**Online Medicare System**

**System Documentation**

**Group A**

1. Introduction

“Online Medicare System” is a computerized Hospital management system. This management system provide entire functionality including Employees, Doctors, and Patients etc. This project has Web base software which facilitate to insert and retrieve transactions.

Objective of the system:

* Patient should be able to register in the system by them self.
* Scheduling the appointment with doctor make convenient via online.
* Patient should be able to check their channeling history, diagnosis and treatment at each appointment via online web base system.
* Doctors should be able to log in to the system and check their appointment
* Doctors should be able to enter diagnosis information as well as prescription detail for the patient
* Internal staff of the company can obtain channeling information of the patient, Diagnosis detail as well and treatment given at each case using the system.
* Internal staff can use those information to take valuable management decision such as channeling pattern of the patient, how each doctor treat to a patient with same diagnosis etc.
* Increased the productivity and efficiency by managing all the transaction and History data.

Technology:

System has developed using J2SE, J2EE and component are wired using Spring framework dependency injection features, Hibernate used as a framework for object relational mapping, Maven is used as build tool, and Database using Oracle

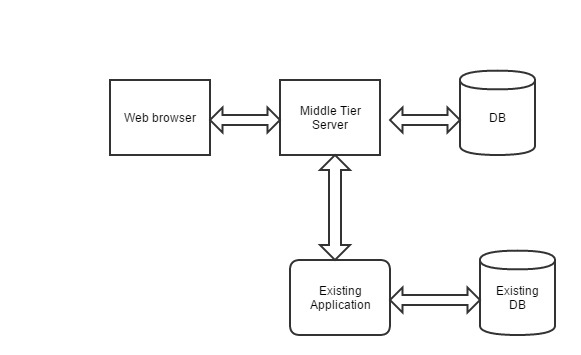
Assumption:

Existing system has developed using windows base thick client application connected with MsSQL DB

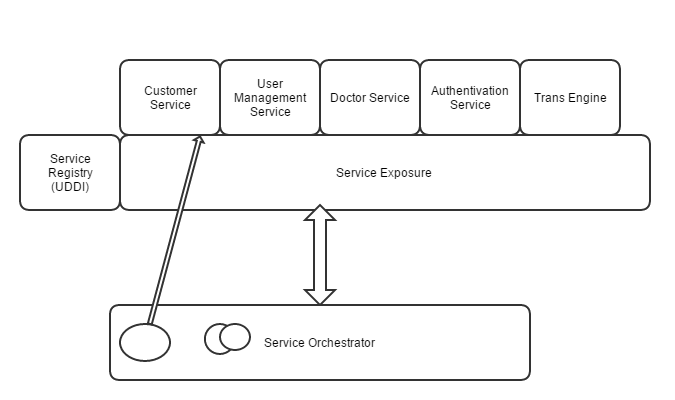
1. Architecture of the system

System can be implement using various architectures such as three Tier , SOA and MVC. Since this is online application, It is better to use three tier approach for the web browser application.

Final architecture is combination of 3tier and SOA as well as MVC. Since we have to integrate with existing system, we decided to come up with JBoss Fuse, lightweight Enterprise Service Bus (ESB).

Three tier architecture

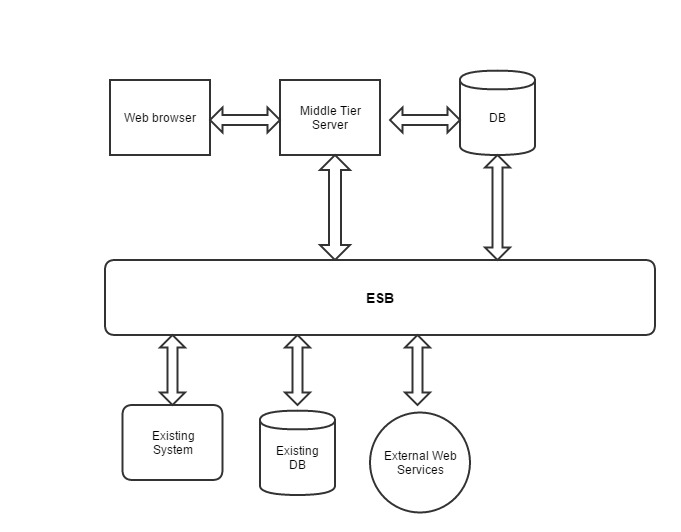
1. SOA Architecture



1. MVC Architecture



Overall Architecture



1. Security

All the passwords has encrypted in DB. We use hash mechanism to encrypt the passwords.

Two factors authentication is used for log in to the system which use both user name password as well as SMS pin.

Use https instead of http to encrypt all the data pass between browsers and the server.

Since hibernate is used as a major techniques of accessing the DB. It is not easy to do the attack like SQL injection.

Main application is deploy in the internal restricted zone of the network. Proxy server like apache http or nginx hosted in the DMZ zone used as a proxy parser to redirect the request to the main application.

Web service security can be introduced while exposing the services of the existing application to block the unauthorized access of the services.

Since patient has confidence information, Use SSL security protocol to host the web services.