MICHIGAN STATE UNIVERSITY

Project Plan

IT ePager System

The Capstone Experience

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From Students…
…to Professionals

Project Overview

The IT ePager System allows a user to send a page, text, or email to a group or an individual in case of emergency using a website. The product will be supported via website and potentially from IOS and Android devices. Our website will replace the current mode of paging used at Meijer while providing an easy to use interface. The website will pull from a database in order to determine which groups or individuals to contact. In addition, our system will allow for an administrative backend, a normal user interface and a reporting interface. The normal user interface allows for template messages. The reporting role determines what pages have been sent and displays corresponding information. The administrator interface allows for managing users and creating and deleting templates.

Functional Specifications

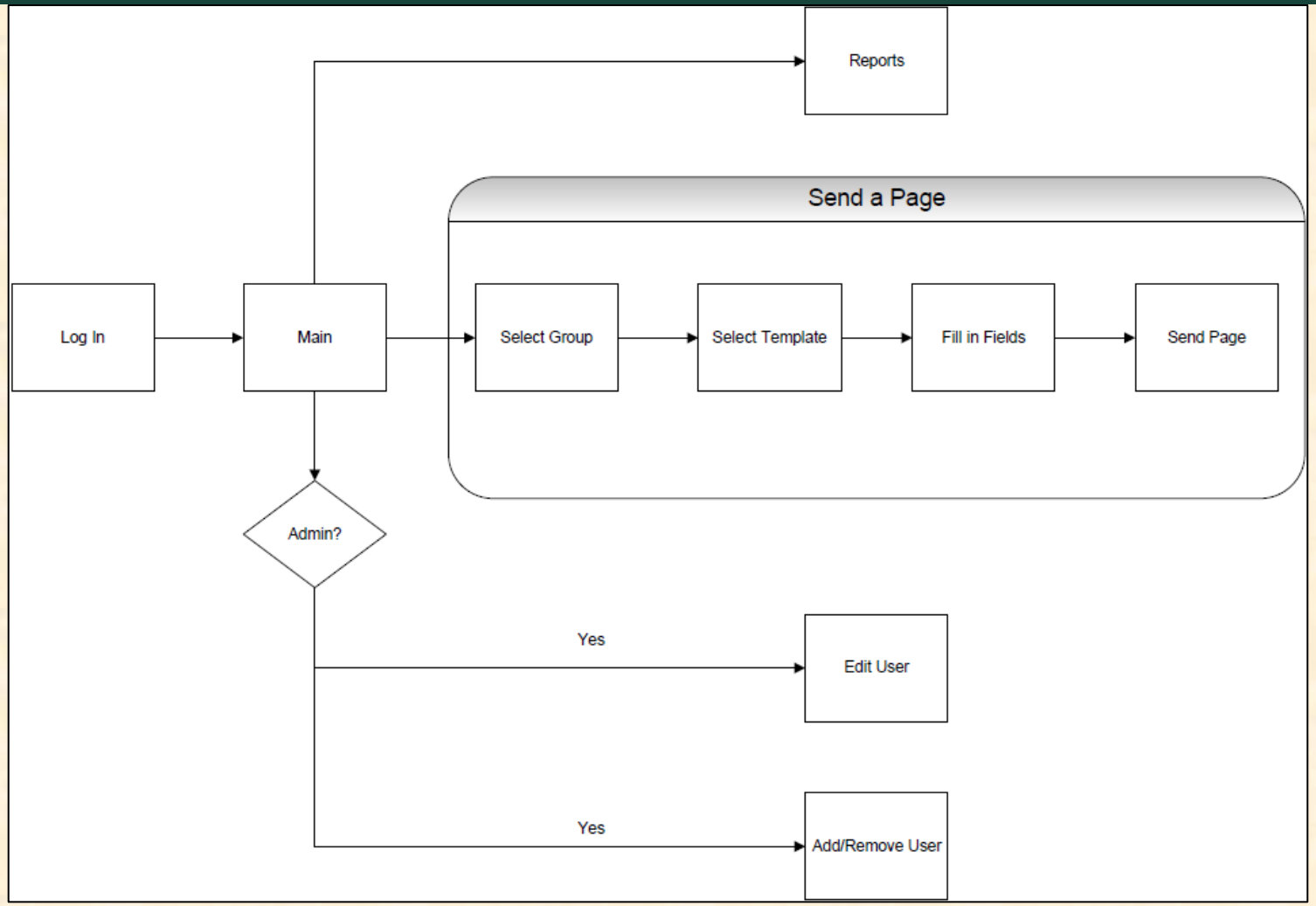
- Three kinds of users: Admins, Super-users and regular Users
- **Regular Users**
  - Send pages
  - View reports
  - Change personal account settings.
- **Super-Users**
  - All privileges allowed to regular users
  - Create message templates
  - Create/edit users.
- **Admins**
  - All privileges allowed to both regular users and super-users
  - Specify the privileges of each user.

- **Template Creation Feature**: Exclusive content for Admins and Super-Users. This allows them to create a basic message where the majority of the message cannot be altered except certain fields/parameters (for example store location, or time that the event occurred).
- If a user is in more than one group that a page is being sent to, they will not receive it more than one time.
- There is an update page feature that will allow Admin users to send an update message that is based off of a previous page, this way it will group all messages of a certain event together.

