

MICHIGAN STATE
UNIVERSITY

Project Plan

Healthier Communities Data Collection and Retrieval

The Capstone Experience

Team Spectrum Health

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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

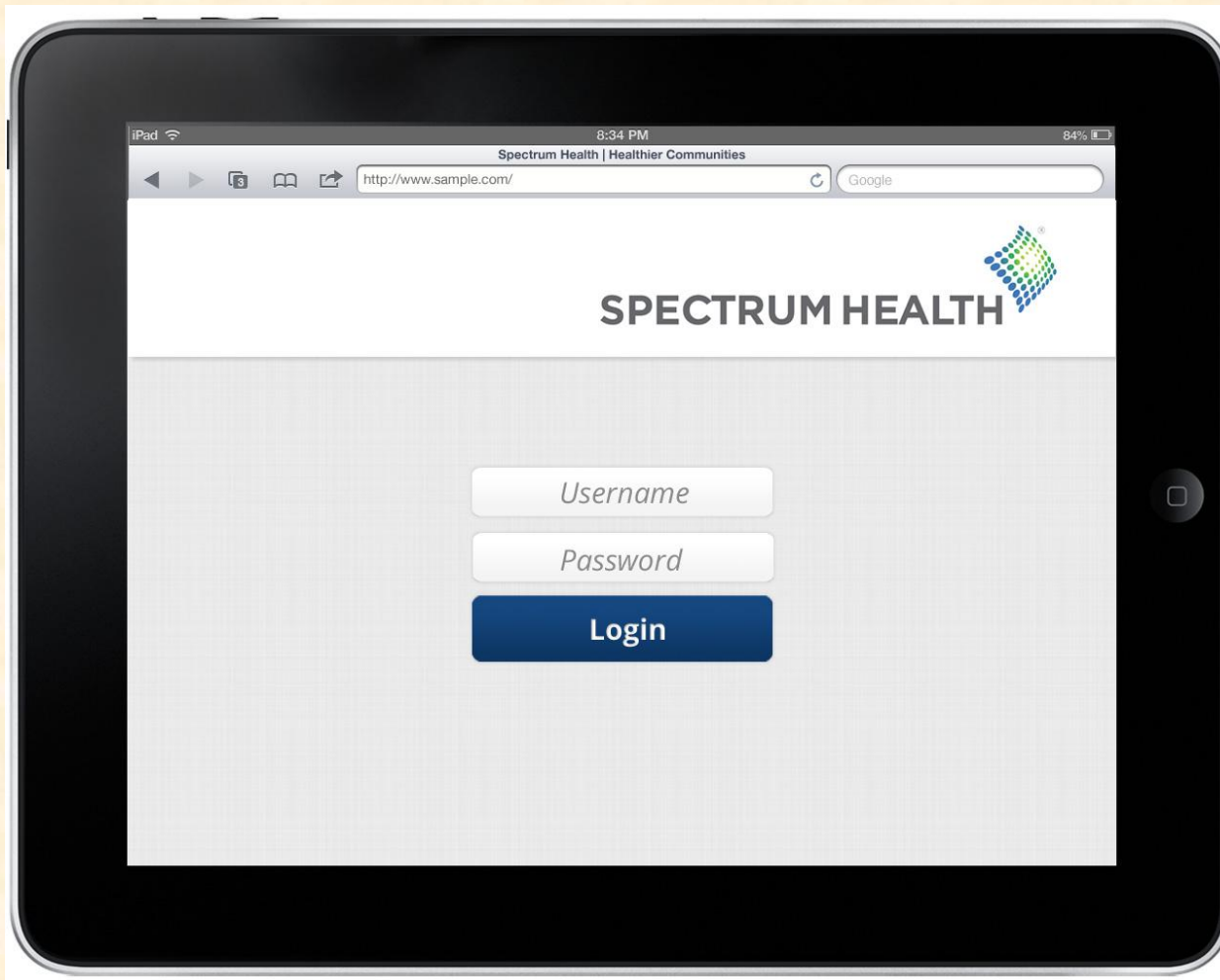
Functional Specifications

- 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

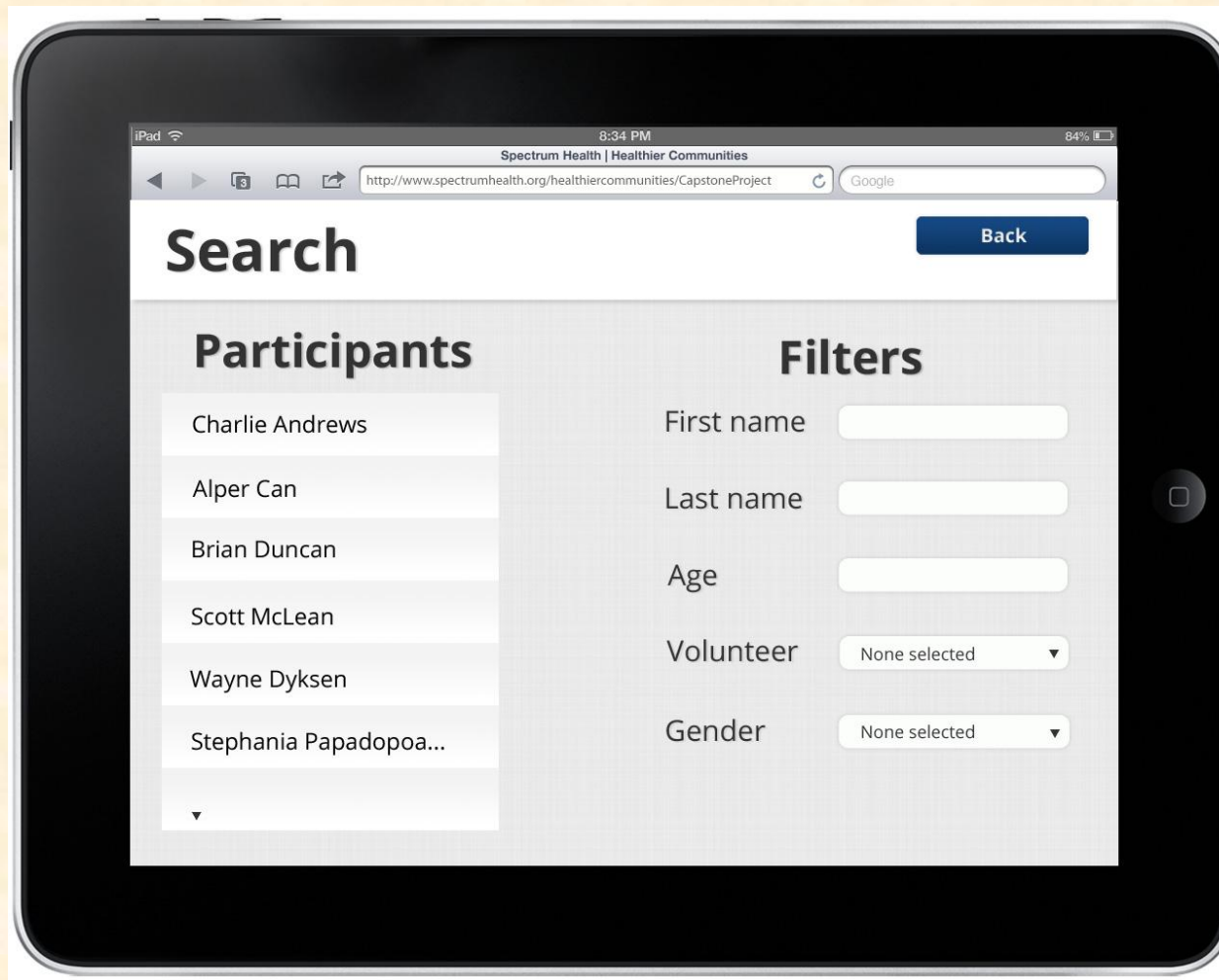
Design Specifications

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

