

Dr. Wayne Dyksen

Department of Computer Science and Engineering
Michigan State University
Fall 2013



### Course Goals

- Build a Significant Software System
- Work in a Team Environment
- Learn New Tools and Environments
- Build and Administer Systems
- Develop Communication Skills
- Develop Interview Talking Points
  - Consider Issues of Ethics and Professionalism



### Course Goals

- Teams of Students
- Build Significant Software System
  - Design
  - Develop
  - Debug
  - Document
  - Deliver
- For Corporate Clients
- In 15 (Short) Weeks

### Project Deliverables

- Project Plan Document & Presentation
- Alpha Presentation
- Beta Presentation
- Project Software & Documentation
- Project Video
- Design Day

See Major Milestones.



The Capstone Experience

### All-Hands Meetings

- MW, 3:00-3:50pm, 1225 Engineering Building
- Presentations By
  - Professor
  - Teams
    - Status Reports
    - Formal Presentations
      - ➤ Project Plan
      - > Alpha
      - > Beta
    - Project Videos
  - Guest Speakers



### **All-Hands Meetings**

08/28: Capstone Overview

09/02: (Labor Day, No Meeting)

09/04: Project Plan

09/09: Risks and Prototypes

09/11: Team Status Report Presentations

09/16: Team Project Plan Presentations

09/18: Team Project Plan Presentations

09/23: Team Project Plan Presentations

09/25: Team Project Plan Presentations

09/30: Resume Writing and Interviewing

10/02: Career Gallery

10/07: Schedule and Teamwork

10/09: Creating and Giving Presentations

10/14: Team Alpha Presentations

10/16: Team Alpha Presentations

10/21: Team Alpha Presentations

10/23: Team Alpha Presentations

10:28: Design Day and the Project Videos

10/30: Camtasia Demo

11/04: Team Beta Presentations

11/06: Team Beta Presentations

11/11: Team Beta Presentations

11/13: Team Beta Presentations

11/18: Team Status Reports

11/20: Team Status Reports

11/25: Team Status Reports

11/27: Team Status Reports

12/02: Project Videos

12/04: Project Videos and All Deliverables

12/05: Design Day Setup

12/06: Design Day

12/12: Project Videos







### Team Auto-Owners

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Fall 2013



### Auto-Owners Insurance Life Home Car Business

The "No Problem" People®



### Team Auto-Owners Project Overview

#### Catastrophe Insurance Adjuster App

- Functionalities
  - Manage Independent Insurance Adjusters
  - Handling Claims Resulting from Catastrophes
    - Hurricanes
    - Tornados
    - Earthquakes
  - Remotely, At Site of Catastrophe
- Features
  - Handle Large Groups (Hundreds) of Adjusters
  - Assign Individual Adjuster to Claims
  - Map Locations of Adjusters and Claims
  - Show Historical Weather Data
  - Facilitate Two-Way Communications
- Technologies
  - CSS, HTML5
  - JavaScript, jQuery
  - Java
  - Microsoft SQL Server, DB2 or MySQL
  - Web Services
  - www.spc.noaa.gov
  - Capstone Weather Incident Verification System, Spring 2010





