

MICHIGAN STATE

UNIVERSITY

Project Plan
IT Metrics Repository
The Capstone Experience

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Spring 2013



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

Project Overview



- Metrics - standard of measurement
 - Provides insight on performance compared to...
 - Industry standards
 - Company goals
- Provide Meijer's IT with a means of storing and accessing customizable sets of data



Functional Specifications



- Ability to create and view metrics
 - Create and select metrics
 - Calculate metrics based on existing metrics
- Generate graph or report
 - across various time dimensions
- Provide metric goals
- Store historical values
 - Up to ten years



Design Specifications



- User login page
- Create page
 - Create a new metric, attribute or data
- Select page
 - List of metrics and attributes
 - Start year/period and end year/period
- Generate Report
 - Shows the metric graph and table



Screen Mockup: Login

A screen mockup of a login page. At the top, the Meijer logo is centered within a white circular area that overlaps a grey horizontal bar. Below this, the page has a white background. The heading "LOG IN" is in a bold, grey, uppercase font. Underneath, a line of text reads "Please enter your username and password. [Register](#) if you don't have an account." The main form area is a large white rectangle with a thin grey border. Inside, the heading "Account Information" is followed by two input fields: "Username:" and "Password:". Below the password field is a checkbox labeled "Keep me logged in". A "Log In" button is located at the bottom right of the form area.

Screen Mockup: Select Metric



Select Create

SELECT METRIC

Metric 1

Select Metric: Stores - Pharmacies ▾
Select Attribute: # of pharmacies ▾
From:
Year: 2008 ▾ Period: 1 ▾
To:
Year: 2008 ▾ Period: 12 ▾

Metric 2

Select Metric: Stores - Pharmacies ▾
Select Attribute: # of stores ▾
From:
Year: 2008 ▾ Period: 1 ▾
To:
Year: 2008 ▾ Period: 12 ▾

Add Metric Generate Report



Screen Mockup: Create Metric



meijer

Select Create

CREATE METRIC

Metric

Metric name: Stores - Pharmacies
Description: Comparison of number
Detail: 28388

Create Metric

Attribute

Select Metric: Stores - Pharmacies
Attribute Name: # of pharmacies
Select Type of Data: Number

Add Attribute

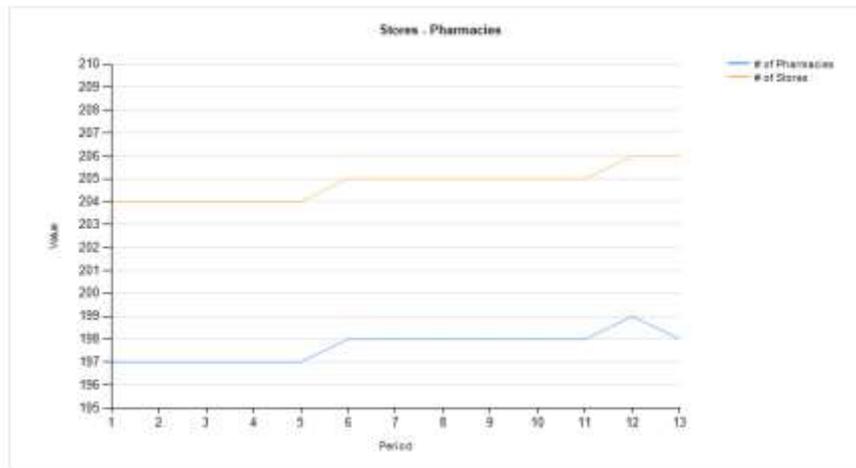
Data

Select Metric: Stores - Pharmacies
Select Attribute: # of pharmacies
Data Value: 205
From
Year: 2008 Period: 5
To
Year: 2008 Period: 9

Add Data



Screen Mockup: Report



Year	Period	Attribute	Value
2012	1	# of Stores	204
2012	2	# of Stores	204
2012	3	# of Stores	204
2012	4	# of Stores	204
2012	5	# of Stores	204
2012	6	# of Stores	205
2012	7	# of Stores	205
2012	8	# of Stores	205
2012	9	# of Stores	205
2012	10	# of Stores	205
2012	11	# of Stores	205
2012	12	# of Stores	206
2012	13	# of Stores	206

Year	Period	Attribute	Value
2012	1	# of Pharmacies	197
2012	2	# of Pharmacies	197
2012	3	# of Pharmacies	197
2012	4	# of Pharmacies	197
2012	5	# of Pharmacies	197
2012	6	# of Pharmacies	198
2012	7	# of Pharmacies	198
2012	8	# of Pharmacies	198
2012	9	# of Pharmacies	198
2012	10	# of Pharmacies	198
2012	11	# of Pharmacies	198
2012	12	# of Pharmacies	199
2012	13	# of Pharmacies	198



Technical Specifications



- System Architecture
- System Components
- Environments
 - Development
 - Production
- Database Schema



