Software Architecture Document

Version 0.1

PAS Customization Project

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Software Engineering Project

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# Abstract

The PAS (Patient Accounting System) Customization Project was commissioned by MedAssets to provide a greater level of control to customers using the Charge Capture Audit application. The purpose of the PAS Customization Project is to provide an easy to use interface through which MedAssets customers can customize the structure of the corrected charge export data file from the Charge Capture Audit application, as well as generate and download the export file. This Software Architecture Document identifies and explains the important architectural elements. This document will serve the needs of stakeholders to understand the system concepts, and give a brief summary of the use of the PAS customization feature.

# Version Control Table

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| Version Number | Purpose/Change | Author | Date |
| 0.1 | Initial draft | Javier Ochoa and Stephanie Greene | 10/04/2013 |
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# Section 1.0 – List of Figures

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# Section 2.0 - List of Tables

# Section 3.0 - Introduction

This section presents the architecture specification document for The PAS (Patient Accounting System) Customization Project. This section also provides the purpose and scope of the system. An overview of the remaining sections of the document is also included in this section.

3.1 - Purpose

This document describes the architecture and design of the PAS Customization Project. The project was commissioned by MedAssets to provide an increased level of control to their customers using their Charge Capture Audit application. Charge Capture Audit provides automated auditing of inpatient and outpatient billing to improve billing accuracy and increase consumer revenues. An important feature of the Charge Capture Audit Application is the ability to export corrected charge data from the MedAssets system into a CSV file for use by the customer’s internal record keeping system. The structure of this CSV file must be customized to each customer’s requirements. This customization is currently performed by MedAssets staff. The PAS Customization Project will provide an interface through which MedAssets customers can customize the structure of the corrected charge export file as well as generate and download the resulting CSV file.

3.2 - Scope

The final deliverable will be a stand-alone Windows application that will include the interface and a backend database of patient records from which the data will be exported. The programming language used to develop the interface and backend database connections will be Java. The database will be created using the MySQL relational database management system. The delivered application will provide a model to implement a new standard feature of the Charge Capture Audit application. The delivered interface must allow each customer to specify the name of the export data file, the number of fields to export, the order of the fields, how a debit or credit is represented, whether column headers are included, and finally to download the customized export data file. Each customer must have the ability to save multiple instances of their preferences. Once saved, the customer may use their preferences to generate and export additional CSV files.

3.3 - Definitions, Acronyms, and Abbreviations

CSV – comma-separated values

PAS – Patient Accounting System

Scrum - Scrum project management is a software agile development process

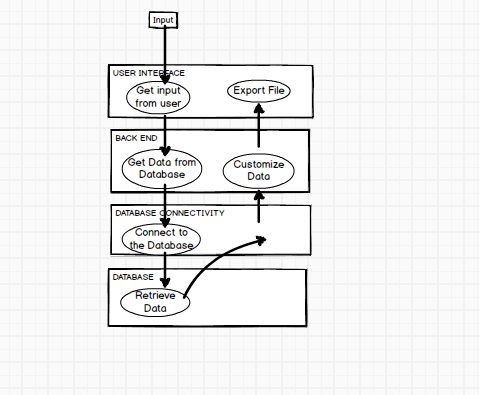
ScrumMaster - The ScrumMaster is responsible for making sure a Scrum Team lives by the values and practices of Scrum.

3.4 - Overview

This document provides a high-level description of the PAS Customization Project architecture. The architectural style and model are presented along with the team’s rational behind choosing this architecture. The next section includes the hardware and software requirements for this project. The document concludes by providing evidence that the requirements have been placed under configuration management.

# Section 4.0 – Architectural Style

## 4.1 Architectural Style Diagram



## 4.2 Architectural Style Rationale

The Architecture Pattern or Style used for our feature is a Layered Architecture. The layered Architecture fully supports the various features of our application. The first layer is the User Interface layer. The User Interface layer is for the GUI and the interaction between the user and our feature. The second layer is the back end. The back end layer provides the computing and customizing of the data selected by the user once is retrieved from the Database. The third layer is the Database Connectivity layer which is simply a connection from the User Interface/Back End to our Database. The fourth and last layer is the Database layer. The Database layer once again is just a Database in which we retrieve the data selected by the user. Once the Data is retrieved from the Database layer, our feature customizes the data at the Back End layer, and finally exports a customized file to our User Interface layer.

The reason why we chose the Layered Architecture is because our feature is very simple and straightforward. The feature just communicates between the User Interface and the Database. As a team, we discussed about having either a Client/Server Architecture or a Layered Architecture. At the end, we all agreed that a Layered Architecture would suit our needs in a better way.

# Section 5.0 – Architectural Model

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# Section 6.0 – Hardware and Software Resource Requirements

*This section describes the hardware and software required to carry out this project*

**6.1 – Hardware (5 desktop computers)**

6.1.1 – Processor: Intel Pentium processor or equivalent running at 233 Mhz or faster

6.1.2 – RAM: 128MB or greater available system RAM

6.1.3 – Hard Disk: 20GB or greater available hard disk space

6.1.4 – Input Devices: standard keyboard and Microsoft compatible mouse

6.1.5 – Video: video adapter and monitor with Super VGA (800x600) or higher resolution

6.1.6 – Sound card: standard PC

6.1.7 – Speakers or headphone: standard PC

**6.2 – Software**

6.2.1 – Operating System: Windows XP Professional or better

6.2.2 – Internet browser: Internet Explorer 8, Firefox, Google Chrome, or equivalent compatible with the resident OS.

6.2.3 – Integrated Debugging Environment – Latest Netbeans, Eclipse, or equivalent IDE compatible with the resident OS.

6.2.4 – Programming Language: Latest Java JRE and SDK compatible with the resident OS.

6.2.5 – RDBMS: Latest production version of MySQL compatible with the resident OS.

# Section 7 – Configuration Management

Configuration management responsibilities for this project are shared by the entire project team. The ScrumMaster oversees the quality management process for the project as a whole, and the individual deliverables for each phase will be overseen and managed by the appropriate project team members with the assistance of the project manager and ScrumMaster. If the projects progress at any milestone strays from the scope of the project, the requirements will be reevaluated and the completed modules will be reconsidered.

# References