Lansing, Michigan





### **Team Auto-Owners**

Hao Wu, Renee Margaret McConahy, Zach Yao, Ryan Rogers

### Team Auto-Owners Project Plan Presentation

#### Screen Mockups







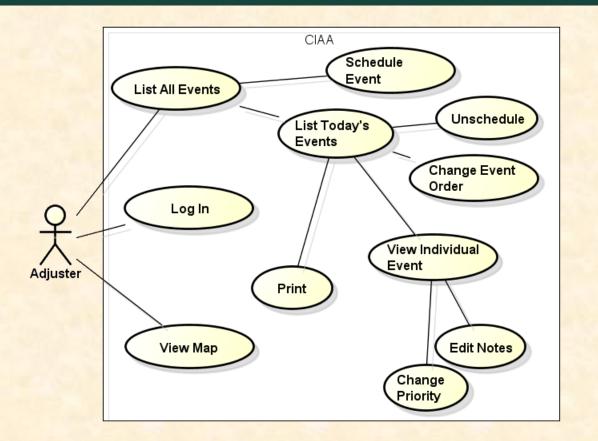






Team Auto-Owners Project Plan Presentation

### Team Auto-Owners Project Plan Presentation Architecture Diagram





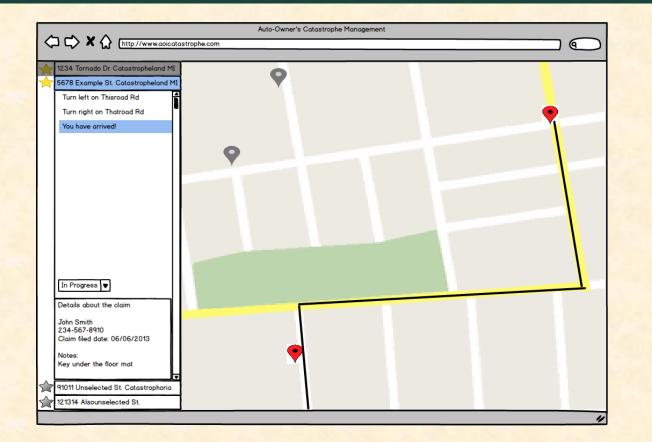
The Capstone Experience



Team Auto-Owners Project Plan Presentation

### Team Auto-Owners Project Plan Presentation

#### Screen Mockup



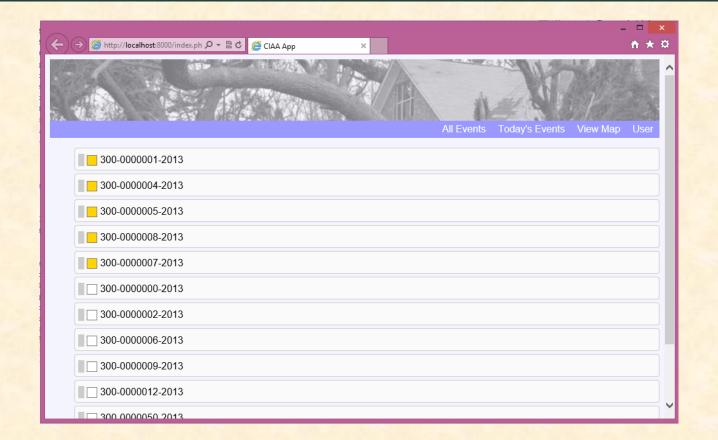




Team Auto-Owners Alpha Presentation

### Team Auto-Owners Alpha Presentation

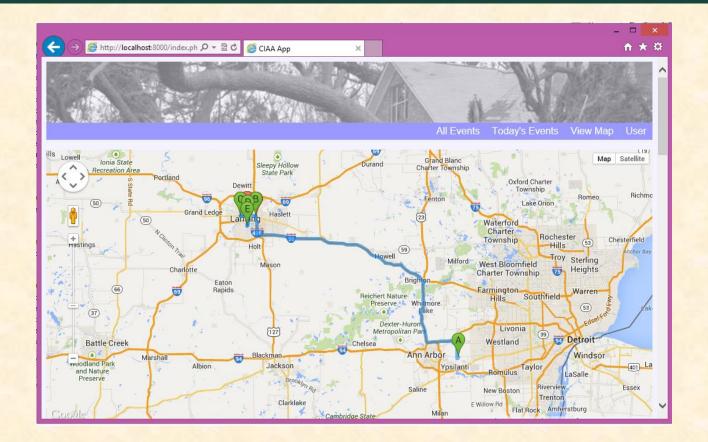
#### All Events Page





### Team Auto-Owners Alpha Presentation

Maps Page



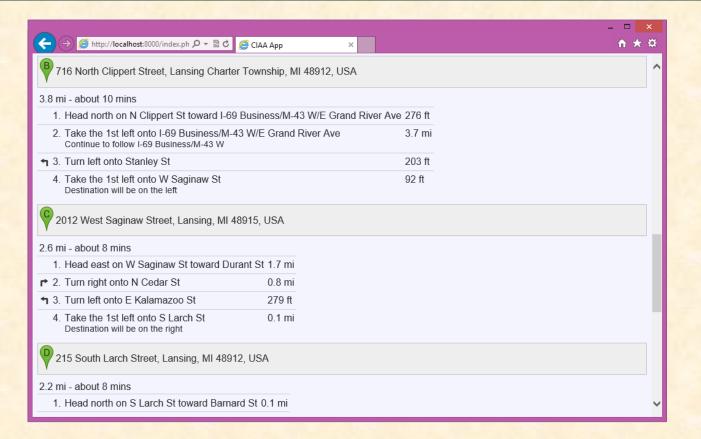




Team Auto-Owners Alpha Presentation

### Team Auto-Owners Alpha Presentation

#### Maps Page (Directions)



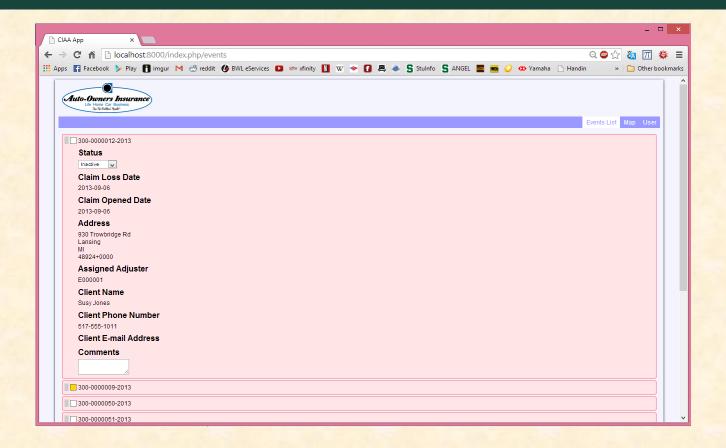




Team Auto-Owners Beta Presentation

### Team Auto-Owners Beta Presentation

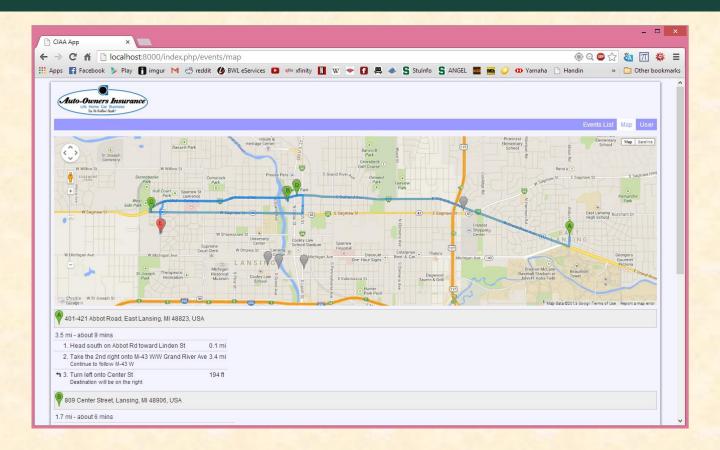
#### **Events Details**





### Team Auto-Owners Beta Presentation

#### Maps Screen

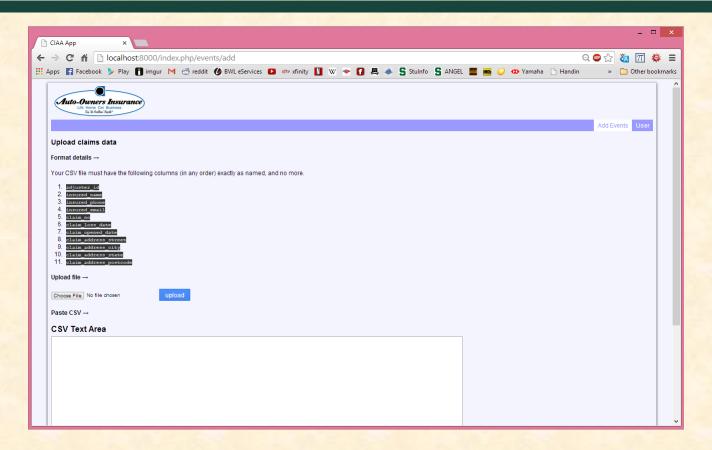






### Team Auto-Owners Beta Presentation

#### **Coordinator Page**







Team Auto-Owners Design Day

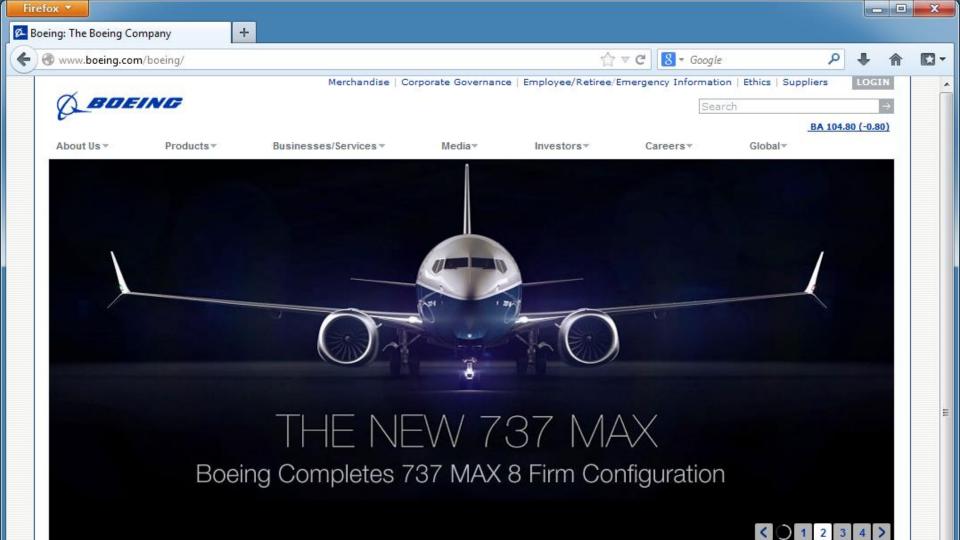




### Team Boeing

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### Team Boeing Project Overview

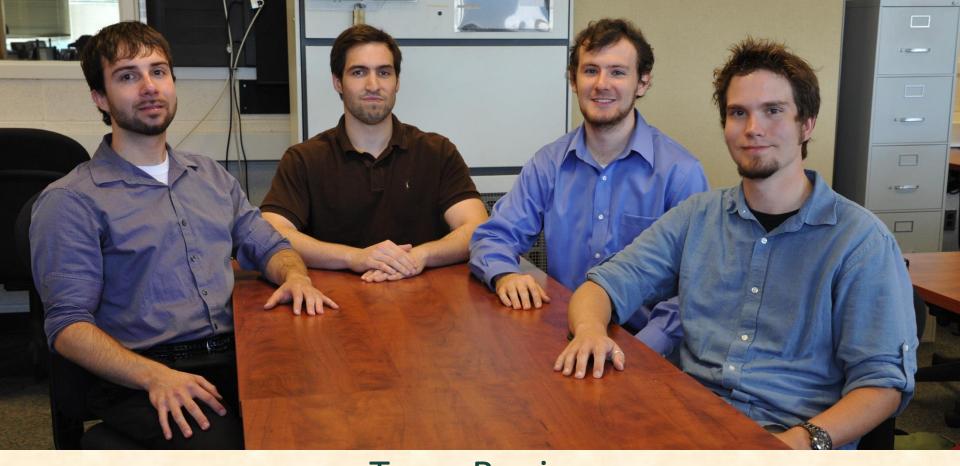
#### **Optimization of Boeing Assembly Lines**

- Functionalities
  - Simulate Aircraft Assembly Line
  - Teams of Humans and Robots
  - Optimize Assembly Line Layout
- Features
  - 3-D Graphical Visualization
  - First Person View of Assembly Workers
  - Inverse Kinematic Algorithms
  - Quality Metrics
- Technologies
  - C++, Python
  - Gazebo
  - Pathfinding
  - Simulation (First Person View)
  - Networking
  - QT Application Framework
  - Optimization
  - 3-D Modeling
  - Capstone Paper Airplane Builder Game Simulator, Spring 2013







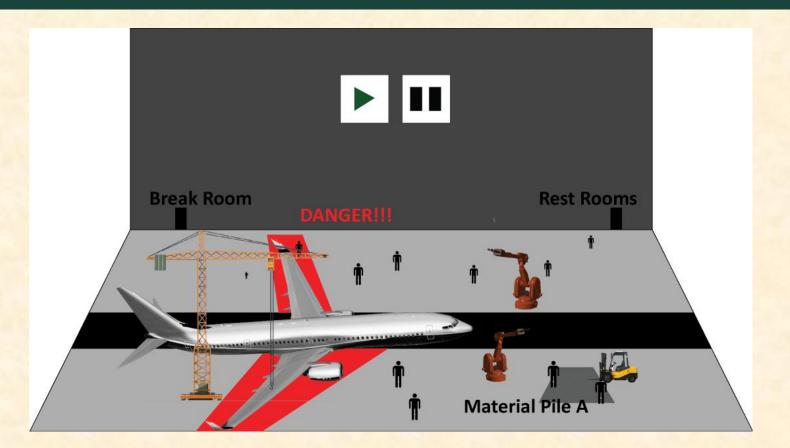


### Team Boeing

Ross Blakeney, Kyle Kotulak, Sean Heider, Dave Grabowski

### Team Boeing Project Plan Presentation

#### Screen Mockup



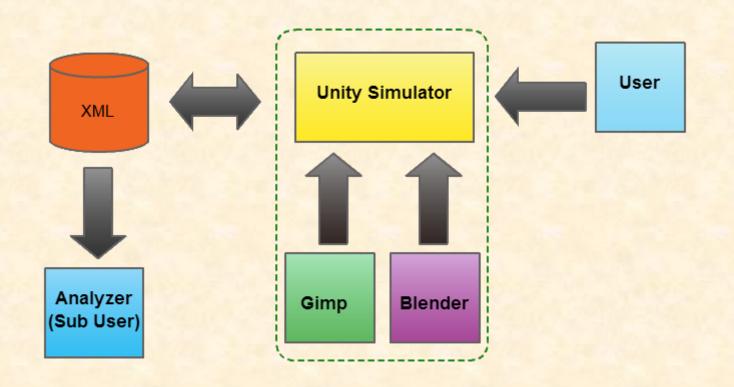


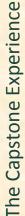
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Team Boeing Project Plan Presentation

### Team Boeing Project Plan Presentation Architecture Diagram





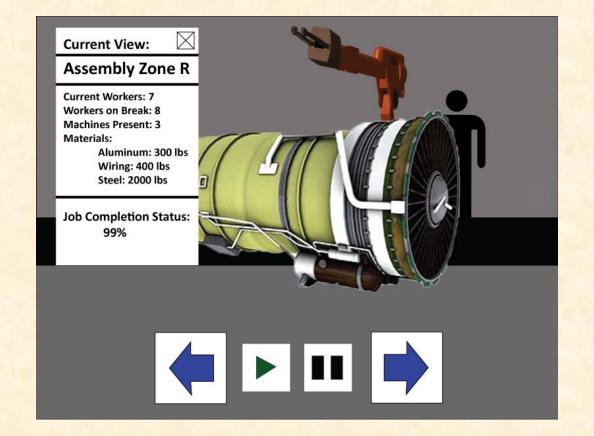




Team Boeing Project Plan Presentation

#### Team Boeing Project Plan Presentation

#### Screen Mockup

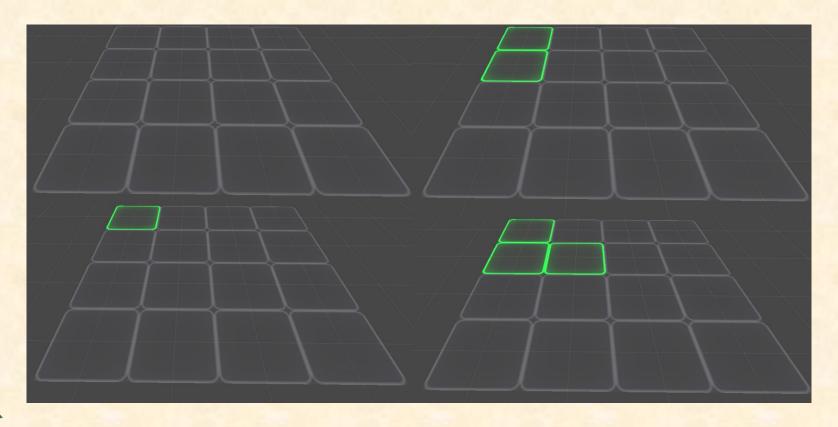








**Grid System** 

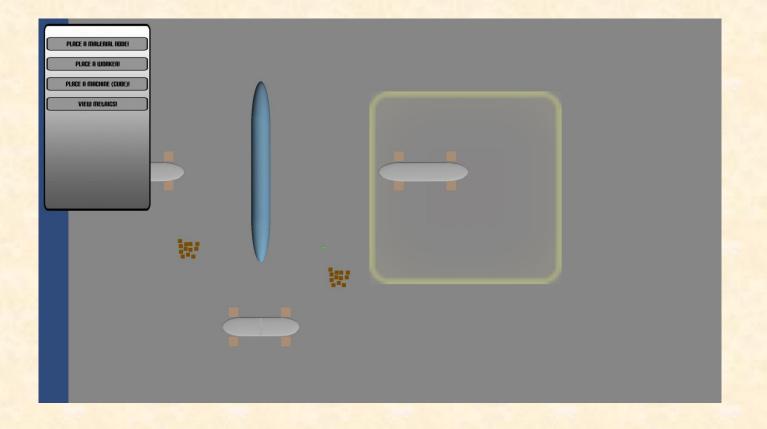




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#### **Asset Placement Screen**