Design Specifications

- Users will be logged in to the local network of the server (remotely or otherwise), and permissions will be based off of the Windows account that the user logged in with.
- There are 3 basic tabs to choose from: Reporting, Admin and Send.
  - The choices in the Admin tab will be based off of the user's permissions.
  - Administrators and Super-Users will see "Create User" and "Edit User" under the Admin tab.
  - Send allows the user to choose pre-defined message templates to fill out. Anybody can use this feature.

Design Specifications



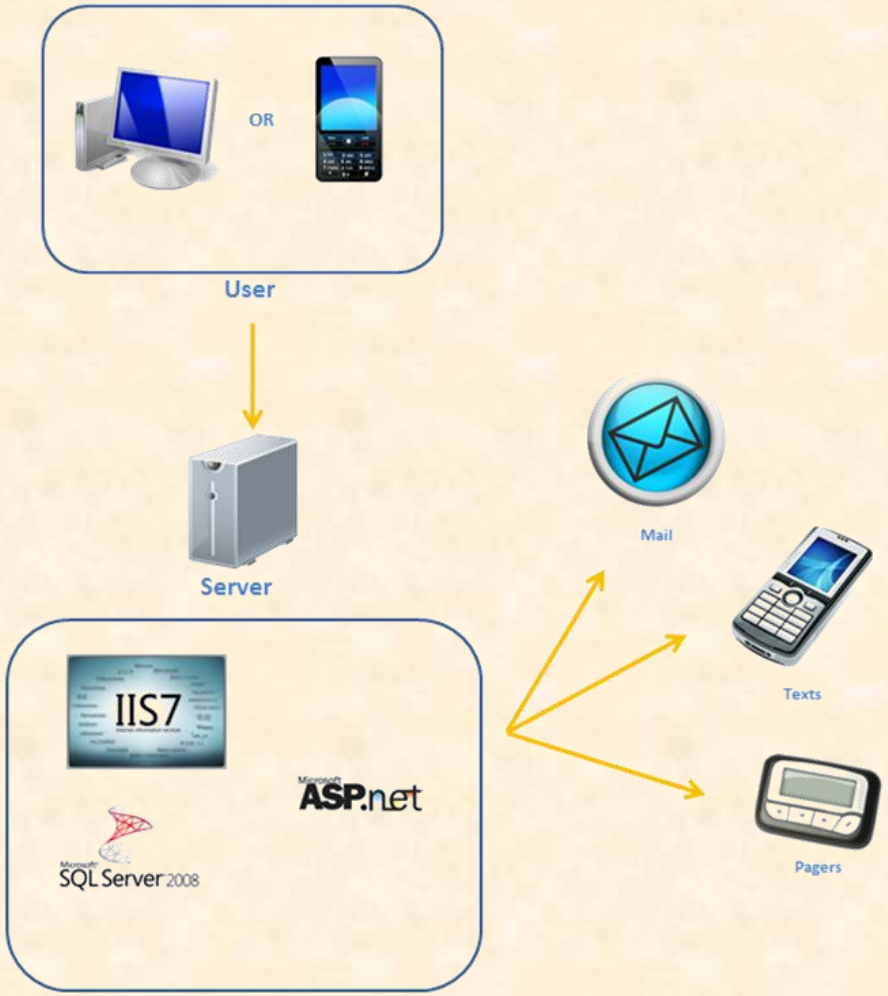
Screen Mockup: iPhone Interface

Screen Mockup: Home & Template Creation Pages

Technical Specifications

- Accessed through a web browser on the client side via desktop computer or smartphone.
- Website content is written in ASP.net and C#, and is run on an IIS web server running on our Windows Server 2008 machine.
- To view reports the site queries the server's instance of Microsoft SQL Server to retrieve the desired information.

System Architecture



System Components

- Hardware Platforms
  - iMac and Macbook
  - Dell PowerEdge Server
- Software Platforms / Technologies
  - Windows 7 (on Macintosh lab machines)
  - Microsoft Windows Server 2008
  - IIS 7.0 web server
  - Microsoft SQL
  - ASP.NET
  - C#

Testing

- Send dummy texts out, and get the SMS messaging working.
- Run plausible situations on the database to make sure it works the way it is supposed to.
- Run improbable situations to make sure the application fails in the correct way.
- Have working finished prototype by 10/27
- Make changes on the prototype that meet the Meijer's Demands
- Test Final Project and Fix any and all bugs/errors

Risks

- **Risk 1 - Server Maintenance**
  - Lack of HTML/ASP experience in the group and no experience in setting up a web server.
  - Solution: Research on the internet and read various tutorials to learn how to install and run an IIS web server on Windows.
- **Risk 2 – Authentication**
  - Our application will determine the user based on the Windows account used to access the site. We will need to find out how to determine which Windows account is being used.
  - Solution: Look up how to determine the Windows login credentials and store them in a session for the web browser. We will most likely use Microsoft's website and documentation to learn this.
- **Risk 3 – Sending Pages from an Application**
  - A main part of our project depends on sending pages to several devices via a web application, which none of us have ever done before.
  - Solution: Currently we our looking into available methods in C# and ASP.NET for this task. Coding small test cases will be key to familiarizing ourselves with these types of programming techniques.
- **Risk 4 – Broad Project Description**
  - Not knowing exactly what the client expects from the project can be a burden when the final plan is due.
  - Solution: We have to keep up a regular dialog with our clients and offer them screen mock-ups or functional prototypes in order to receive feedback and find out how to tweak or modify our design to better suit the client's needs.