

MICHIGAN STATE
UNIVERSITY

Project Plan

Healthier Communities Data Collection and Retrieval

The Capstone Experience

Team Spectrum Health

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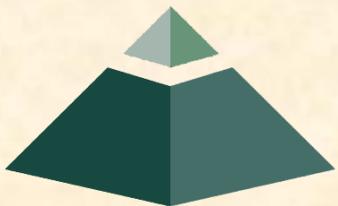
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*From Students...
...to Professionals*

Project Overview

- Healthier Communities is a Spectrum Health division that reaches out to medically underserved members of the community
- Our app organizes their process
- Enables volunteers to fill out health forms via the web
- Allow admins to access a central database of previously completed forms by the volunteers



Functional Specifications

- Application has three major user roles
- Administrators have access to all completed forms
- Store participant data in an SQL Server database
- Allow administrators to view/edit previously completed forms
- Enable volunteers to track participants' health conditions over a time period

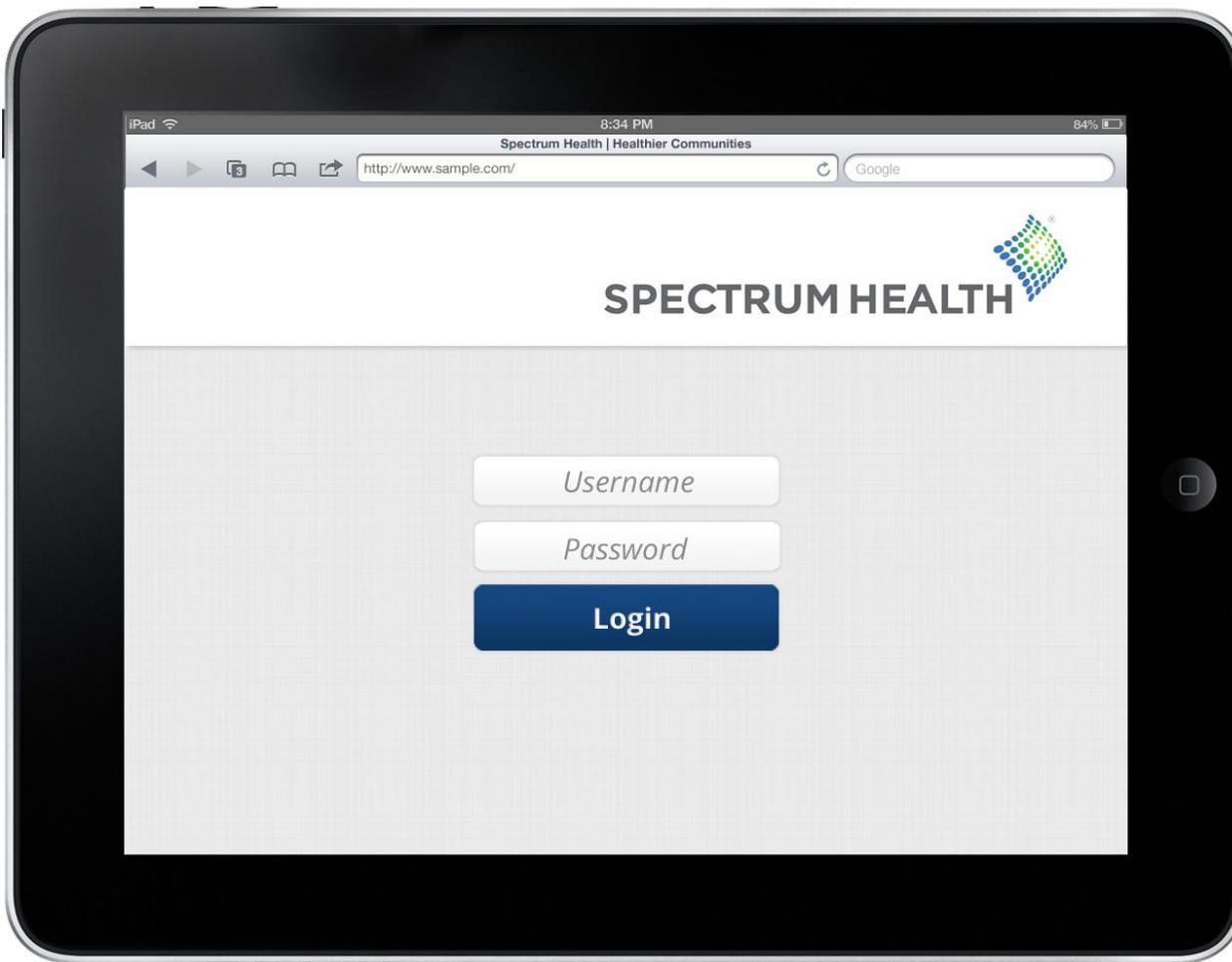


Design Specifications

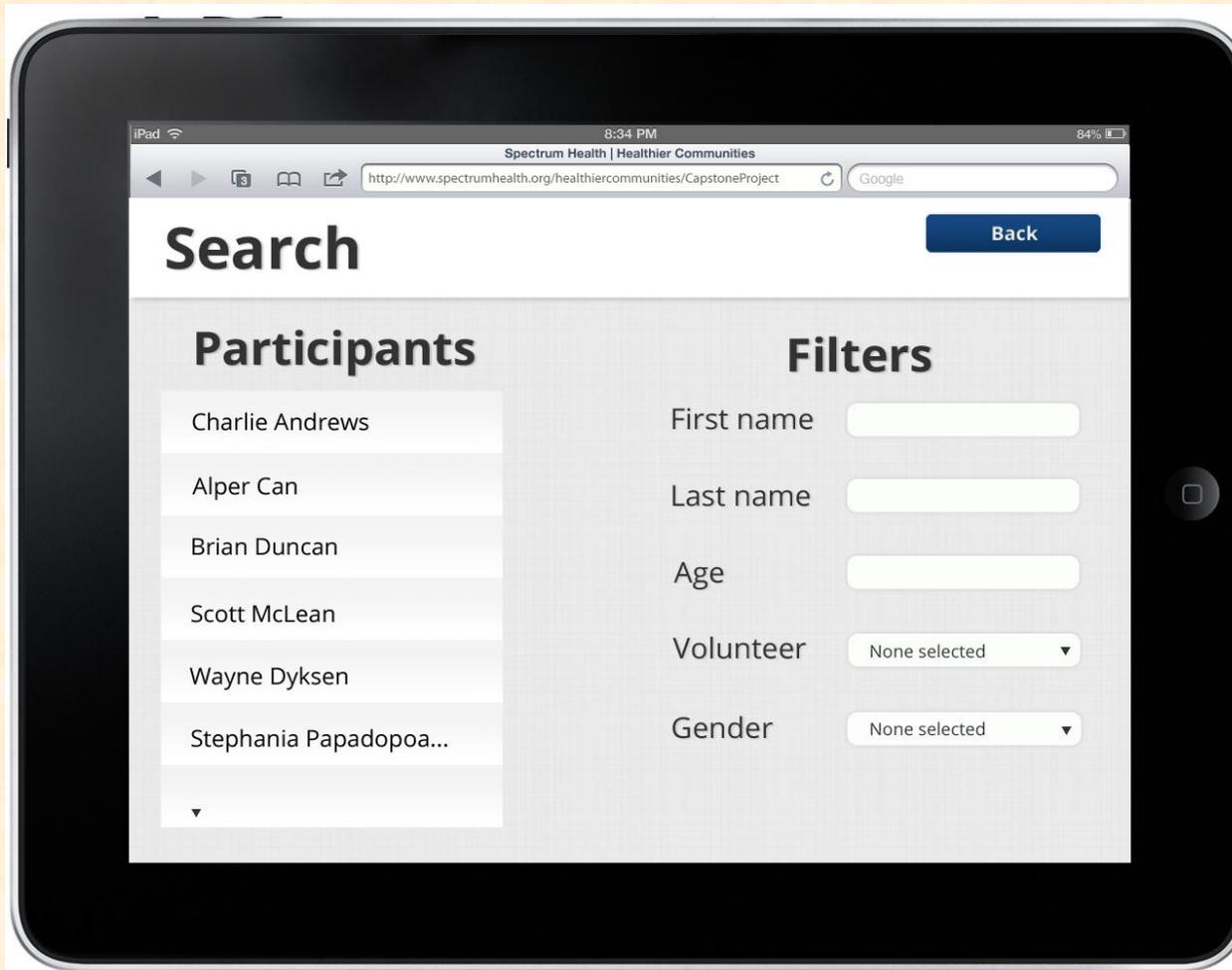
- ASP.NET MVC Architecture
- Desktop and tablet, but primarily tablet
 - Eliminate unnecessary options
- Cross-browser compatibility
 - Javascript guaranteed
- Clean, easy-to-use interface