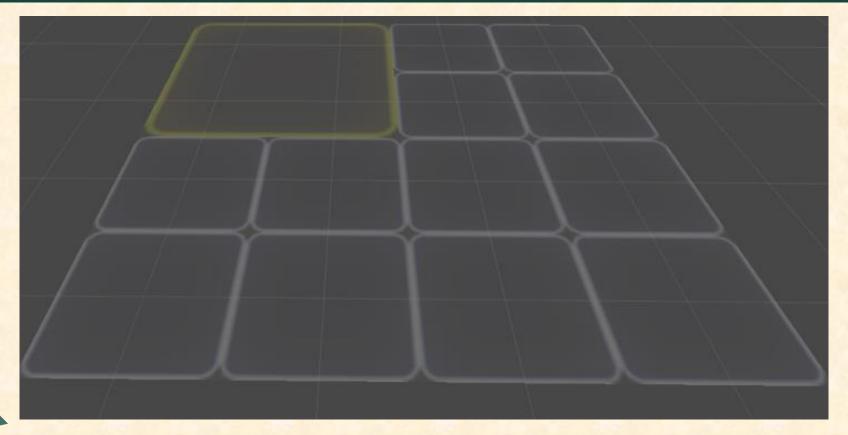




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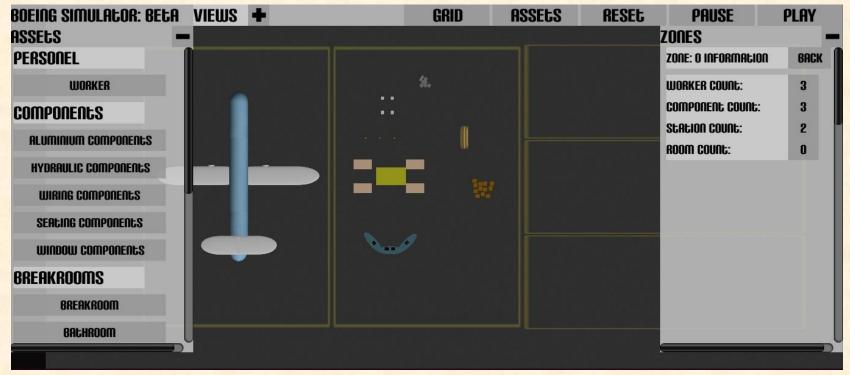
#### **Grids and Zones**





The Canstone Experie

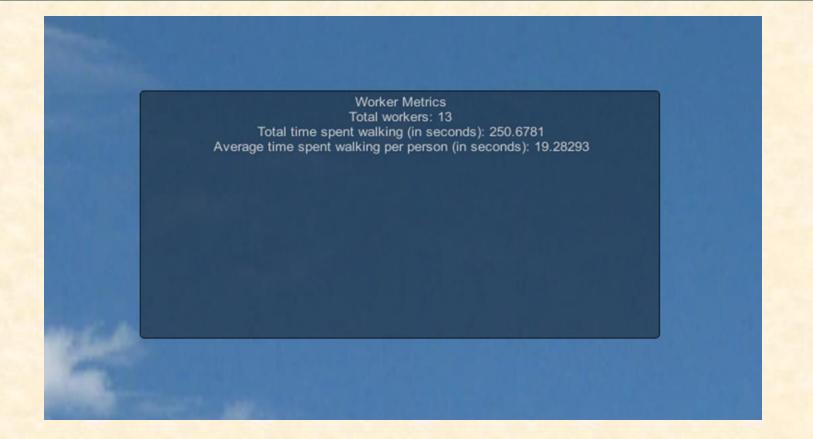
#### User Interface







#### Metric Readout Screen





The Capstone Experience



Team Boeing Design Day



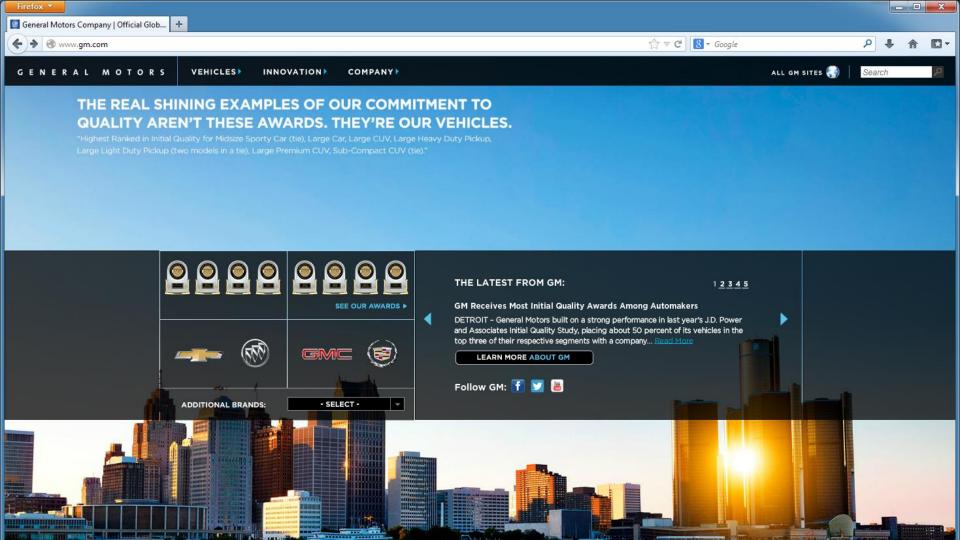
### The Capstone Experience



#### Team GM

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Fall 2013





# The Capstone Experience

#### Team GM Project Overview

#### **Augmented Reality Auto Mobile Guide App**

- Functionalities
  - Provide Information About a Particular Car
    - Make and Model
    - Manufacturer's Suggested Retail Price
    - Available Options
    - Location of Nearest Dealer
  - By Pointing Mobile Phone or Tablet Camera
- Features
  - Information Overlaid Over Car Image
  - Integrated with Social Media
  - Support both Apple iOS and Google Android
  - May Be Positioned as a Game
- Technologies
  - Apple iOS (iPhone and iPad)
  - Google Android (Phones and Tablets)
  - Argon Web Browser
  - ARToolKit
  - ATOMIC Authoring Tool
  - ArUco
  - IQ Engines
  - PAR Works





