Saint Francis Hospital and Medical Center (http://www.stfranciscare.org/) is looking for a patient handheld application (android and iphone) that will assist patients in navigating hospital services (physician lookup, appointment contacts, list of questions for the healthcare team, etc.) and, in fact, even navigating within the entire campus of buildings (http://www.stfranciscare.org/uploadedFiles/Saint_Francis_Care_New/Patients_and_Families/About_US/Location_Directions_and_Parking/Campus%20Map.pdf)

Sample map:
The project will consist of beginning to specify, design, and define the functional and user-interface requirements of the Saint Francis Patient App with assistance and interaction with select Saint Francis personnel. Some potential capabilities include:

- Patient registration screen
- Access physician by name practice, specialty, gender, location, and language(s) spoken (http://www.stfranciscare.org/PhysicianDirectory/PhysicianSearch.aspx)
- Appointment contacts – easy way to put appointment information into calendar
- My Healthcare Team – ability to select photos and names of the physicians and others who are part of the patient’s healthcare team, and assemble them in one section of the app
- My Questions – easy way to note patient questions (and subsequent answers)
- Link to MS Healthvault to keep current info about medications etc.
- Navigation with the hospital campus using the scanning capabilities of Smartphones. For example, the new QR Codes (see below) can be used in many ways, to allow patients to get information, to download software, etc. In this setting, we would envision that these bar codes would be located on maps that are spread throughout the Saint Francis Campus. The patient would identify a location to go to (by physician location, lab location, name, etc.) and once that location is known, a scan of the bar code on the map would produce directions on the Smartphone screen using a map to show the various hallways, and stairs/elevators to take. They can rescan at map points if they get lost.

- Exploring other ways to use these QR Codes in support of Saint Francis Patient App.
Potential Technologies:

Saint Francis is using a .Net web environment (IIS) with SQL Server as the database. To integrate these technologies to the Saint Francis Patient App, we will likely employ:

- **JSON** – Both Apple’s iOS and Android have comprehensible JSON libraries. JSON is a human readable universal language of the web and can be used across many platforms. This is why I chose my server to communicate with the mobile clients through this technology.

- **WCF** – (or Windows Communication Foundation) is a Microsoft technology to pass complex composite object types from the server to the mobile client applications. We have an existing piece of software that does this that can be reused and modified.

- **Microsoft MVC** – Microsoft’s Model View Controller implementation allows the JSON calls to the server much easier to digest by retrieving objects.

- **ASP.NET 4** – Microsoft active server pages offer a strong, secure and stable environment to host web applications.

We have a working application that uses these technologies to integrate to the MS Healthvault product for smartphone apps to manage medications and observations for daily living in both Android and iphone – this code is available.