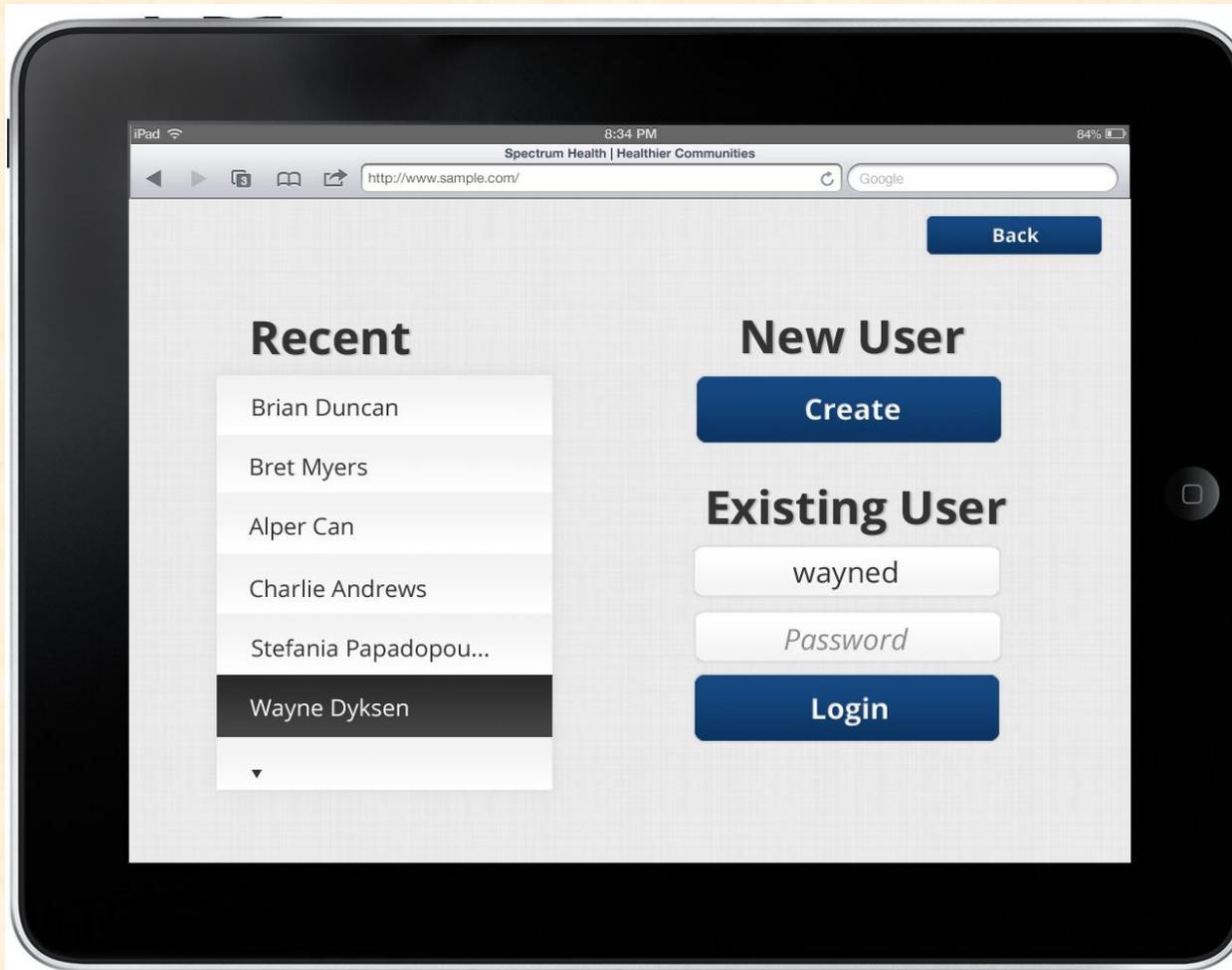
Screen Mockup: Login



Screen Mockup: Admin interface



Screen Mockup: Volunteer interface

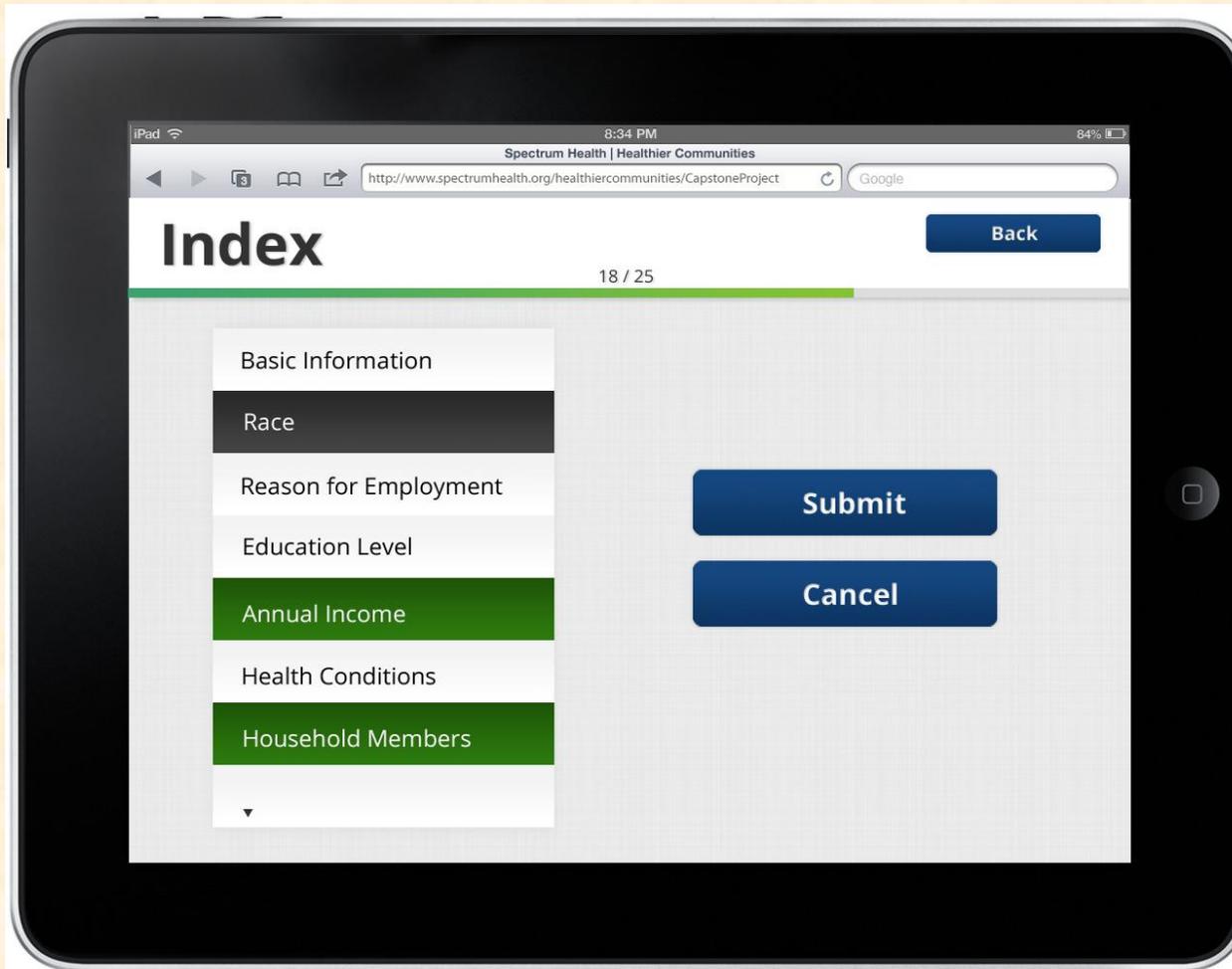


Screen Mockup: Form

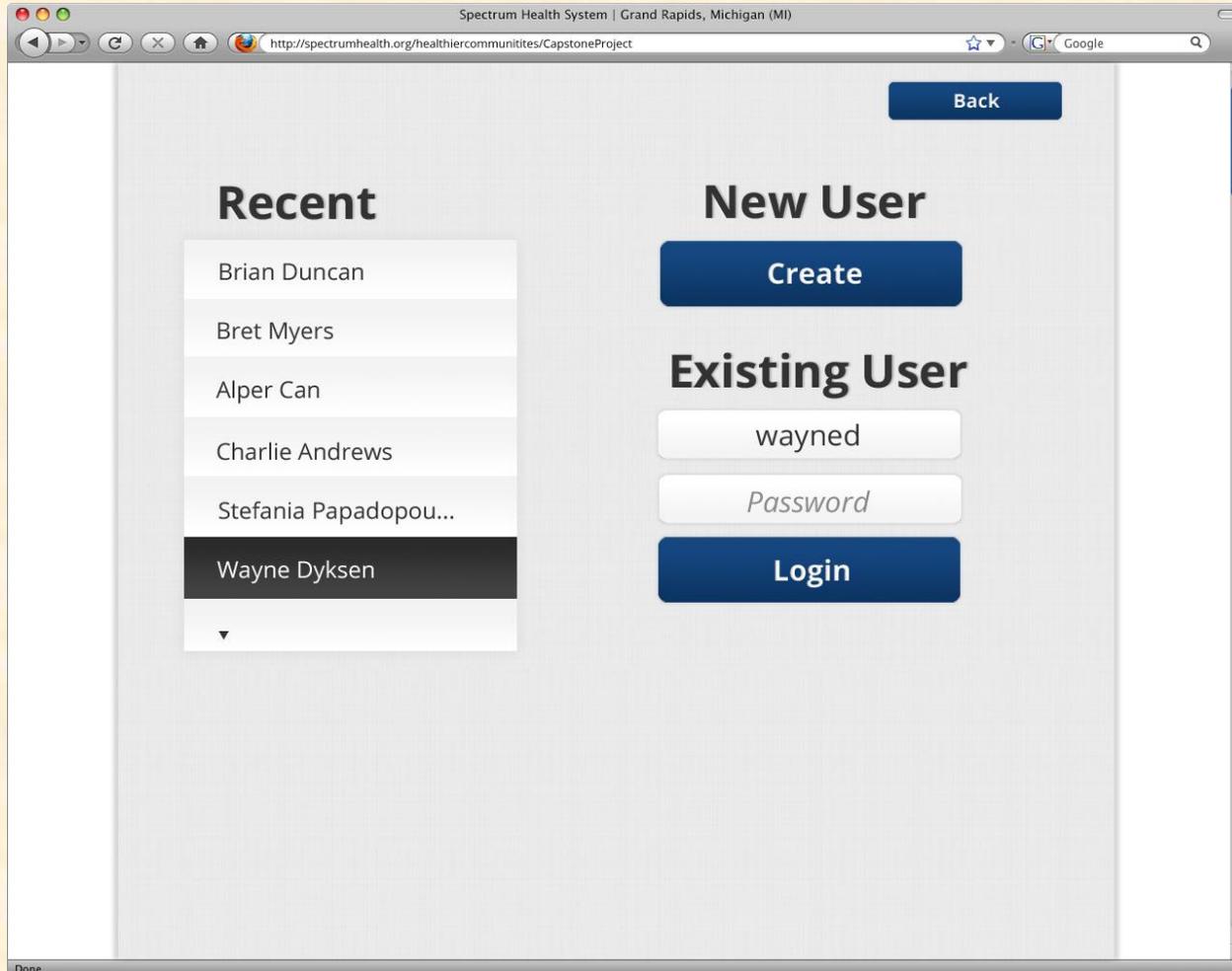
The image shows a tablet displaying a web browser interface. The browser's address bar shows 'http://www.sample.com/' and the page title is 'Spectrum Health | Healthier Communities'. The browser's status bar at the top indicates the time is 8:34 PM and the battery level is 84%. Below the browser, there are three navigation buttons: '< Previous', 'Index', and 'Next >'. A progress indicator shows '18 / 25'. The main content area is titled 'Basic information' and contains the following form fields:

First name	Gender
<input type="text"/>	Male ▾
Last name	Primary phone number
<input type="text"/>	<input type="text"/>
Nickname	Alternate phone number
<input type="text"/>	<input type="text"/>
Date of birth	Zipcode
January ▾ 1 ▾ 1990 ▾	<input type="text"/>