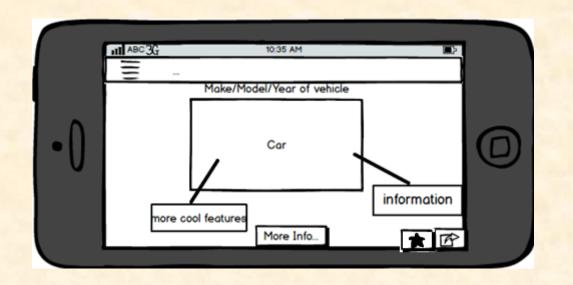


Team GM

Madalyn Parker, David Wigell, Matt Wenner, Jon Bauer

#### Team GM Project Plan Presentation

#### Screen Mockup

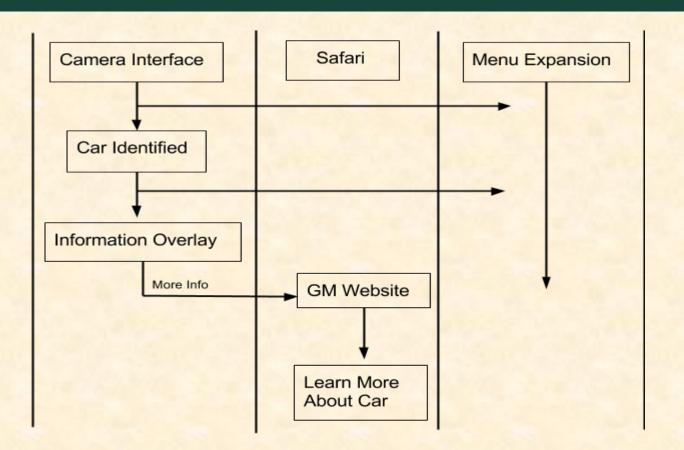






Team GM Project Plan Presentation

## Team GM Project Plan Presentation Architecture Diagram





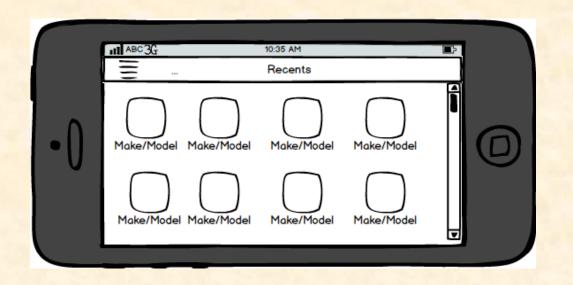
he Capstone Experience



Team GM Project Plan Presentation

#### Team GM Project Plan Presentation

#### Screen Mockup







Team GM Alpha Presentation

#### Team GM Alpha Presentation

#### Car Identification

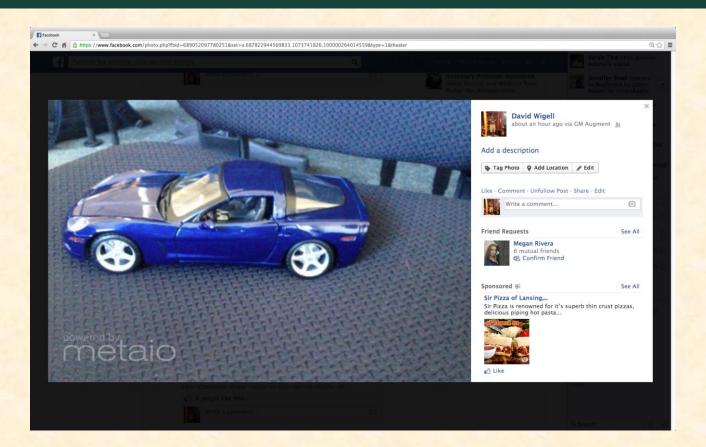




# The Capstone Experience

#### Team GM Alpha Presentation

#### Social Sharing







Team GM Alpha Presentation

#### Team GM Alpha Presentation

#### Car Information and Favorites





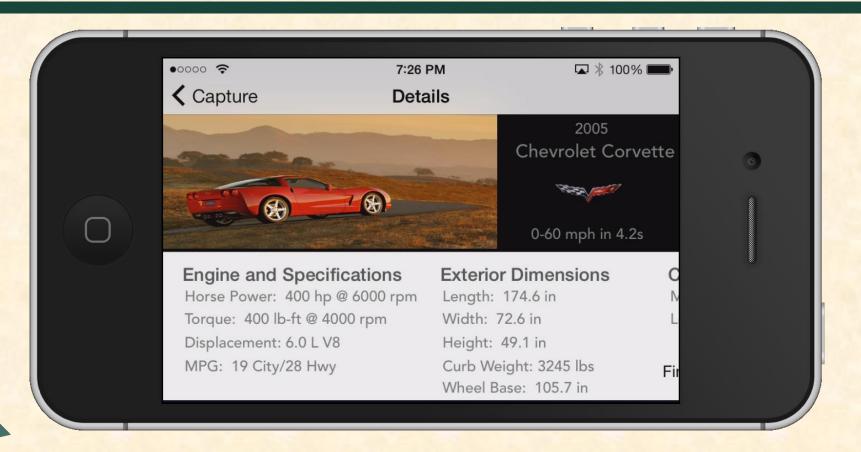




#### Corvette Identification



#### **Information Page**







#### **Favorites**







Team GM Design Day



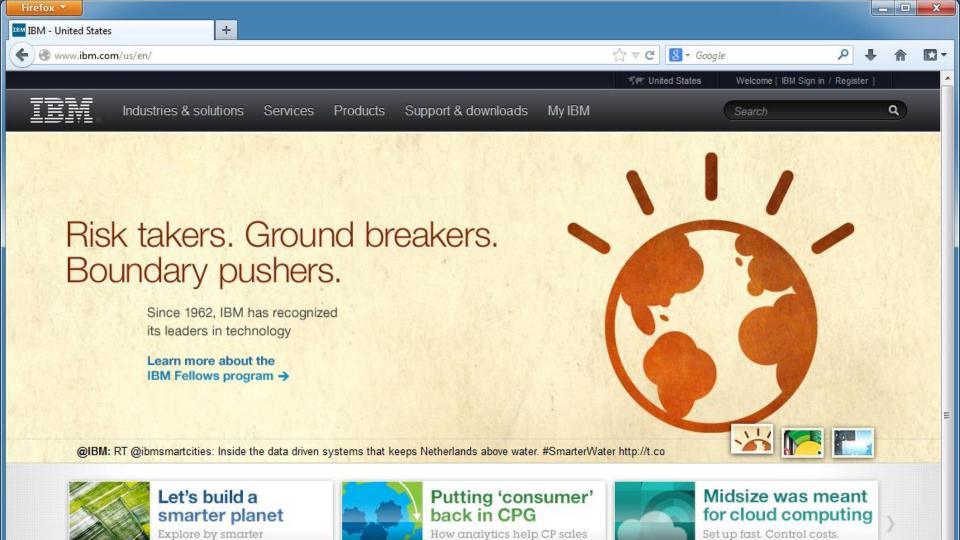
### The Capstone Experience



#### Team IBM

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# The Capstone Experience

# Team IBM Project Overview

#### **Information Technology Assessment Toolkit**

- Functionalities
  - Toolkit for IBM Executive Consulting Services
  - Gather and Synthesize Client IT Information
  - Identify Potential Gaps
  - Prioritize Projects
- Features
  - Replace Existing Limited Spreadsheet Tools
  - Windows 7/8 Native Application
  - Consolidated Remote Database
  - Support Cross Client Analysis
- Technologies
  - Java, XML
  - IBM DB2 Database
  - Microsoft Windows Application Development







