employer organizations and patients themselves.

Weak Links in Supply Chains

- Bloated inventories, hoarding, and outdate/ manual ordering systems continue to impact quality of care and service levels.

Technologies that facilitate bridging the gap between the IT and business processes are the need of the hour. This will enable healthcare providers to manage business along with providing continuous care. Kurera offers an unified solution running across the hospital as an enterprise by providing:

- Healthcare - All hospital functionalities
- New Technology Support - Patient & Asset Tracking, Tele-Radiology, Tele-Pathology, Tele-consultation, RFID
- Business Healthcare - Finance and Administration

Adopting Latest Technology & Business Processes

Business Processes in healthcare plays an important part due to complexity, interactivity and variability of processes along with a large pool of users and interoperability. It involves

- Healthcare Acquisition: Entry and exit of a patient in the system
- Patient Record: Create and maintain a record of the visits
- Test and Examination: Perform an examination, assessment, professional evaluation and technical diagnostic evaluation
- Diagnosis: Issue a diagnosis, identify treatment
- Treatment: Provide treatment, prevention and administration of therapeutic substances and procedures
- Monitor, Evaluate and Revise: Monitor and evaluate patient outcomes and care, plan to meet short term and long term Healthcare needs and facilitate the acquisition of resources.

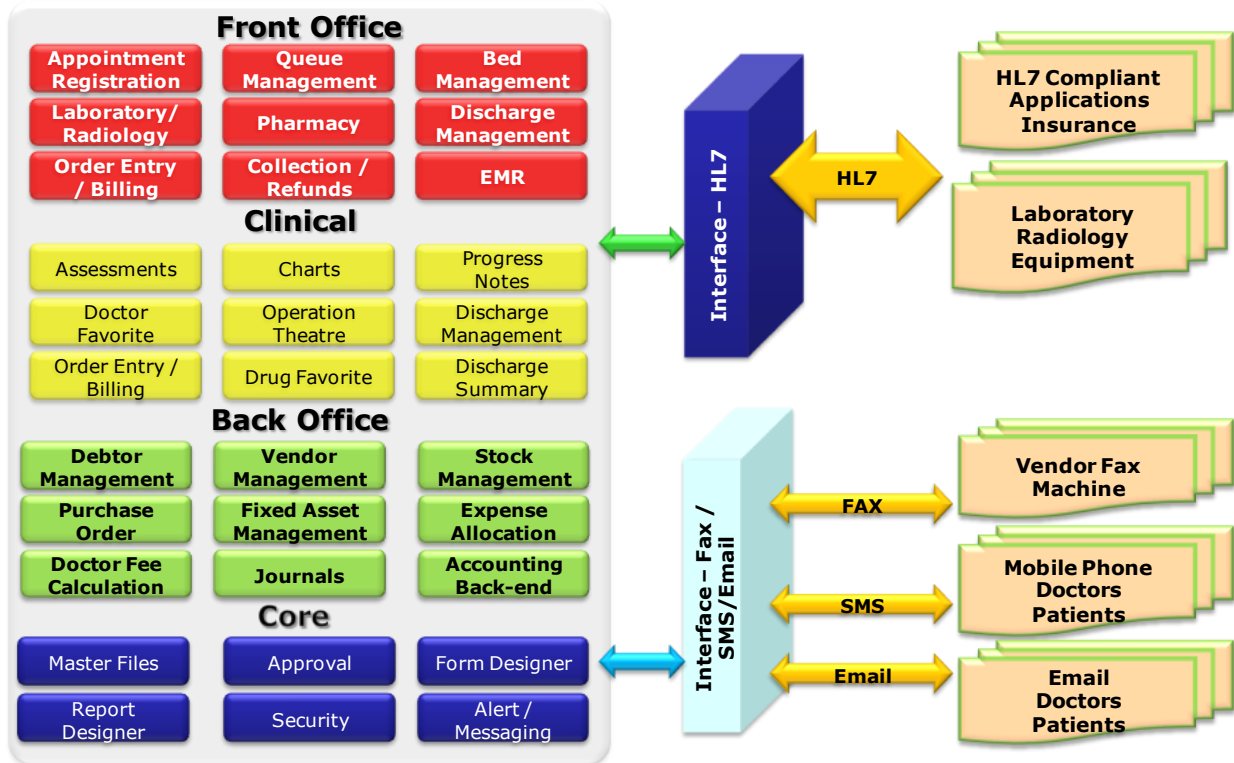
Kurera helps to incorporate these Business processes by

