OpenEHS  
Project Charter

**Date:** 8-Jan-2011  
**Project Managers:** Matthew Kimber & Austyn Mahoney  
**Team:** Dahln Farnes, Cameron Harp, Peter Peter Litster, JD Russell, Kevin Russon, Brian Sneddon  
**Sponsor:** Prof. Richard Fry  
**Client:** Korle Bu Teaching Hospital & Martin Luther King Memorial Clinic  
**Website:** http://kaizen.matthewkimber.com/

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Project Goal & Background

Korle Bu, the primary health facility in Ghana, currently uses paper processes for managing information. Some forms of this information are patient records, billing, and the management of the inventory of drugs and supplies.

We propose to create an Electronic Healthcare System (EHS) that maintains a limited medical history of each patient, manages an inventory of pharmaceuticals, generates reports for administrators and improves communication between physicians, nurses, and staff. With this system, the process of seeing each patient will be accelerated, communication errors reduced and the overall quality of service to patients will be improved.

Project Team

**Dahln Farnes**

Assigned Responsibilities:

* Software Engineer

*Bio:* Dahln began studying computer science at Utah State University in 2007. In 2009 he transferred to Web State University and continued studying computer science. He has been working with computers and a variety of programming languages since high school. His work, strengths and current interests include: C# windows application development, ASP.NET development, and mobile application development.

**Cameron Harp**

Assigned Responsibilities:

* Software Engineer
* Database Architect

*Bio:* Cameron has been working with computers for the last 3 years, when he became interested in the field of computer science. He has worked mainly with C++ but is trying to gain an understanding of ASP.NET and databases to help his knowledge grow in computer science. His strengths include UML design, database design, management, and being a liaison/facilitator to the customer.

**Matthew Kimber**

Assigned Responsibilities:

* Project Manager
* Software Engineer

*Bio:* Matthew has worked off and on in the software industry beginning in 1999 when hired to develop web software using ASP and VB COM objects for the local newspaper. He currently works as a Network Administrator/Software Developer creating in-house applications and maintaining the computer infrastructure for a family owned business. Strengths include application design and architecture, implementation, deployment, as well as user experience and user interface design.

**Peter Litster**

Assigned Responsibilities:

* Product Information Engineer
* Team Webmaster

*Bio:* Peter works as a Documentation Supervisor for a dialysis manufacturing facility in Ogden. He has developed several Access database applications to automate processes within the documentation department. He is currently working on a Software Engineering degree from Weber State University.

**Austyn Mahoney**

Assigned Responsibilities:

* Project Manager
* Software Engineer

*Bio:* Austyn has worked in the software industry for over 4 years, beginning at Weber State University developing a rich web application ChiTester. He currently works as a Software Engineer at Borsight, a defense contractor for the U.S. Military. His strengths include web application development, UML documentation, and mobile software development. He is currently working on his Computer Science - Software Engineering degree from Weber State University and will graduate in Fall 2011.

**JD Russell**

Assigned Responsibilities:

* Software Engineer
* Test Engineer

*Bio:* JD is currently a senior at Weber State University majoring in Computer Science with a minor in Health Information Management. He is employed full time by the LDS Church as a product engineer in the audiovisual department. His strengths include project management, organization, and web programming in PHP. He also has experience in database design.

**Kevin Russon**

Assigned Responsibilities:

* Software Engineer
* Build & Release Engineer

*Bio:* Kevin has been working in the software industry for 4 years as a Quality Assurance tester, Build Engineer, Software Engineer and Project Manager. He is experienced in C# application development, ASP.NET web development and has worked with WCF web services. Kevin also has done work with Windows Mobile applications and has recently started working on Android applications.

**Brian Sneddon**

Assigned Responsibilities:

* Software Engineer

*Bio:* Brian works at L3 Communications as a Software Developer managing and updating the .NET based company intranet. He will graduate this spring from Weber State University in Software Engineering.

Objectives

The Korle Bu teaching hospital and Martin Luther King Memorial Clinic will be delivered an electronic healthcare system to take the place of paper forms for the information management of most day-to-day activities.

The benefits will include:

* More complete, more accurate, and better structured clinical data and documentation.
* Relevant information is displayed to the physician while caring for a patient to improve and assist in decision making.
* Quickly access and update patient records.
* Fewer dangerous medical mistakes which typically result from poor handwriting or order-entry errors.
* Potential cost savings (reduction of errors in inventory, billing, and patient care).
* Help prevent redundant tasks for all employees and help prevent duplicated records.

Once the system is complete and implemented into the practice we hope to see an overall improvement in efficiency. Common operations that once took more time should be sped up considerably and be easier to perform.