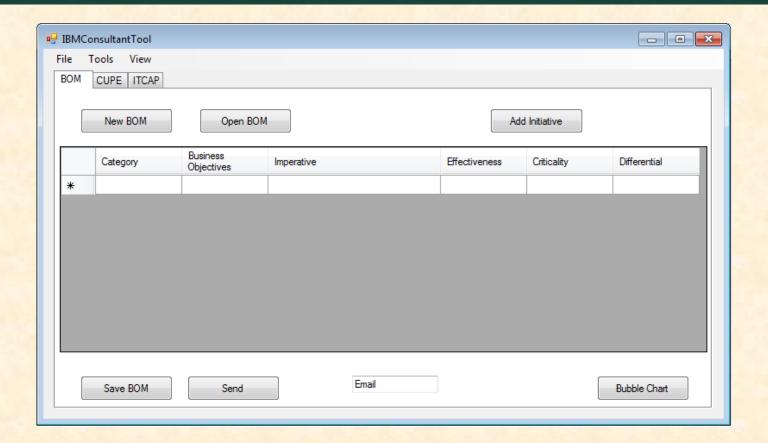


Team IBM

Adam Koshorek, Connor Gilbert, Eunbong Yang, Alex Hanlon

### Team IBM Project Plan Presentation

### Screen Mockup

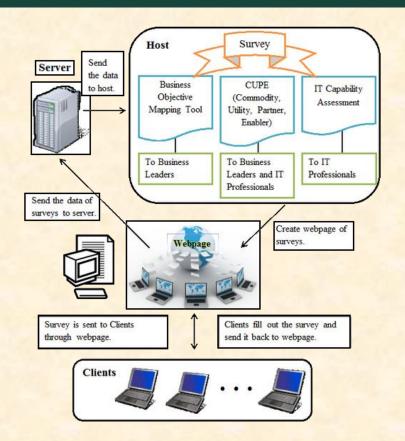






Team IBM Project Plan Presentation

# Team IBM Project Plan Presentation Architecture Diagram





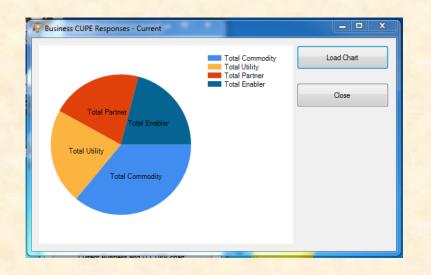
The Capstone Experience

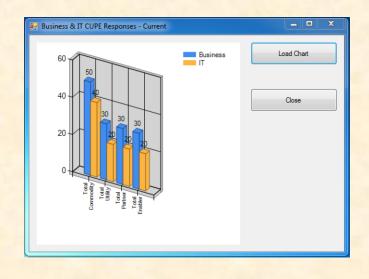


Team IBM Project Plan Presentation

### Team IBM Project Plan Presentation

### Screen Mockups





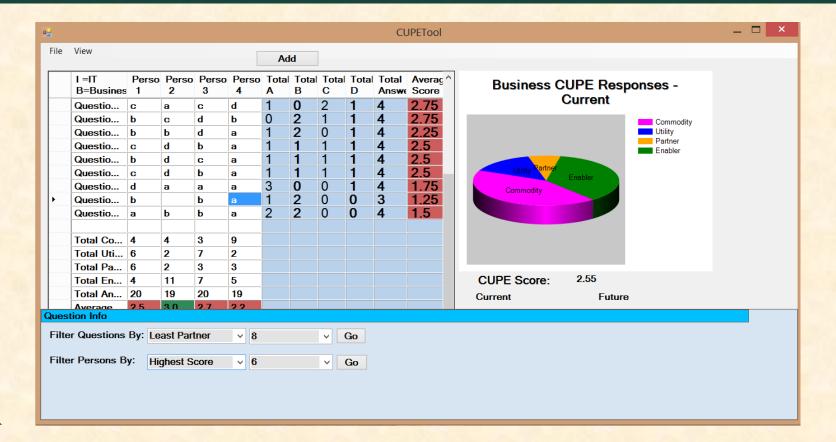




Team IBM Alpha Presentation

### Team IBM Alpha Presentation

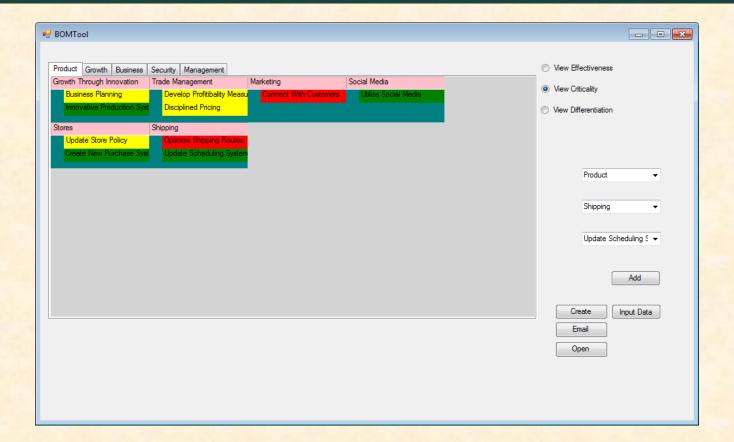
### **IT Provider Relationship**





### Team IBM Alpha Presentation

### **Business Optimization Tool**



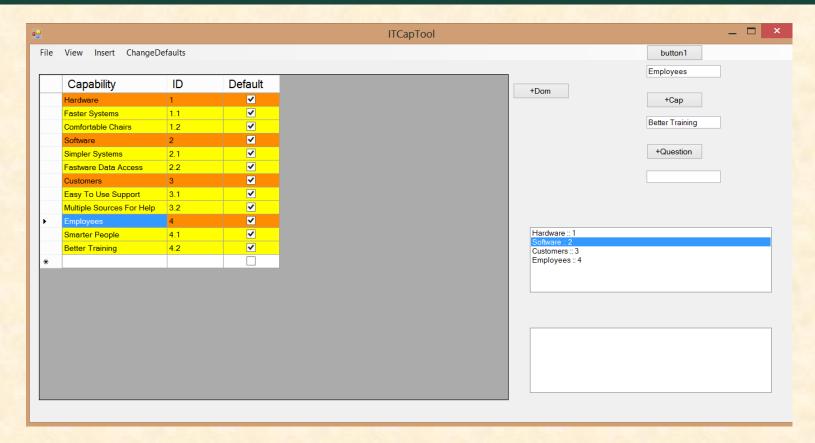




Team IBM Alpha Presentation

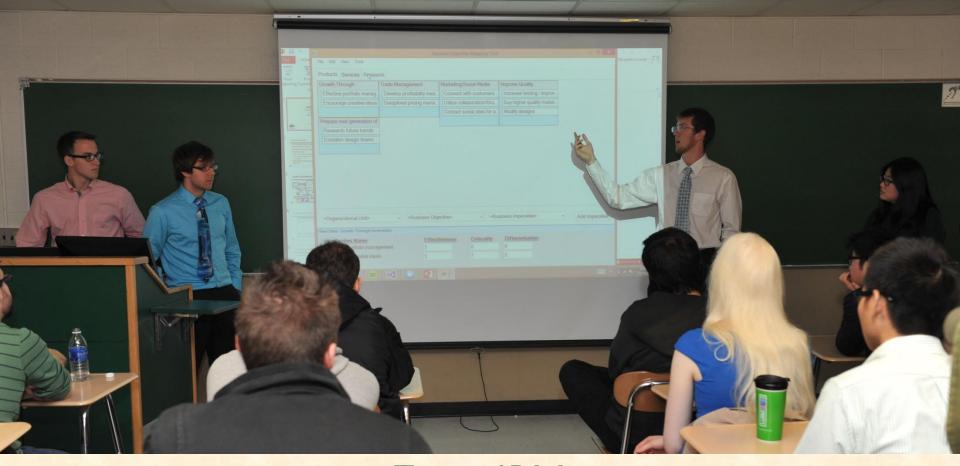
### Team IBM Alpha Presentation

### **IT Capability Assessment**





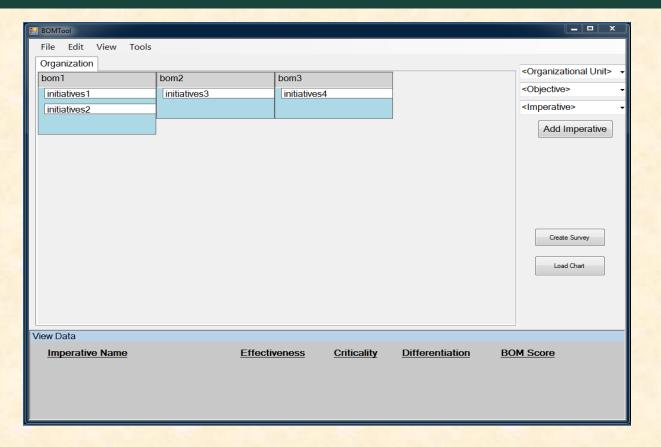
The Capstone Experience



Team IBM Beta Presentation

# Team IBM Beta Presentation

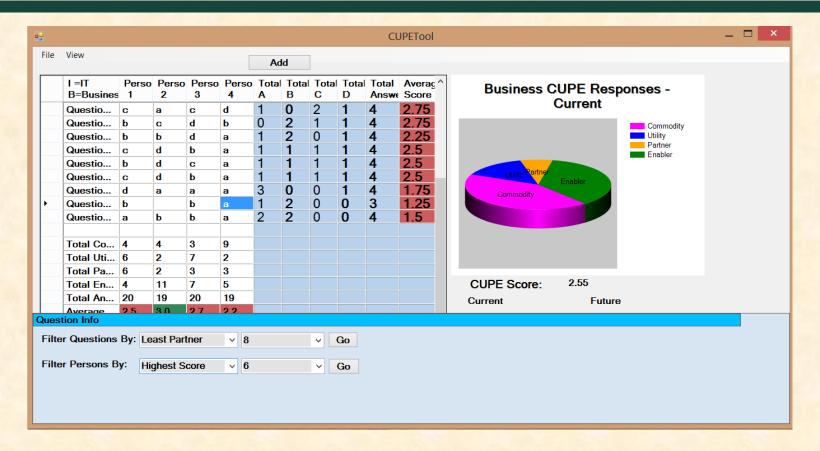
### **Business Optimization Too.**



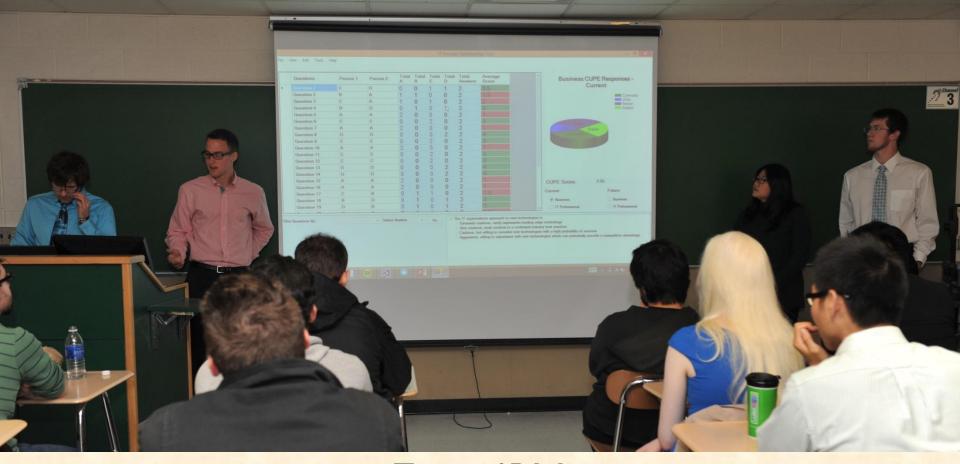


# Team IBM Beta Presentation

### **IT Provider Relationship**





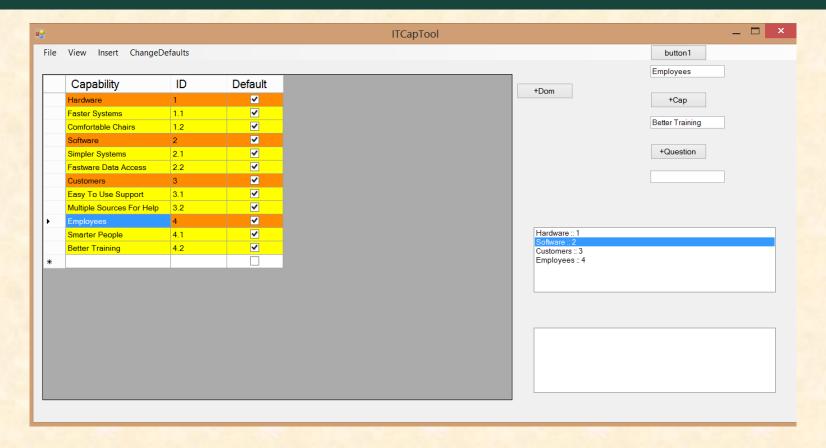


Team IBM Beta Presentation

# The Capstone Experience

### Team IBM Beta Presentation

### **IT Capability Assessment**







Team IBM Design Day



# The Capstone Experience



# Team Meijer

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# 

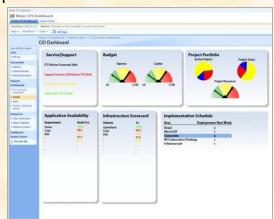


# The Capstone Experience

# Team Meijer Project Overview

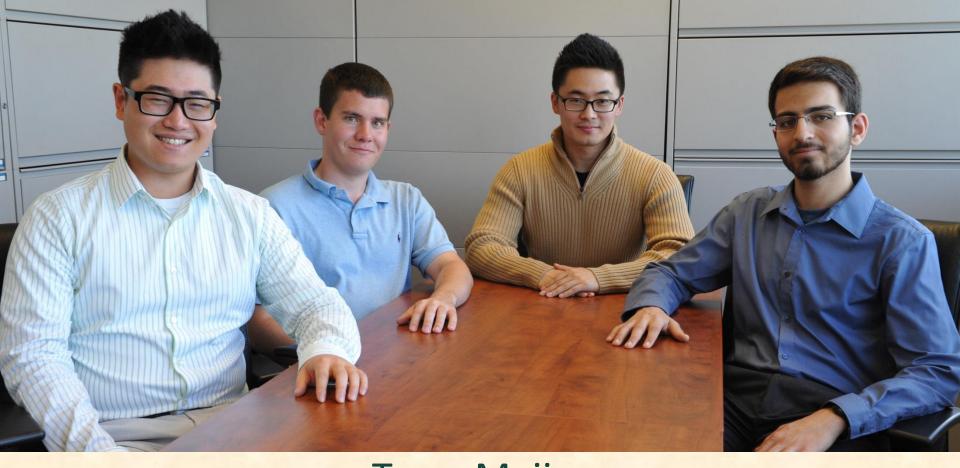
#### **Chief Information Officer Dashboard**

- Functionalities
  - Dashboard of Information Technology Services (ITS) Key Performance Indicators (KPIs)
  - Targeted for Chief Information Officer (CIO) and ITS Leadership
  - Supports Desktop and Mobile Browsers
- Features
  - Spotlighting (Red/Green) of Actual vs. Goal
  - Trending: Up, Down and Rolling
  - Drill-down
  - Alerts and Notifications
  - Consistency of Delivery and Format
  - Extensible Architecture
- Technologies
  - C#, JavaScript
  - Microsoft Internet Information Services (IIS)
  - Microsoft SharePoint 2010
  - Microsoft SQL Server
  - Microsoft .NET
  - Capstone ITS Scorecard Dashboard, Fall 2009
  - Capstone <u>Chief Information Officer Dashboard</u>, Spring 2010