- Capture / Control of the flow of patient and process information across departments
- Workflow systems that guide / direct the users through a series of tasks / decision points
- Business Rules in the form of validations
- Alerts and Messaging System
- Robust Reporting System

Business Process Benefits through Kurera:

- Decrease costs through earlier invoicing where relevant, reduced administrative and clinical process time
- Elimination of errors in process and paperwork, and improved planning, scheduling, and process control
- Eliminate waste by reducing unnecessary transport and bed occupancy times
- Better control expenditure through automating procurement transactions and enabling a single view of provider to reduce erroneous payments
- Provide better service

2. Functional Description of Kurera



Front Office

Appointment Scheduling

Schedules the booking of various services for Patients with selected Doctor and service for any future date & time. Patients can be either existing (registered) or New patient. The doctor availability and other scheduled appointments roster is maintained.

Registration

A new patient can be registered and every registered patient will be allocated a unique key - Patient ID. Personal details and details of kin are captured along with Photo image for each patient. During registration patient can avail OP - Out Patient, IP - In Patient, OTC - Over The Counter services with tag of "A&E" that denotes the prioritized service attendance to patient. Patients availing appointment through Appointment Scheduler will be directly converted as registered patients when patient arrives at the counter. Patient is categorized as self-paid or corporate to avail benefits of services. Privilege also can be tagged to patient if he/she belongs to any such privileges for further benefits on service prices. Already registered patients can avail the facilities of the registration module by producing Patient-ID.

While registering patient can avail many other services for Laboratory, Radiology or Physiotherapy. Supports additional features like smart or normal ID card generation & printing, thumb print capturing and patient label generation using bar code which will aid the operations team. In case of IP - Admission, different category beds can be chosen based on availability and choice of patients.

Upon successful registration, unique Visit ID is generated for each Patient for future references. Cancellation, Editing and converting OP to IP / IP to OP are standard features covered in this process.

Point Of Sale

This module allows order entry, billing and payment for a selected pharmacy item without having to go through registration formalities. Cash bill is generated and printed automatically. Upon bill generation the respective pharmacy items from stock of the particular department are reduced.

Call Accounting

This module enables the system to capture the telephonic calls made from a particular extension for the patient. Call Accounting System ensures the calls made from these telephone extensions are captured and billed to appropriate patients who have made the calls.

Patient and Bed Enquiry: Provides the details of status on Ward / Room / Bed. This helps front office user to locate the free / available beds before registration of inpatient to avoid delays in admitting the patient.

Clinical module Assessments

Clinical Assessment module has many clinical features that capture details like Accident & Emergency Details, Code Blue data, Initial Assessment for Medical & Allied, Neonatal, OBG, Pediatrics, Surgery & Allied, Nutrition Assessment screening and Nurse Initial Assessments.

Charts

The Charts Module helps the nursing staff to collect clinical statistics during patient admission. This module supports collection of clinical statistics using Bladder Irrigation Chart, Blood Sugar Monitoring, Diet Orders, Drain Chart, Feed Chart, Fluid Balance Chart, Glasgow Coma chart, Health Screen Entry, ICU Charts, Nephrotic Chart, Nursing care Plan, Observation Chart, Partogram Chart, Peak Flow Meter Chart, peripheral Circulation Chart and Medication Administration Charts.