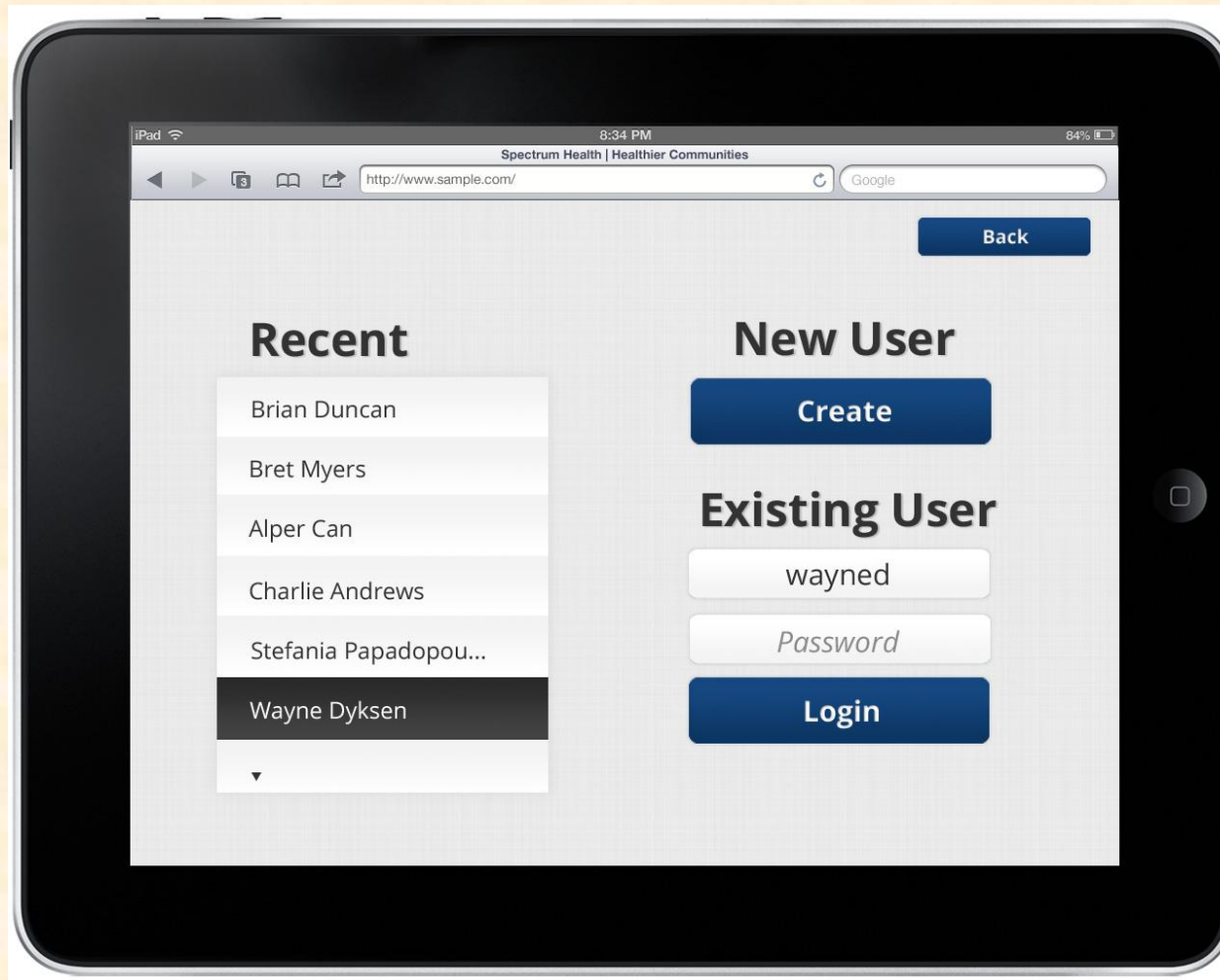
Screen Mockup: Login



Screen Mockup: Admin interface



Screen Mockup: Volunteer interface



Screen Mockup: Form

The mockup shows a web browser interface on an iPad. The browser's address bar displays 'http://www.sample.com/'. The page title is 'Spectrum Health | Healthier Communities'. The status bar at the top indicates the time is 8:34 PM and the battery is at 84%. The form is titled 'Basic information' and is divided into two columns. The left column contains fields for 'First name', 'Last name', 'Nickname', and 'Date of birth'. The 'Date of birth' field is a date picker showing 'January', '1', and '1990'. The right column contains fields for 'Gender' (a dropdown menu showing 'Male'), 'Primary phone number', 'Alternate phone number', and 'Zipcode'. At the top of the form, there are three navigation buttons: 'Previous', 'Index', and 'Next'. A progress indicator shows '18 / 25'.