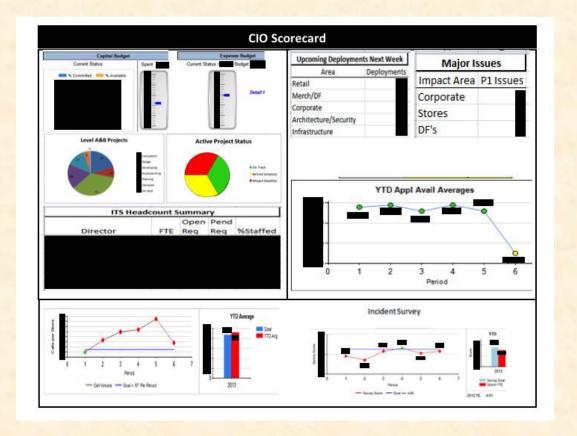




Team Meijer
K Suh, Connor Avery, Kevin Kwon, Amin Itani

### Team Meijer Project Plan Presentation

### Screen Mockup

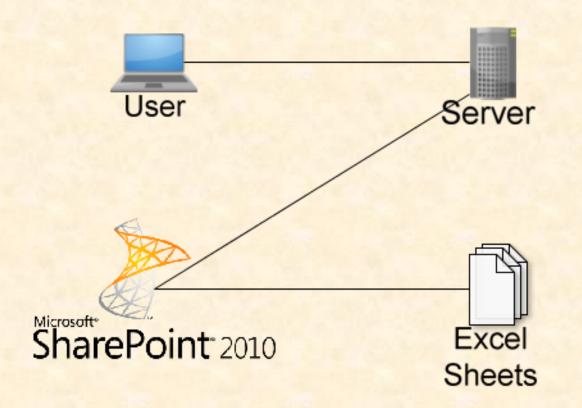






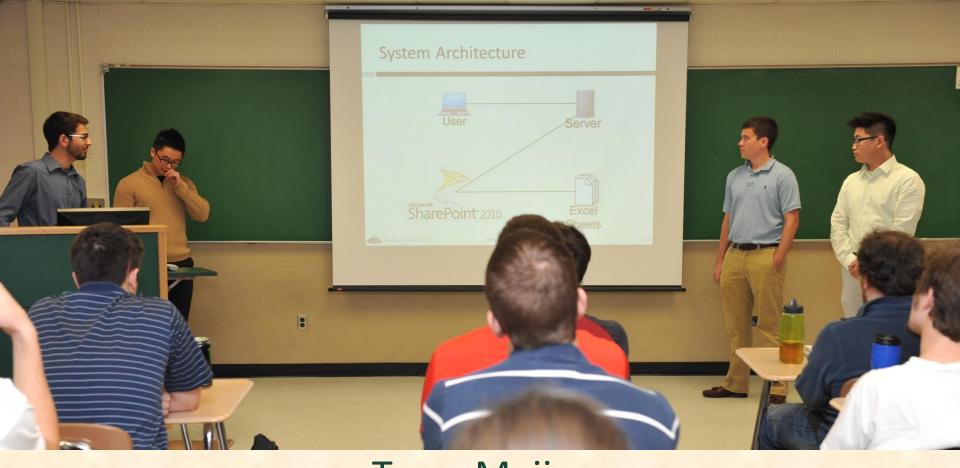
Team Meijer Project Plan Presentation

# Team Meijer Project Plan Presentation Architecture Diagram





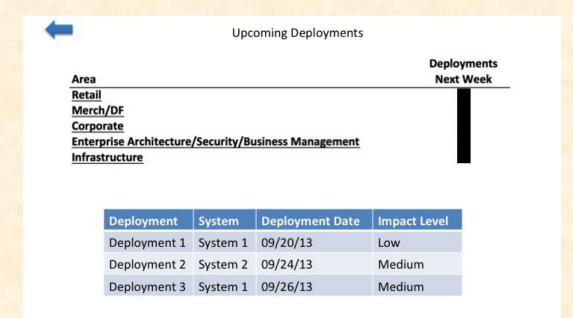
The Capstone Experience



Team Meijer Project Plan Presentation

# Team Meijer Project Plan Presentation

### Screen Mockup



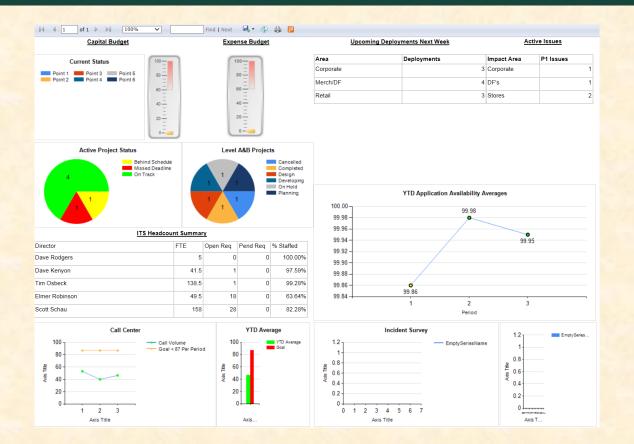




# ne Capstone Experience

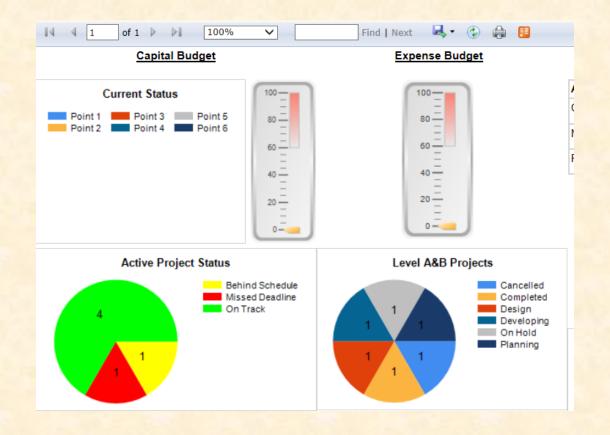
# Team Meijer Alpha Presentation

#### Level One Dashboard





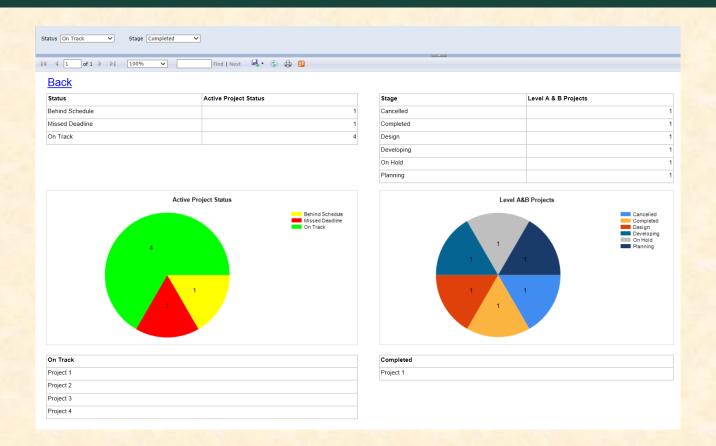
#### Level One Dashboard



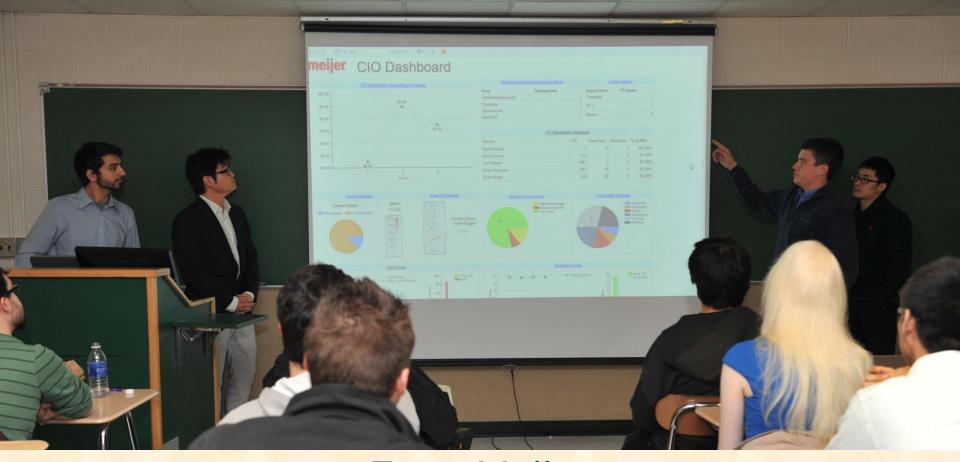




### **Level Two Report**







Team Meijer Beta Presentation

# The Capstone Experience

### Team Meijer Beta Presentation

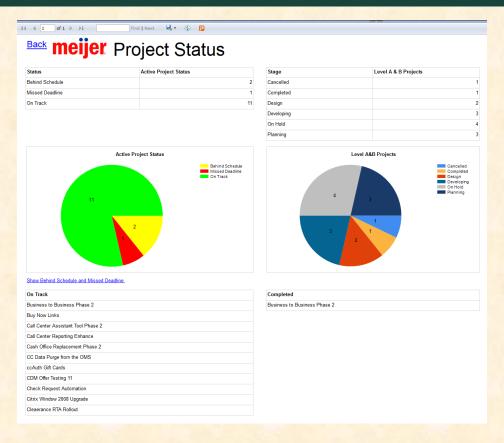
#### Level One Dashboard





# Team Meijer Beta Presentation

### Sample Level Two Report





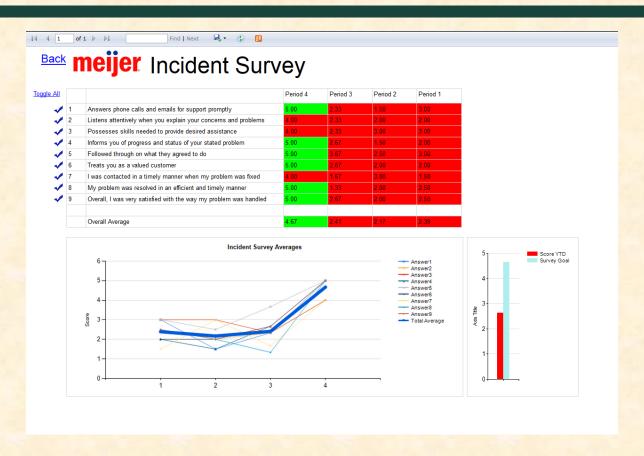


Team Meijer Beta Presentation

# Capstone Experience

# Team Meijer Beta Presentation

#### Slide Description







Team Meijer Design Day



# The Capstone Experience



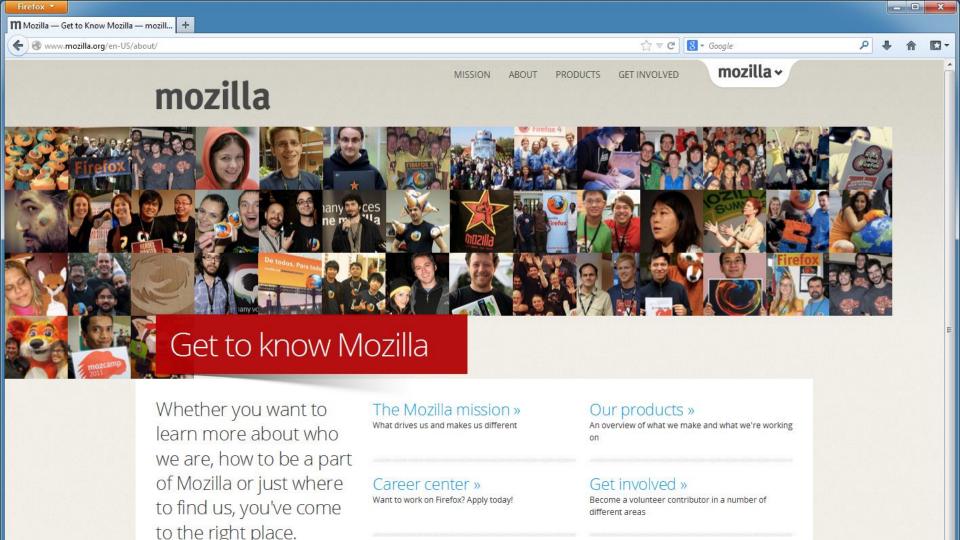
# Team Mozilla

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Michigan State University
Fall 2013



# mozilla

# Firefox®

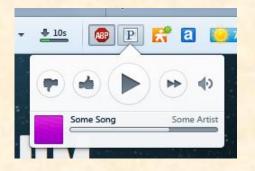


# Team Mozilla Project Overview

#### **Australis-Styled Widgets for Mozilla Firefox**

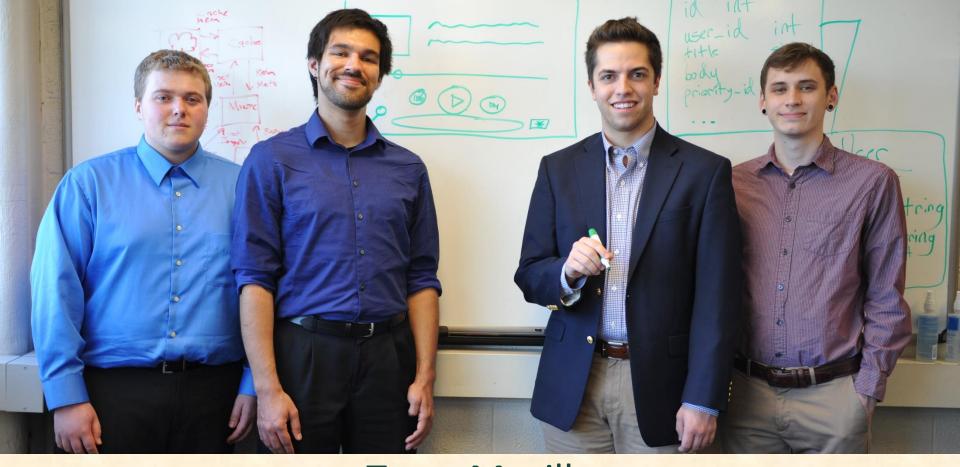
- Functionalities
  - User Installable Widgets
  - For Completely Restyled Firefox
  - To Be Released End of 2013
- Features
  - Bugzilla
  - Weather
  - Music
- Technologies
  - CSS, HTML, JavaScript
  - XUL (XML User Interface Language)
  - Mozilla Firefox Add-On SDK
  - Web APIs for Bugzilla, Weather and Music
  - IRC (Internet Relay Chat)