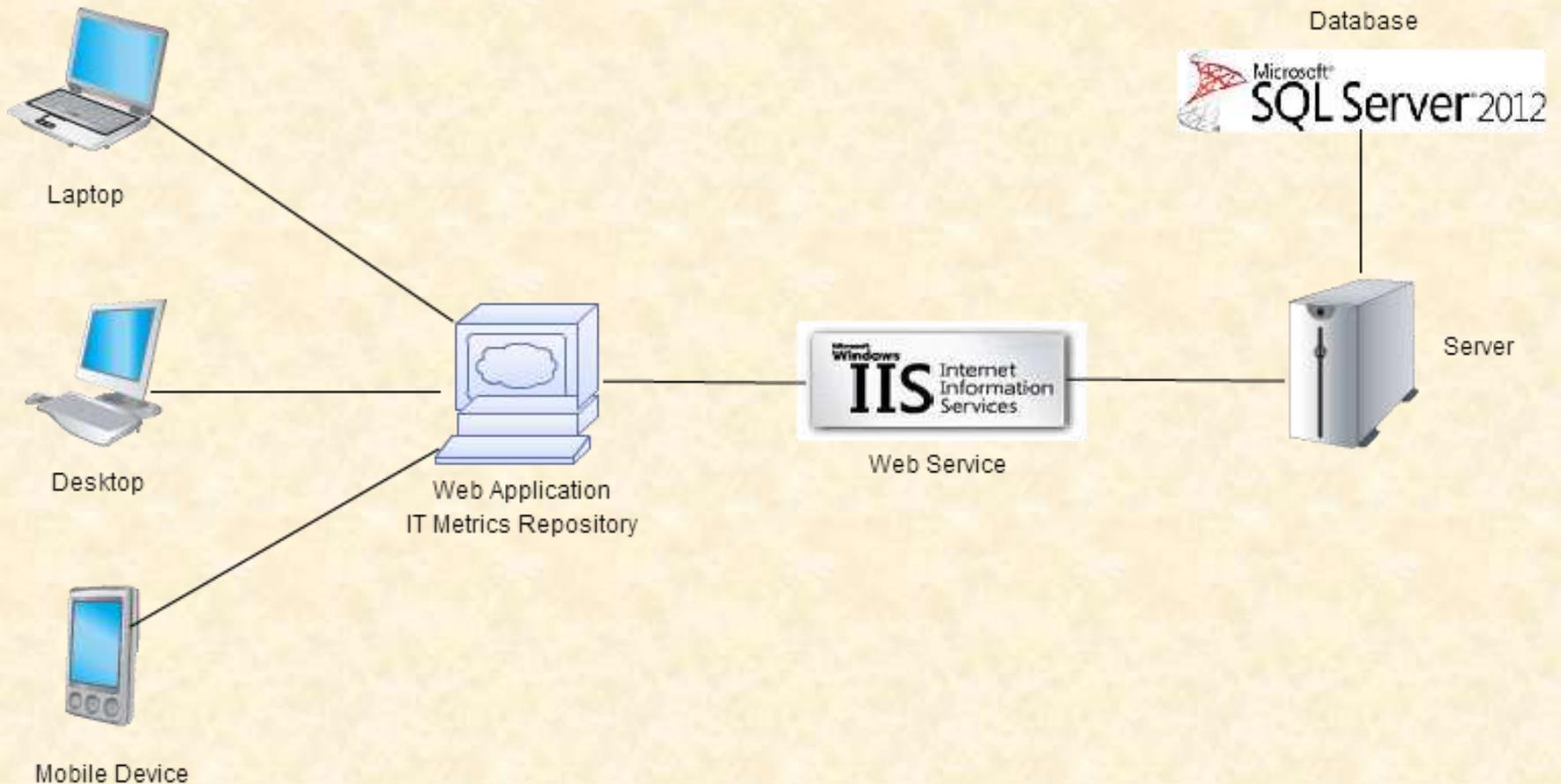
System Architecture



- .NET web application user interface
 - Desktop, laptop, mobile
- Internet Information Services
 - Application web service
- Server containing a SQL Server 2012 database
 - Reporting Services