8:34 PM 84%

Spectrum Health | Healthier Communities

http://www.sample.com/ Google

◀ Previous Index ▶ Next ▶

18 / 25

Basic information

First name

Last name

Nickname

Date of birth

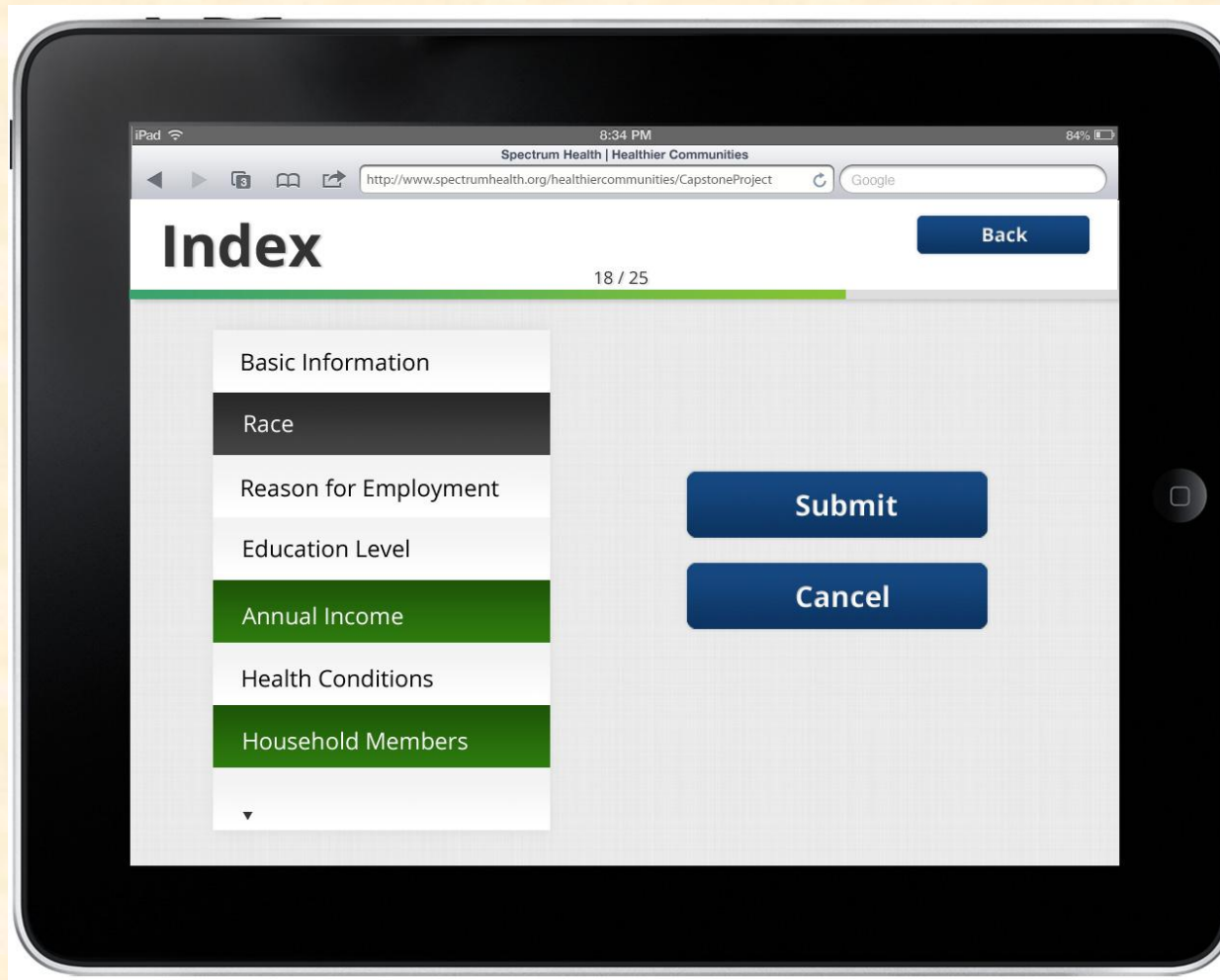
Gender

Primary phone number

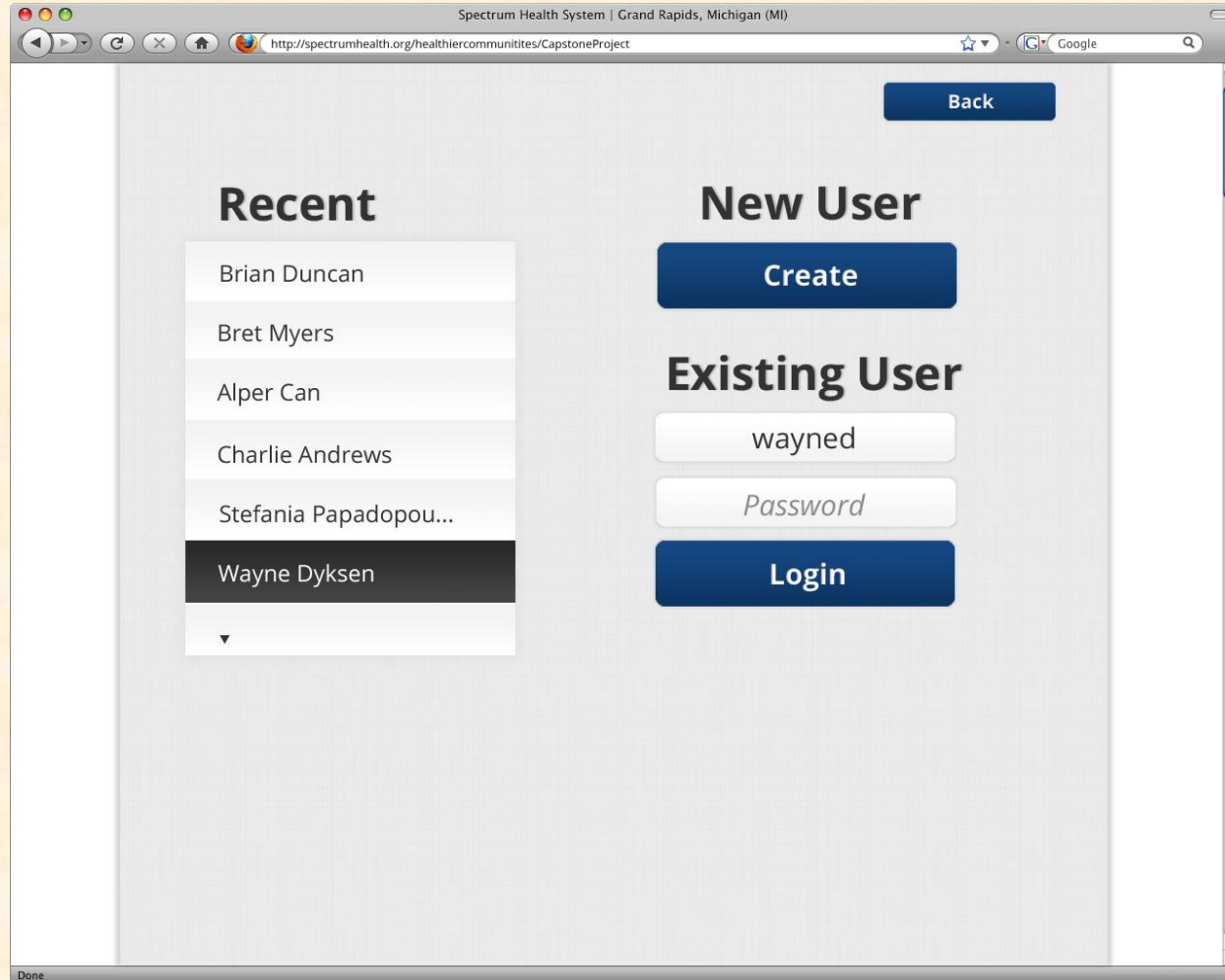
Alternate phone number

Zipcode

