KMG Healthcare IT Solutions
Case Studies

Introduction

Key Management Group, Inc. is global healthcare IT solutions provider for practices, hospitals and medical centers. Our mission is to help businesses improve their processes in order to achieve better and optimized clinical outcomes, value for money and patient experience satisfaction using affordable IT solutions. The following case studies are real projects conducted by h-IT division at KMG for its clients, increasing the value and enhancing operational efficiencies through innovative healthcare technology solutions.

Application Development Solutions

EMR 1

CLIENT : US based Software Company | TECHNOLOGY : Microsoft stack (WPF/WCF/SQL)

With a full-function EMR integrated to Scheduling, Eligibility verification, Pre-Authorization, Front Office Correspondence, Patient Check In / Out, Exam Rooms, CPOE, ePrescription and Coding / Billing & Claim Handling, this HL7 complaint system was built from scratch in less than 2 years. It has been certified for the Stage 1 MU criteria by CCHIT. See www.MedScribeOnline.net for more details.

EMR 2

CLIENT: US based Software Company | TECHNOLOGY: Java-based UI with iSeries

The client had an established PMS system on the iSeries (RPG/DB2). They asked KMG to add an EMR module to their existing product. KMG has developed a Java based system that uses the DB2 database and many of the existing RPG programs and yet works off the internet on a browser. The application is currently under development and will be released in Jan'12. It will comply with the Stage 1 & 2 MU criteria.

Patient Portal

CLIENT : US based Software Company | TECHNOLOGY: Microsoft stack (ASP.NET with XML)

An extension to an existing EMR application to enable patients to view their medical history, medication, problem history, drug allergies, lab results, request appointment & refills and even initiate a dialog with their physicians. KMG built the HL7 compliant portal to push / pull data from the existing EMR as well as Google Health. It can be interfaced with any other EMR that can send/receive HL7 messages.

CDA Translation Tool

CLIENT: US based Software Company | TECHNOLOGY: Microsoft Stack

KMG created a very complex environment where the client can receive patients' medical data in 12 formats (Including CCR, CCD, Healthstory). These input files are stored in a data repository that can handle all possible data formats. The application includes an on-demand data export into any requested format (Thereby allowing the user import as CCD & export as CCR). The system supports receiving & sending data thru Connect, HL7 interface, esMD, Verizon's MDE, SFTP & Web Services (Some under development)

Coding & Billing Module

CLIENT: US based Software Company | TECHNOLOGY: Microsoft stack (C# with Proprietary Framework)

A Coding & Auditing module for an existing hospital based information system. KMG was asked to add a module that would use the progress notes entered into the system and show them to the coders & billers. KMG took less than a month to understand their existing framework (a mix of technologies). Seamlessly integrated into the existing system in less than 6 months, the module presents the pending encounters to coders with the work distributed running off a rules engine. The coded entries are queued for audit/compliance based on another set of rules.

Facility on Map

CLIENT: US based Software Company | TECHNOLOGY: GWT (Google Web Toolkit)

The client has over 40 hospitals / medical facilities across the country. Solution represents graphical presentation of billing, collections, AR, patients attended numbers & trends on a map. Drill down capability for granular data analysis and decision-making integrated to a DB2 database.

Purchase Requisition Approval System

CLIENT: US based 300-bed Hospital | TECHNOLOGY: Sharepoint 2010 & C#

Solution uses the Active Directory based authorization and to enter the purchase requisitions, verify budget availability and approve/reject/view requisition status. The application is linked to the hospitals Budget Planning Application (also developed by KMG).

Budget Planning & Tracking Application

CLIENT: US based 300-bed Hospital | TECHNOLOGY: ASP.NET with SQL
Browser based Application for creating budgets & tracking the usage. Inputs from Meditech and other systems are interfaced into this application.

Reports & Alerts

CLIENT: US based 300-bed Hospital | TECHNOLOGY: Microsoft stack / NPR Reporting (Meditech)

Multiple solutions based on Meditech. Some examples:
- Sending HL7 based patient medical history to a smart card application
- Track time taken for making the bed available for admission once a patient is discharged
- Track time taken for completing lab/radiology tests flagged as critical. The system sends email alerts

Bed Tracking

Bed Tracking is a systematic tool that aids in tracking the time taken from the moment a physician discharges a patient until the time the bed is allocated to the next occupant. In between the changes, the application tracks and notifies the concerned person/ department in real-time regarding the status of the bed. This results in enhanced coordination and more streamlined communication between the different departments involved in the process.