System Architecture

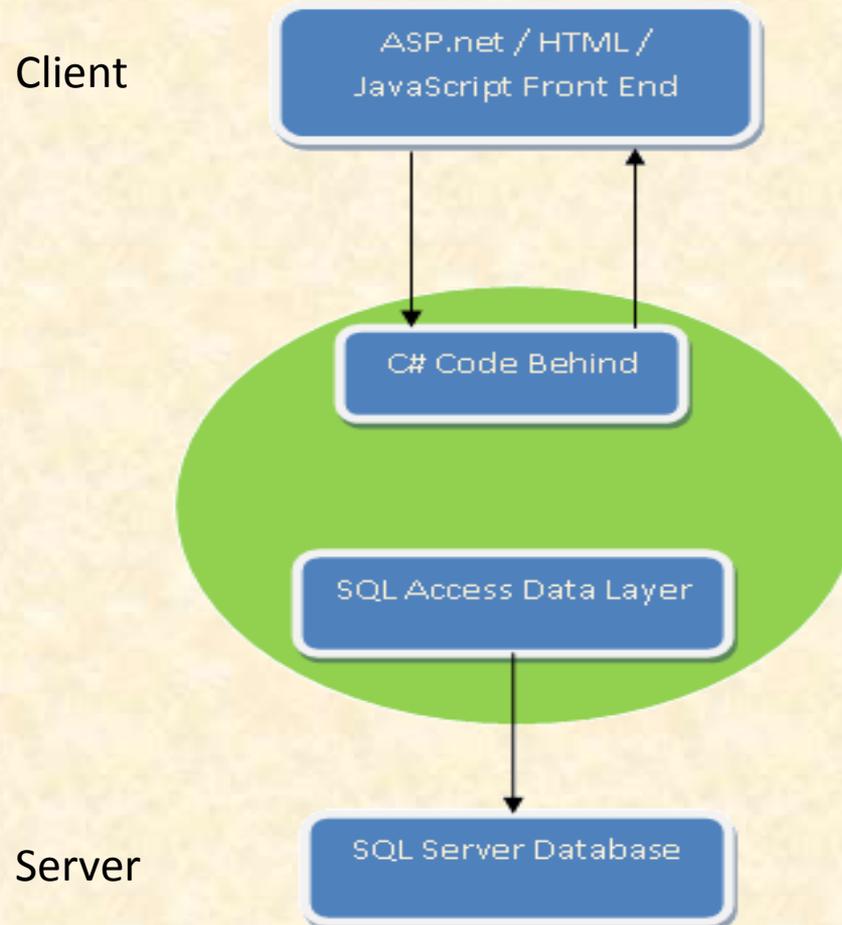


System Components

- Hardware Platforms
 - Desktop or Laptop
 - Mobile Device
 - Server
- Software Platforms / Technologies
 - .NET Framework using Visual Studio 2012
 - C#.Net (server-side)
 - ASP.Net, javascript (client-side)
 - Data Access Layer (Entity Framework)
 - Internet Information Services
 - SQL Server 2012
 - Reporting Services



Application Architecture



Development Environment



- Application implemented on local machines
 - Visual Studio 2012, .Net Framework
- Internet Information Services
 - Resides on local machine
- Commit code changes
 - Team Foundation Server 2012



Development Environment



- SQL Server Management Studio
 - Access and Manage data on server

- Reporting Services
 - Developed in Visual Studio 2012
 - Deployed onto report server



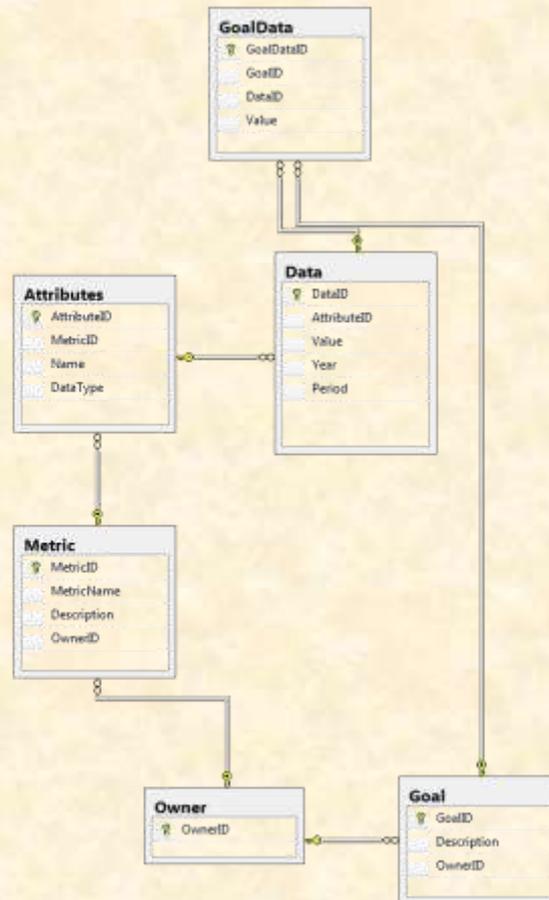
Production Environment



- Application deployed as web service
 - Internet Information Services (IIS) located on server
- Code files reside in IIS directory structure
- SQL Server 2012 database
- Report Server
 - Resides in SQL Server
 - Stores all reports



Database Schema



Testing

- Determine possible user scenarios
 - Three different roles
- Test application under each scenario
 - Different browsers
 - Different devices
- Verify data is stored and received correctly
- Test user role security



Risks



- Provide mobile-device compatibility
 - Application should be accessible and formatted for mobile use
 - Mitigation: Research methods on mobile compatibility
- SQL Server Reporting Services (SSRS)
 - SSRS to graph metrics
 - Mitigation: Research information on SSRS
- Database Schema
 - Provide an efficient database structure
 - Mitigation: Normalize the database