Scope

Below you will find the various functional features covered and not covered in the EHS to be developed:

*In Scope:*

* Electronic Patient Records
  + Medical History
  + Prescription History
  + Physical Location Lookup
* Patient Management
  + Billing
  + Prescribing
* Business Management
  + Inventory Management
* Reporting
  + Monthly Statistics
  + Supply and Pharmaceutical Consumption

*Out of Scope:*

* Full Accounting Processes
  + Account Payable
  + Account Receivable
  + Etcetera
* Insurance billing and interoperation.
* Storage, retrieval, and management of digital lab results (including X-rays).
* Interoperation and integration with government and/or other medical institutions.

Schedule/Deliverables

We will follow the agile method of software engineering performing two week sprints for the next four weeks. The plan is to have a deliverable every two weeks that can be demonstrated to the client for approval. This will help in course correcting the project and our own thinking.

* Requirements Analysis and Definition
  + SSRS Requirements Document (*12-Jan-2011*)
* System and Software Design
  + Software Design Document (*12-Jan-2011*)
  + Final Specification and Design Document (*12-Jan-2011*)
* Implementation and Unit Testing
  + Sprint 1 (*Ending 17-Jan-2011*)
  + Sprint 2 (*Ending 31-Jan-2011*)
  + Sprint 3 (*Ending 14-Feb-2011*)
  + Sprint 4 (*Ending 28-Feb-2011*)
* Integration and System Testing
  + Sprint 1 Testing (*Ending 18-Jan-2011*)
  + Sprint 2 Testing (*Ending 1-Feb-2011*)
  + Sprint 3 Testing (*Ending 15-Feb-2011*)
  + Sprint 4 Testing (*Ending 1-Mar-2011*)
* Operation and Maintenance
  + System Installation (*5-Mar-2011*)
  + User Training (*6-Mar-2011*)

Estimated Cost

The software will be provided absolutely free of charge. There may be some hardware costs however. An application server, a printer, and a laser scanner may or may not be needed for the system. Most of the hardware has already been donated by Weber State from the last few years or provided by another source. However, depending on availability the cost of project dependencies could exceed $1,000.00 USD.

Customer Involvement & Responsibilities

The customer will be expected to participate in business decisions, design, document acceptance and review, and testing the user interface and functionality of the end product. The customer will also be responsible for reviewing any web updates and answering questions via e-mail or telephone.

Assumptions

* There will be a central computer acting as a server.
* All computers will be using a modern operating system.
* All computers will have a modern browser installed.
* All computers will be connected by CAT-5 cable and networking equipment.
* There will be a printer for receipts, prescriptions, and reports.

Constraints

* Amount of networking infrastructure needed.
  + Switches/Routers
  + Cable
  + Misc. Networking Hardware
* Ability to network all the computers together.
* Computer speed and video card capabilities.
* The project must have a beta deliverable no later than March 5, 2011.

Dependencies

* Network
  + Cabling
  + Infrastructure
* Computer Acting as the Server
* Standard Printer or Thermal Printer
* Laser Scanner
* MySQL Database

Client Impact

During installation the system and people that are installing said system may briefly interrupt service to patients.

The receptionists, nurses, and physicians will need training on how to use the new computerized system. It will also be necessary that IT staff, or those that are in charge of the computer infrastructure, receive training on how to run and maintain the system.

Risks

* The required hardware might not be available.
* Communication may breakdown.
* Development staff may become ill or unable to perform.
* Development staff may be otherwise preoccupied with other school workload.

Communication Plan

We will be communicating about the project every class period Monday and Wednesday mornings. Our project websites will also be used to communicate specific project details as needed.

Weekly status reports will be posted on the project wiki at http://kaizen.matthewkimber.com. Austyn Mahoney, as co-manager, will be responsible for writing and posting it weekly. It will be available for viewing by anyone curious about our progress, including stakeholders at Korle Bu, Martin Luther King Memorial Clinic, and the professor.

Success Criteria

We will know that the project is done once we have a final product—that is thoroughly tested and has all the key components required. The stakeholders will decide if the final deliverable is satisfactory once they have reviewed it and have a feeling that it fits their requirements. A feasibility test will be used, at the end, to see whether the product is ready to be distributed to our client.

Version History

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| --- | --- | --- |
| **Date** | **Description** | **Author(s)** |
| *9-Jan-2011* | Began initial document. | Matthew Kimber |
| *22-Jan-2011* | Changed font, roles now reflect what is in the class website | Austyn Mahoney |

Signatures

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Prof. Richard Fry Project Management