### Team Mozilla

Eric Proper, Eric Slenk, Dan Poggi, Dave Thorpe

## Team Mozilla Project Plan Presentation

#### Screen Mockup



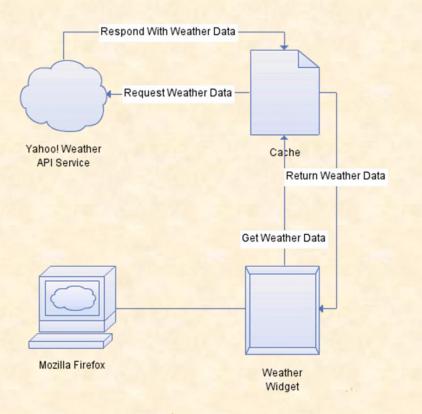


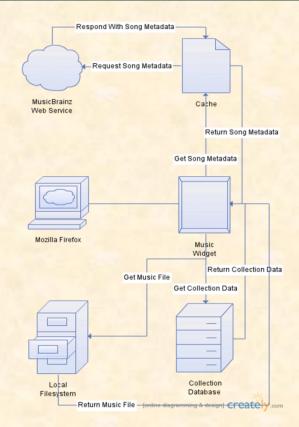


Team Mozilla Project Plan Presentation

# The Capstone Experience

# Team Mozilla Project Plan Presentation Architecture Diagram









Team Mozilla Project Plan Presentation

## Team Mozilla Project Plan Presentation

#### Screen Mockup



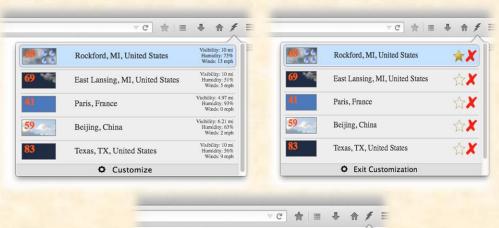


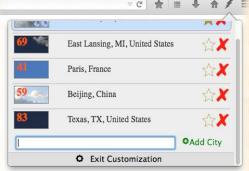


Team Mozilla Alpha Presentation

# Team Mozilla Alpha Presentation

#### Weather Widget

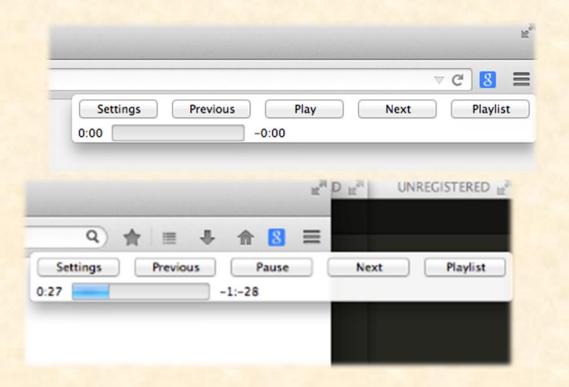






# Team Mozilla Alpha Presentation

#### Music Widget







Team Mozilla Alpha Presentation

# The Capstone Experience

# Team Mozilla Alpha Presentation

#### Bugzilla Widget

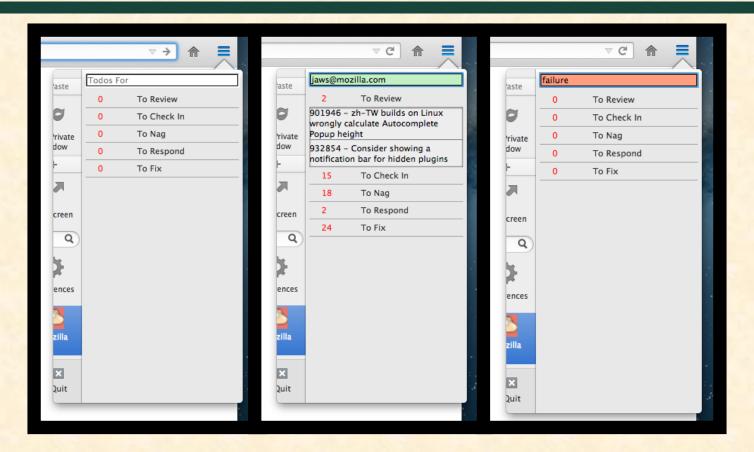


```
Todos For jaws@mozilla.com
                                                                To Review
                       15 To Check In
533890 - When the full page title is not shown remove redundant text in tabs
874198 - Remove "pluginsPage" from getPluginInfo because it is unused
742441 - Cannot drag URL from location bar to desktop (create shortcut)
877789 - Vbox's with max-height don't properly constrain overflowed children
897194 - Markup from the wrong tab is showing up in the Inspector
914138 - Australis: CustomizableUI API calls will produce unpredictable/wrong results if either/both of the nodes they touch are in overflowable toolbar
449388 - Video/Audio UI Controls not functioning when JavaScript is disabled
896291 - "Close other tabs" should show the confirmation dialog if the number of tabs is greater than browser.sessionstore.max_tabs_undo
876875 - dataTransfer.mozCursor should accept "moz-grabbing"
840414 - Make Click-to-Play UI readable on more backgrounds
700363 - Forward button bleeding through on hover of back button (Conditional forward button)
798249 - Changing URL locations while a page is loading temporarily reverts the URL
754344 - In content preferences tabs should mimic add-ons type
899867 - Avoid uninterruptible reflow in tabbrowser's resize handler
897268 - Replace crappy images from bug 855805
656238 - Right Click Tab, 'bookmark all tabs' and 'reload all tabs' Too Close Together
885572 - Recently Closed Tabs / Recently Closed Windows menus inaccessible from the panel menu
924933 - Follow-up to fix the separator styling for the zoom controls
704326 - Standalone audio files should have different style so they don't look awkward
819963 - Split up mochitest-bc on desktop into two chunks
920616 - SpecialPowers.swapFactoryRegistration incorrectly uses the 'real' CID when swapping out a factory
729111 - Centered play video button is not re-enabled after video is resized (large)
88115 - Consider renaming customizableui-areatype and customizableui-anchor attributes to something less verbose
887951 - Update panel menu button tooltip
                          25 To Nag
                                                                To Respond
                                                                To Fix
```





#### Bugzilla Interface





#### Weather Interface





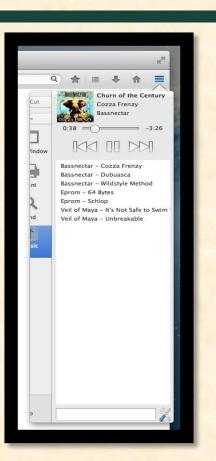






#### Music In "Panel Menu"









Team Mozilla Design Day



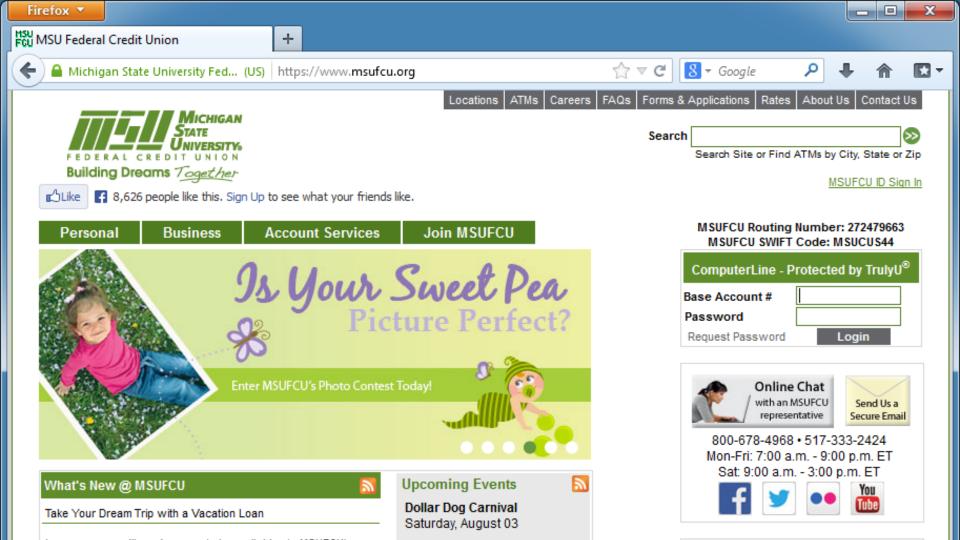
# The Capstone Experience



# Team MSUFCU

Department of Computer Science and Engineering
Michigan State University
Fall 2013





# The Capstone Experience

# Team MSUFCU Project Overview

#### **In-School Banking Program**

- Functionalities
  - Enable Mini MSUFCU Branch
  - At Local Elementary and Middle Schools
  - Accept Deposits from Students
  - Run by Parent Volunteers
- Features
  - iPad App
  - Intuitive User Experience
  - Create and Manage Student Accounts
  - Transfer Information to MSUFCU
  - Secure
- Technologies
  - Apple iPad iOS
  - Objective C, Xcode, C#
  - CSS, HTML, PHP, JavaScript
  - Microsoft SQL Server, MySQL
  - Encryption Based on SQL Standards







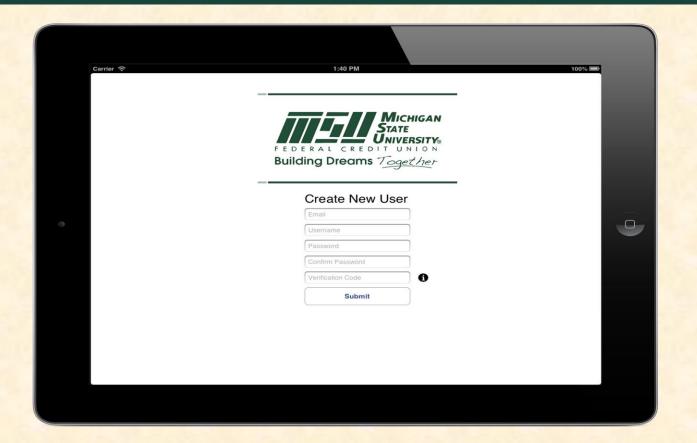


### Team MSUFCU

Allen Koppman, Phil Getzen, Mairin Chesney, Adam Proschek

# Team MSUFCU Project Plan Presentation

#### Screen Mockup

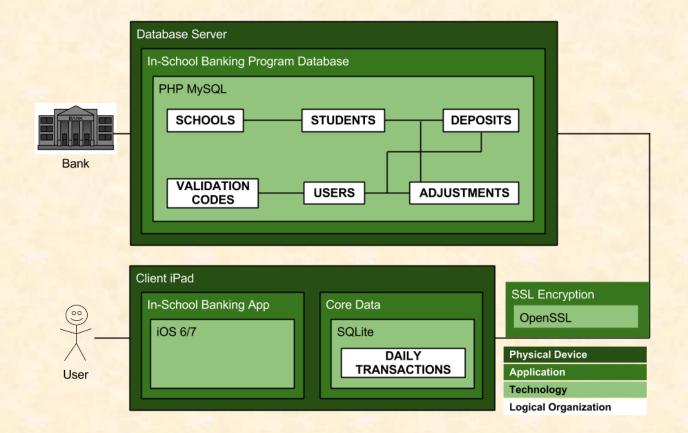






Team MSUFCU Project Plan Presentation

# Team MSUFCU Project Plan Presentation Architecture Diagram





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Team MSUFCU Project Plan Presentation

# Team MSUFCU Project Plan Presentation

#### Screen Mockup

Maude's MSUFCU In-School Banking Program Account Summary



MSUFCU In-School Banking Program <noreply@msufcu.org> to Indiana Jones

Account Summary for Maude Jones		
Account Total: \$20.00		
Account Transactions		
DATE	AMOUNT	TOTAL
10/02/2013	\$4.00	\$4.00
10/09/2013	\$5.50	\$9.50
10/23/2013	\$3.00	\$12.50
10/30/2013	\$7.50	\$20.00



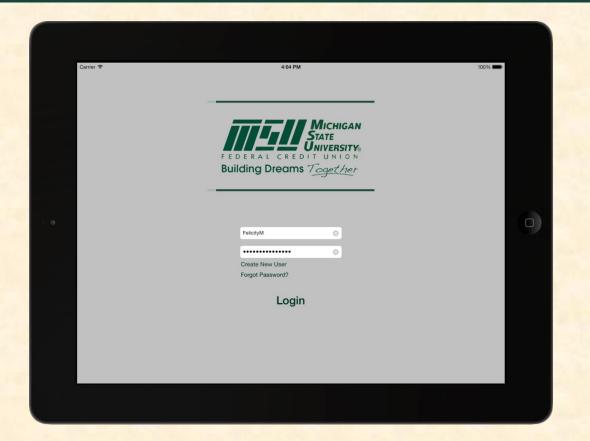
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Team MSUFCU Alpha Presentation