Discharge & Discharge Summary

This module allows to perform all activities for discharging an admitted patient. Using patient progress notes, the discharge summary is prepared that provides information on admission diagnosis, discharge diagnosis, history, medication course in the hospital, procedures performed, surgeries performed, investigations, conditions at discharge and

discharge medication and advice. Follow Up visits and Appointment can also be captured through this module. Bed housekeeping is also done using this sub module for releasing the bed after housekeeping.

Doctor Queue Listing - Doctor Worklist

When the authorised doctor logs in to the system, patients who have taken appointments, registered for OP consultation and admitted under this doctor are listed as a worklist for doctor to act on further. Patients Progress Notes, Medication Administration Chart and Investigations Ordered for the patients can be accessed through this worklist queue.

Doctor Time Management

Authorised doctor can update his / her schedule for today according to office timings. The doctor can update his / her leave plans in advance to help appointment scheduling and registration process to schedule patients under this doctor. Emergency leaves can also be updated on the day of the emergency event.

Doctors' Favorite Maintenance

The doctor can maintain his / her favourite list of services like pathology, radiology & physiotherapy tests that are ordered frequently by them.

Operating Theatre

This module performs activities from scheduling the operation theatre room to capture the OT related details like anesthetic records, endoscopy notes, obstetric operative record, operation records, pre operative checklists and recovery room. Links to the patient Progress Notes, Referral and Services are also provided.

Viewers

This is a very handy tool for medical staff to quickly refer to laboratory reports, radiology reports for the selected patient registered under signed-in doctor. Patients' medical history can also be viewed.

Nurse Queue Listing

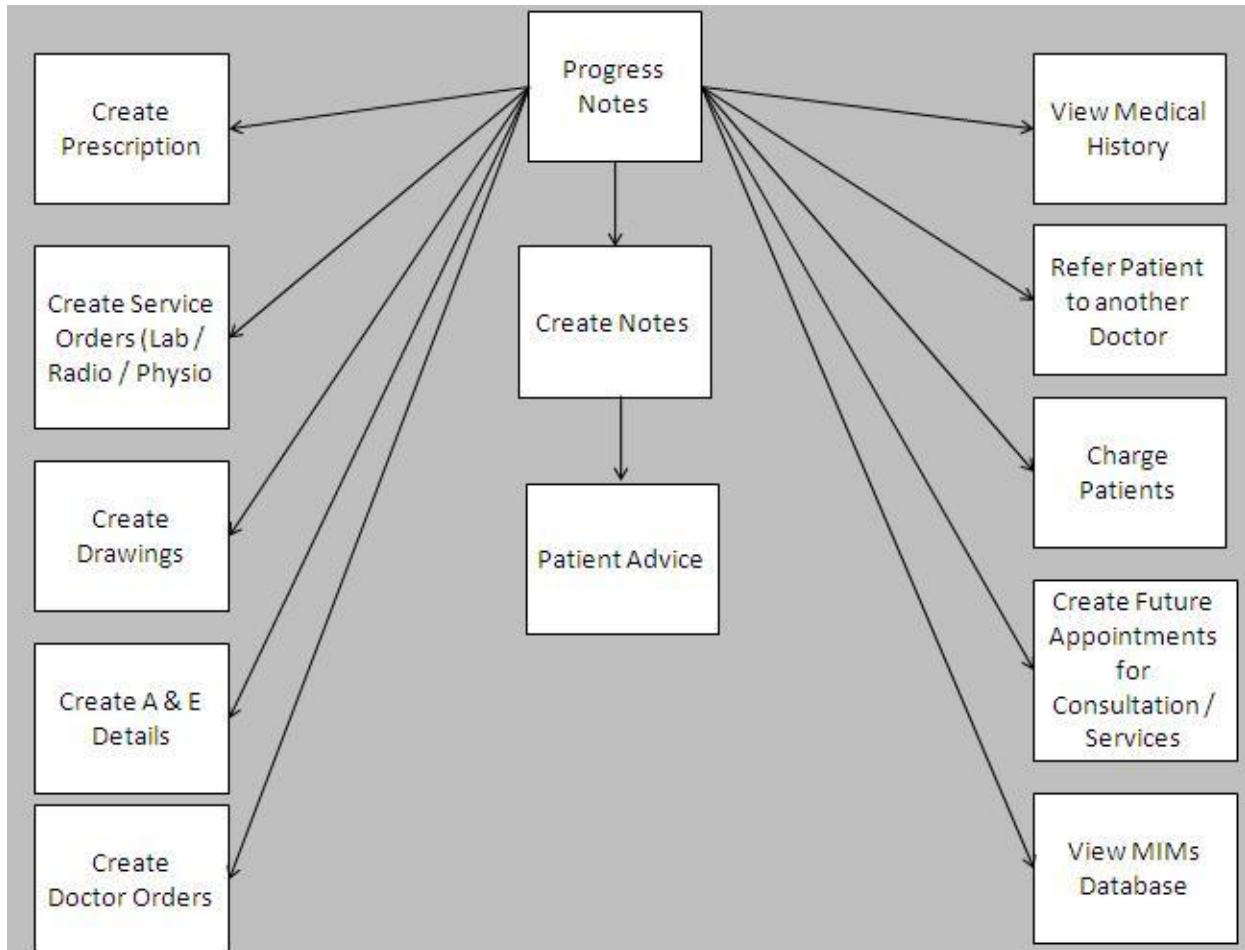
The nurse queing list is a worklist of inpatients and outpatients that can be processed by the nurse. For an inpatient progress notes, medication administration chart and investigations ordered can be accessed and administer the medicines. For an outpatient progress notes are created / updated and investigations ordered can be accessed. The nurse queue listing also allows for time based filtering for administering medicines at appropriate timings.