Screen Mockup: Form index



Screen Mockup: Browser Interface

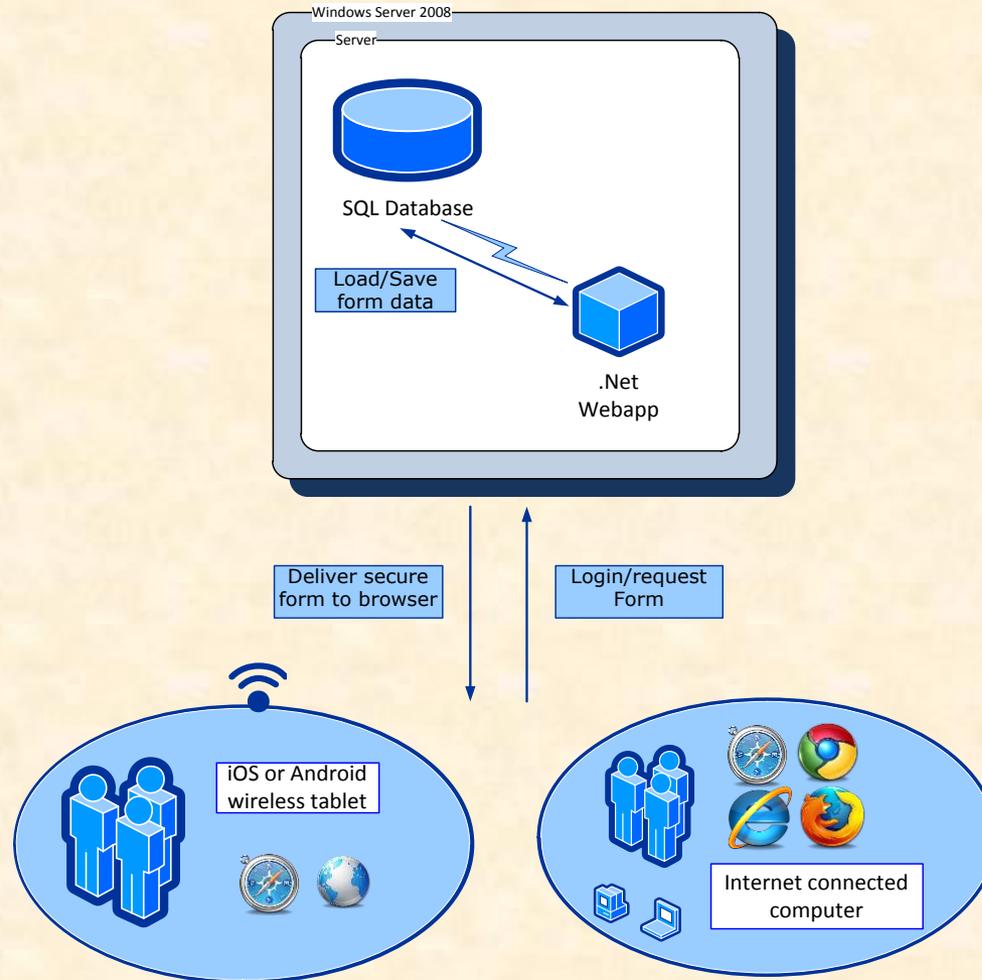


Technical Specifications

- **Development languages:** ASP.NET (C#) with Razor View Engine, jQuery, HTML5, CSS
- **Source control:** SVN with TortoiseSVN
- **IDE:** Visual Studio 2008
- **Server OS:** Windows Server 2008
- **Database:** Microsoft SQL Server 2008
- **SVN Server:** CollabNet Subversion



System Architecture



System Components

- Hardware Platforms
 - Web application hosted on server capable of running Windows Server 2008
 - Web application primarily accessed on mobile internet enabled tablets
- Software Platforms / Technologies
 - Development in Visual Studio 2010 with ASP.NET MVC 3.0 with Razor view engine
 - Any modern browser capable of viewing HTML5 and JavaScript will be able to use the all of the web application functionality



Testing

- Visual Studio Unit Test for unit testing scenarios
- Check for encryption of data sent to the database
- Check for text field validation
- Check for incomplete forms before submissions
- Compatibility between different browsers/devices
- Fill out a couple sample forms on the web application with the client



Risks

- Integrating SQL server with their data warehouse
- Preventing data loss during browser backend communication
- Concurrency problems with multiple users
- Client Communication
- Compatibility with mobile devices
- Data encryption of Protected Health Information (PHI)
- Security methods to meet HIPAA regulations