Screen Mockup: Form index



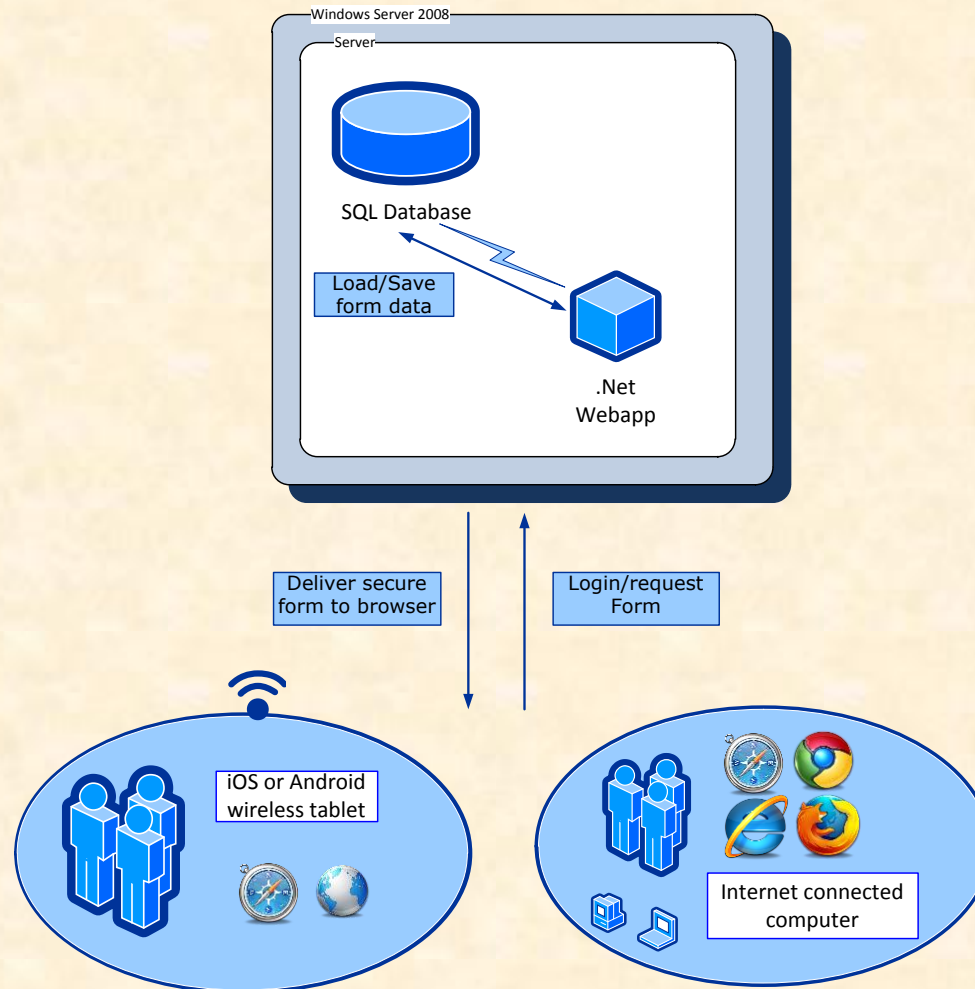
Screen Mockup: Browser Interface



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