Drug Favorite Maintenance

Doctors can maintain favorite drug options in relation to the disease / condition that are frequently used by the doctor. During Prescription, a group having all the medications for a particular condition can be prescribed.

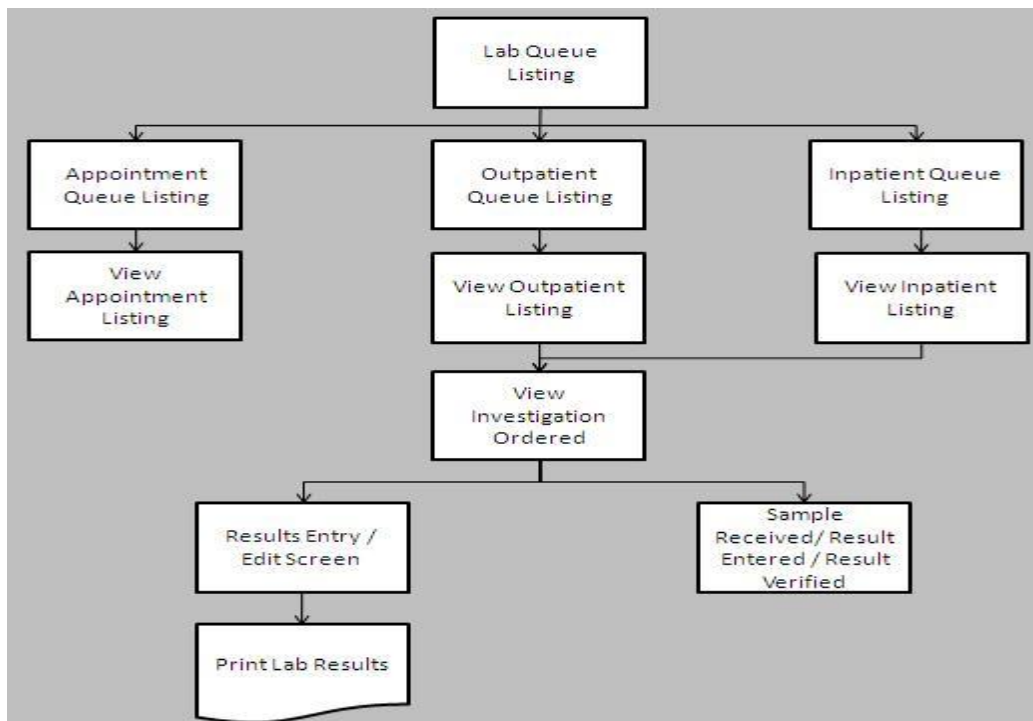
Progress Notes

This is a very important feature to capture and request various services for doctors & nurses during consultation of the patients. Through this multi-facility service screen medical staff can add allergy information, prescribe the drugs, request lab / radiology / physio services, schedule referrals, view medical history of patients, schedule future appointments, capturing examination annotations on images, add doctor orders, access MiMS Library and add additional doctor charges (if any) and advice outpatients for follow up medication & visits.



Services module Laboratory

This module comprises of patient wise listing of test orders that are updated from tests ordered through services and order entry. The lab technician can act on each of the tests ordered for a patient and can enter the results. Laboratory result viewer provides the result reports. Also tests can be ordered in free text format which will be treated for result processing. This module integrates seamlessly with the Laboratory Information Management System (LIMS) wherein the sample collection, test processing and result approval is carried out.



Radiology

This module allows medical staff to order radiology tests and a queue list is prepared of all the orders. The results can be entered / viewed through the queue lists. Certain tests could be of free text formats. Radiology Technicians perform tests and update the results for all queue list entries and free text entries.

Physiotherapy

This module allows medical staff to order physiotherapy tests and a queue list is prepared of all the orders. The results can be entered / viewed through the queue lists. Certain tests could be of free text formats. Physiotherapy consultants perform tests and update the results for all queue list entries and free text entries.

Hospital Administration

- Blank Template
- Enquire Medical Record Status
- EPF Template
- Lawyer Letter
- Medical Record - Receive / Issue / Update / Merge
- Reply Letter
- Scan Documents
- Sosco Template

Order Entry & Billing

Billing

Where final bill is generated for all kinds of patients

Cashier Queue

Cashier can receive payments based on patient wise (OP & IP) bill details generated by this.