The application can be seamlessly integrated into the hospital's existing management system and perform the following the functions:

- Tracking of time taken by each department/ person throughout the turnover process
- Provide status of the process in real-time
- Email and Desktop notifications to concerned department/ persons
- Better communication and coordination
- Enable assessment of performance metrics based on turnover times
- Reduced wait time for patients
- Increased effectiveness in providing patient Admittance and Discharge services

Critical Test Tracking Tool

Critical Tests Tracking application tracks the time taken for critical test results from the time the test is ordered by a healthcare professional (doctor, surgeon) till it is delivered back to them by the testing/ laboratory personnel. The numerous benefits of Critical Test Tracking application are:

- Measurably enhances patient safety and satisfaction
- Ensures reliability of reporting and notifies concerned personnel to act promptly when issues arise
- Ensures critical test results are reliably communicated between ordering clinician and laboratory personnel

Product Support/ Legacy Modernization

Billing & Coding Application Enhancements

CLIENT: US based Billing Company | TECHNOLOGY: iSeries (RPG with DB2)

The company's IT department could not focus on other IT initiatives other then serving ever increasing customer reporting needs and responding to ad-hoc customer queries. This resulted in project backlogs. KMG helped the client by taking over the entire production support work including the enhancement work. An offshore managed by an onsite liaison person helps meet the end user expectations.

Billing & Coding Application Modernization

CLIENT: US based Billing Company | TECHNOLOGY: Java iSeries (RPG with DB2)

The client has a legacy system running on System i for past 20 years. No desire to rewrite the entire system. Challenge was to acquire new clients because of the green screen interface. KMG cleaned the RPG code and files to separate the legacy UI from the business logic. The business logic was encapsulated into web-services and a UI written in Java uses these to access the RPG business logic. This exercise is currently underway.

Mobile Platforms

EMR on Smartphones & Tablets

CLIENT: US based Software Company | TECHNOLOGY: iOS/ Android

A subset of an EMR is being ported to the iOS & Android devices allowing physicians to access patient data (including patient charts / history) on a tablet. Physician place all orders and creating new notes.

Lab Results Alerter

CLIENT: A KMG Product | TECHNOLOGY: iOS / Android

Interfaced to the lab results database using HL7 APIs of an EMR, the app allows physicians to receive & view alerts on lab orders. Results summary, lab's interpretation of the results & the patient demographics are available.

Notification System

KMG built a notification system that helped in automating and managing alerts to reach the right people based on their alert preference i.e. Desktop, Email, or Mobile. As a result, the system enabled:

- Automatic escalations in case of response failure
- Ability to identify and reach the physician promptly
- Flexibility in devices to receive the alerts
- More streamlined coordination resulting in enhanced patient care

KMG's Role

KMG is a partner of choice in providing technology solutions to businesses across various domains. KMG's end-to-end web technology solutions helped its client roll out multiple web portals. It also helped the client create a seamless experience in sharing information with its audiences, customers, vendors and partners. KMG's role can be summarized as follows:

- **Project Management:** The project is managed by a KMG Project Manager with experience in handling projects based on Microsoft technologies or any other technologies being used during the project.

- **Coordination:** Proven communication processes ensure that both the onsite (Client's own) as well as the offshore (KMG) teams work in tandem to meet the deadlines.

- **Offshore Development:** The offshore development & support team consists of experienced programmers led by a senior team leader. Each member is an expert professional adept in the appropriate development tools.

- **Quality Audit:** Regular audits and code reviews are done by the Offshore Quality Analyst to ensure the quality and standards of the project. Peer & project manager reviews are also undertaken to ensure adherence to coding standards. The focus of the quality audit is to deliver code that is elegant as well as efficient.

Change Management Process:

An in-house issue-cum-change management tool is used for communicating the changes to the off-shore team. The change requests are analyzed by the KMG business analysts and an effort estimate sent to the client. Once the effort has been approved, the changes are assigned to the team.

Status Reporting and Communication:

KMG Project Management ensures that accurate weekly status reports reach the client's Project Management team. This helps keep both the teams updated on the current status of the project.

KMG Domain Expertise

Healthcare IT

P&C Insurance IT

KMG is a partner of choice for organizations looking for opportunities to transform their business through IT solutions. With an extensive experience of over 20 years in providing enterprise solutions, KMG always aims to deliver business value and achieve maximum ROI on IT investment to its partners.

Software & App. Development

KMG provides its clients with the full spectrum of application development services.
- Application Development
- Systems Interfaces & Integration
- Portals & Intranets

Mobile Application Development

We provide mobile application development solutions that empower businesses to capitalize from mobile applications.

Android   iOS   Windows   BlackBerry

Legacy Support & Modernization

Our expertise in legacy platform, especially the IBM System facilitates smooth business workflow round the clock, across the globe.
- Support & Maintenance
- Migration & Web enabling
- Reverse Engineering

QA & Testing

KMG focuses on enhanced defect reporting and improving user satisfaction by adopting agile methodologies throughout the project development lifecycle.
- Test Life Cycle & Reporting
- QTP, UTP, Segue, Selenium
- Domain specific testing for P&C Insurance and Healthcare

HEALTH IT   P&C INSURANCE   ENTERPRISE MOBILITY   PORTALS & INTRANETS

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Fostering Partnerships

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