Issue Return

Enables patients to return the remaining medicines (if any) including service items required for some of the services considered but not rendered.

Notes: Deals with credit & debit notes and provides for billing adjustments

Order Entry

This is ONE single pool where all the billable services / items / drugs pertaining to patients (OP / IP) are gathered. In order entry user can enter directly the services / items to be billed or remove services /items if charged without rendering the services. The same feature also provides patients with the “Interim Bill” in the form of draft bill to get the current bill amount.

Daily Auto Charges

This features updates the patient data for billing for regularly chargeable services / items to admitted patient. This setting will be triggered on daily basis to post the chargeable items.

Billing History

This feature provides the history of billing for the selected patients.

Collection & Refund

Cash Register

This feature is basically for cashier to open and close the register and also to provide features like cashier float, manager cash Book & print cash register.

Payment

This feature allows cashier to collect payment either against the bill or as advance from patients in the form of Cash / Cheque / Credit Card.

Refund Advice

Allows cashier to generate the refund advice.

Collection Bank IN

This facilitates to track cashier wise collections and deposits to the Bank on daily basis.

Accounts

Accounts Processing

This module is basically for processing month end and year end postings, General Ledger postings and operational reporting.

Accounts Payable

This facilitates Processing of Vendor Invoices, Vendor Debit note, Vendor Credit note, and manual invoice processing, Vendor Enquiry, Vendor Reconciliation, Vendor Aging, Document Matching and Contract Management.

Cash

This facilitates Payment Planning, Payment Planning Approval and Payment Voucher, Account Receipt, Deposit Details, Void Cheque, Cheque printing and Bank Reconciliation.

Chart of Accounts

This facilitates code based general ledger creation and maintenance.

Credit Card Processing

This facilitates processing of the credit card payments.

Debtors

This facilitates to maintain third party and corporate bill submission and aging analysis.

Doctor Fees

This facilitates to process monthly doctor fees payable as per the operational policy.

Expense Allocation

This feature facilitates to process and allocate expenses monthly.

Fixed Assets

This module allows creation of fixed assets as they are procured. Keeps track of FA Depreciations, FA Transfer Requests, FA Transfers and FA Write off Requests.

Journal Voucher

This facilitates an accountant to process Journal Vouchers with approvals.

Tax

Provides for calculation of Sales Tax, Service Tax, Luxury Tax and Withholding Tax alongwith maintaining the tax related activities.

Stores

Consignment

Consignment is the stock which the hospital gets on request but the billing is not done till the items are administered to the patients. Comprises of sub modules consignment enquiry, purchase order, receive and return.

Purchase

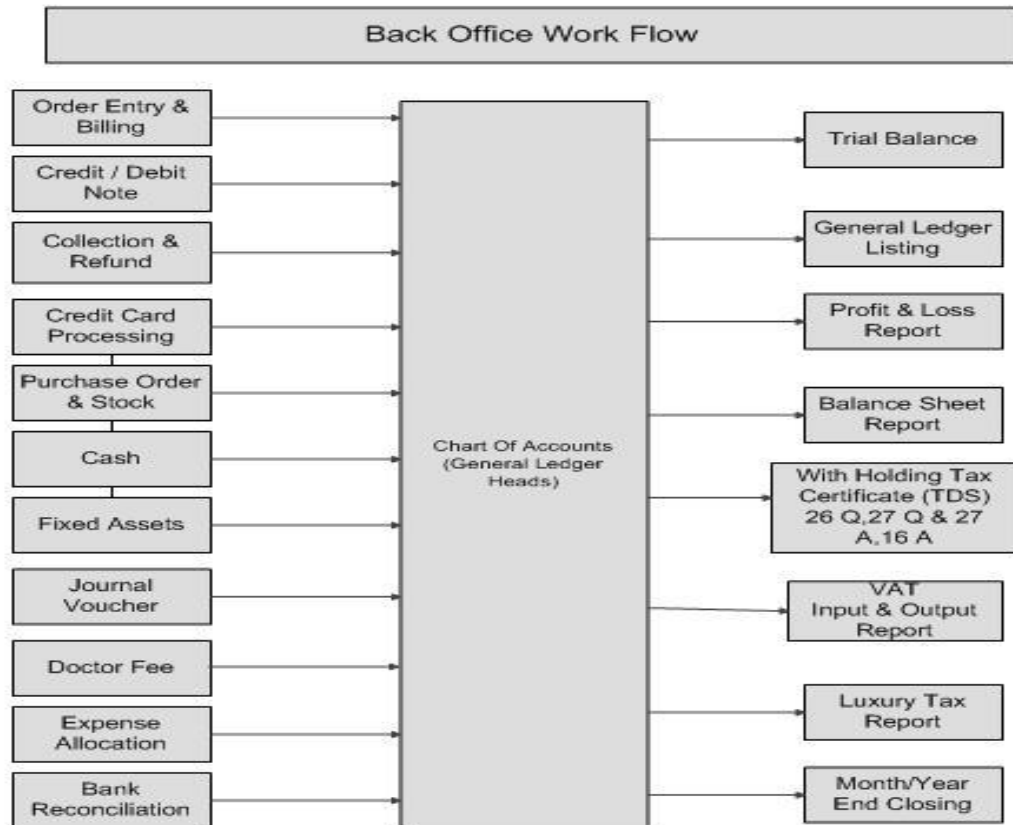
The process by which the hospital can buy items which are not in stock or below the reorder levels. This module includes sub modules indent requisition, PO list and purchase order. All purchase orders need to be approved and this module provides for the approval mechanism workflow.

Stock

A hospital needs to have a proper inventory management system so that required items are available at all times. This module helps in maintaining the required stock and comprises of features like departmentwise stock list, GSR (Goods Service Receive), GSRR(Goods Service Receive Return), Stock Adjustment, Stock Enquiry, Stock Transfer, Stock Issue, Stock Write Off, Stock/Pharmacy List & Replenishment.

Stock Take Cycle

For checking stock levels stock taking audit is done. It consists of Stock Freeze, Stock Take, Stock Take Adjustment.



Approvals

This module facilitates the processing of approvals for purchase orders, payment vouchers, contract maintenance, stock writeoff and fixed asset writeoff. Updates the status on decline to those who had generated the requests and who had already approved. Hierarchy of approvers and requesters can be created using this module.

Reports

This module gives the information about all the reports which are generated by different departments like Tax, Financial Report, Cash Management, Accounts Receivable, Doctor Fee, Expense Allocation, Fixed Asset, Journal Voucher, Credit Card Report, Package Report, Accounts Payable, Approval, Consignment, Discharge Summary, Doctor Reports, Front Office, Laboratory, Medical Records, Nurse Reports, Operation Theatre, Order Entry and Billing, Radiology and Stock.

Admin Tools

This module is used only by Administrator who can access all the modules and can give privileges to the users if required. All security related activities can be performed in this module. Secure user creation and role based access to users can be done using this module. The master data lists are created in this module.

3. Module wise comparison with Standard HIMS

Modules	Kurera	Std HIS	Modules	Kurera	Std HIS
Appointment Scheduling	Y	N	Debtors	Y	N
Registration	Y	Y	Doctor Fee	Y	N
Bed Enquiry	Y	Y	Expense Allocation	Y	N
Assessments	Y	N	Expense Allocation	Y	N
Charts	Y	N	Fixed Assets	Y	N
Discharge & Discharge Summary	Y	Y	Withholding Tax	Y	N
Doctor Queue Listing	Y	N	Credit Card Processing	Y	NK
Doctor Time Management	Y	N	Journal Voucher	Y	N
Doctor favorite maintenance	Y	N	Journal Voucher Approval	Y	N
Operating Theatre	Y	Y	Medical Records	Y	N
Progress Notes	Y	N	Laboratory	Y	Y
Viewers	Y	N	Pharmacy	Y	N
Nurse Queue Listing	Y	N	Physiotherapy	Y	N
Mims	Y	N	Radiology	Y	NK
Drug Favorite maintenance	Y	N	Consignment	Y	Y
Drug Admin Setup	Y	N	Purchase	Y	Y
Accounts Payable	Y	N	Stock	Y	Y
Accounts Processing	Y	N	Stock Take Cycle	Y	N
Cash	Y	N			
Cashier Queue	Y	N	Security	Y	N
Order Entry	Y	N	Messenger	Y	N
Billing	Y	Y	Global Configuration Setting	Y	N
Issue Return	Y	Y	Module Configuration Setting	Y	N
Daily Auto Charges	Y	N	Local Configuration	Y	N
Billing History	Y	N	Card Designer	Y	N
Cr Dr Notes	Y	N	Template Designer	Y	N
Cash Register	Y	N	Barcode Label Printing	Y	N
Payment	Y	Y	User Configuration	Y	N
Refund Advice	Y	Y	Barcode Designer	Y	N
Approval / Status	Y	N	Audit Trail	Y	N
Temporary Authorization	Y	N	Blood Bank	Y	Y
Form Designer	Y	N	CSSD	N	Y
Report Designer	Y	N	Dietary Management	N	Y

Kurera module Comparison V/s standard HIS

NK	2	3%
Y	15	23%
N	49	74%
	66	

*Y-Yes, N-No, NK-Not Known

4. Technical Details & Requirements

Technology

VB.net (Framework 2.0)
SQL Server-2005

Hardware

Client: Pentium Dual Core with 2GB RAM, 20-40GB Hard Disk
Server: Cluster SQL Server with 8GB RAM, 80-120GB Hard Disk

Software

Client: Windows XP/2003
Server: Windows 2003 Version R2

5. Deployment Plan

Application Installation

- Kurera Client / Server / Services Installation
- Database Creation and master data compilation
- Configuration Setup

Application training to end users

- Planned training
- Ad-hoc training

Why Kurera?