# Team MSUFCU Alpha Presentation

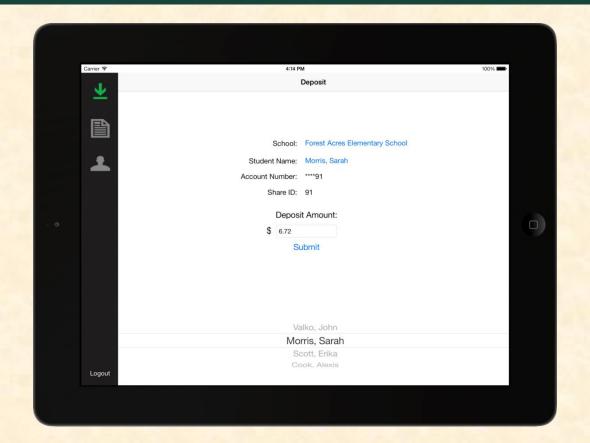
Login





### Team MSUFCU Alpha Presentation

Deposit



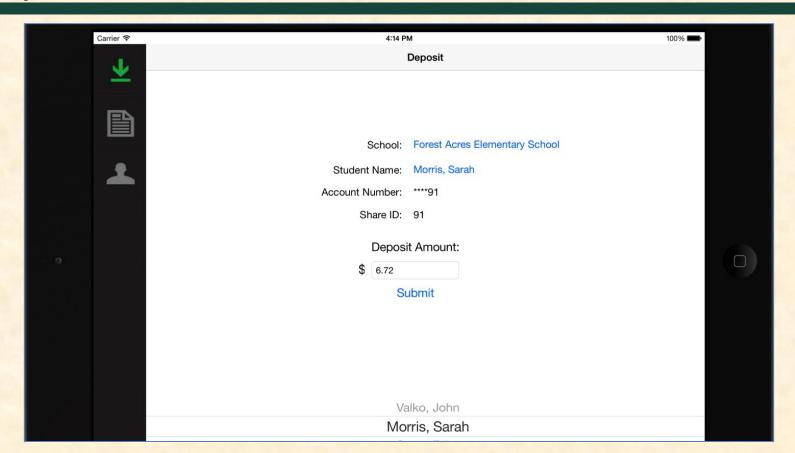




Team MSUFCU Alpha Presentation

### Team MSUFCU Alpha Presentation

Deposit







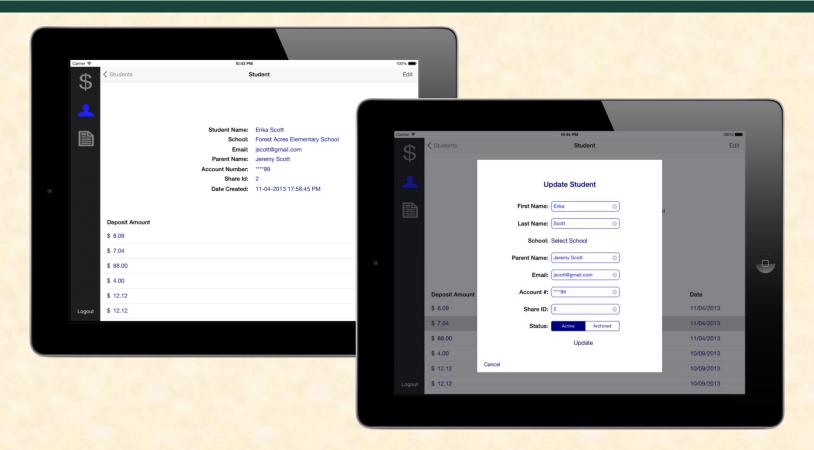
### Login/Create New User



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### Student Summary/Edit Student

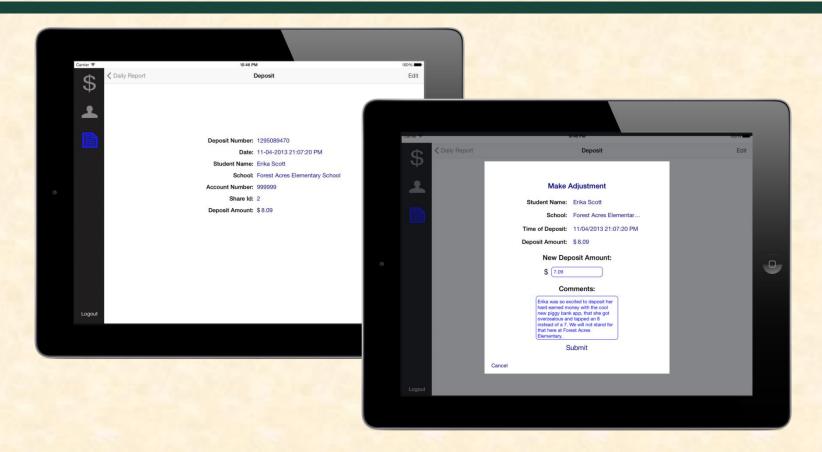






### Team MSUFCU Beta Presentation

### View/Edit Transaction







Team MSUFCU Design Day





### Team Quicken Loans

Department of Computer Science and Engineering
Michigan State University
Fall 2013

### Quicken Loans Engineered to Amaze \*\*The control of the control o



### Team Quicken Loans Project Overview

### **Survey and Voting Web Apps**

- Functionalities
  - Collect Opinions and Feedback
  - Of Quicken Loan's Team Members
  - Via Online Surveys and Votes
- Features
  - Responsive Web App
  - Manage Surveys and Votes
    - Create and Send
    - Collect Results
  - Support Live Voting
  - Display Results Graphically
- Technologies
  - CSS, HTML5
  - Microsoft .NET
  - Microsoft Internet Information Services (IIS)
  - Microsoft Active Directory
  - Web Browser Plug-Ins









### Team Quicken Loans

Jake Nyenhuis, Kate Davis, Mike Meldrum, Clif Howard

### Team Quicken Loans Project Plan Presentation

### Screen Mockup

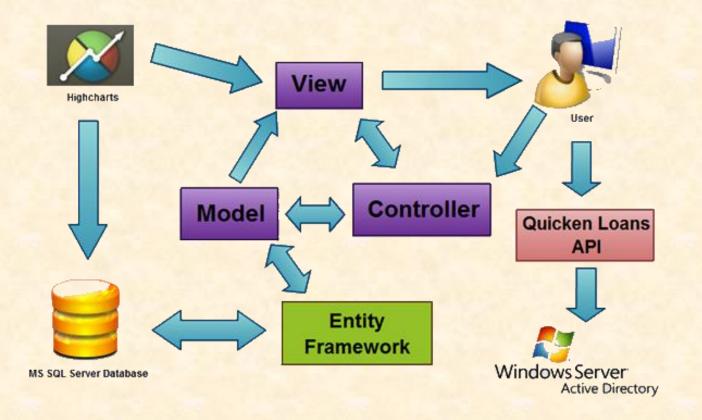
Enter Survey Title				
				one (drag me)
			8	L
				r
Enter question				∥ two
Litter question				L
Enter option				I three
Remove				
Remove				l four
+ Add new control				L
				I five
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Team Quicken Loans Project Plan Presentation

### Team Quicken Loans Project Plan Presentation Architecture Diagram





The Capstone Experience



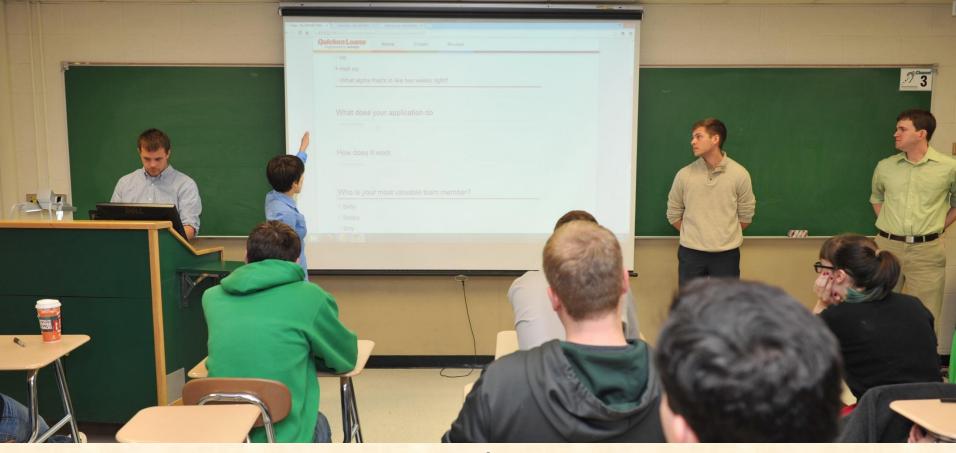
Team Quicken Loans Project Plan Presentation

### Team Quicken Loans Project Plan Presentation

### Screen Mockup

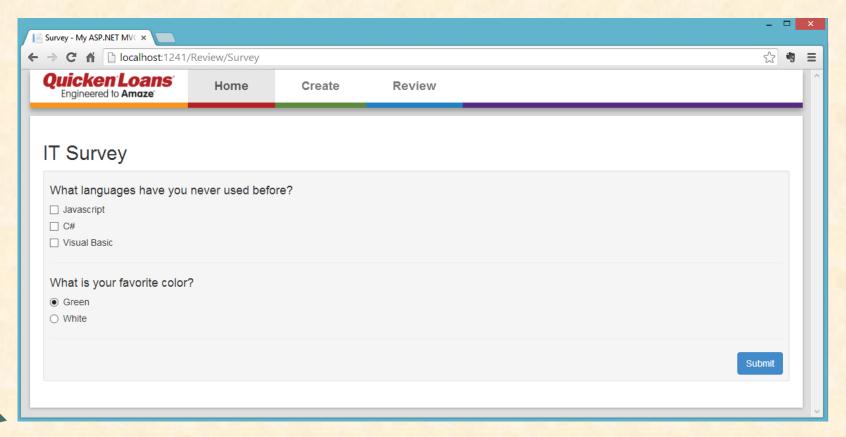
T Survey What languages have you	never used before?		
☐ Javascript	4		
	2		
☐ Visual Basic	0		
What is your favorite colo	r2		
-			
Green White	40 % 60 %		
· · · · · · · · · · · · · · · · · · ·	00 10		
How many siblings do you	ı have?		





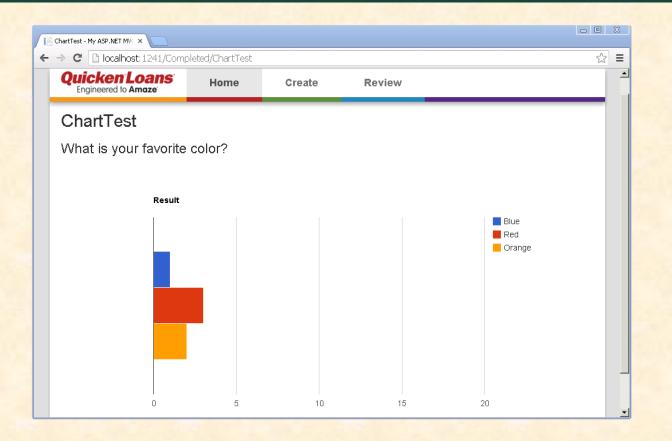
### Team Quicken Loans Alpha Presentation

### Take Survey Screen

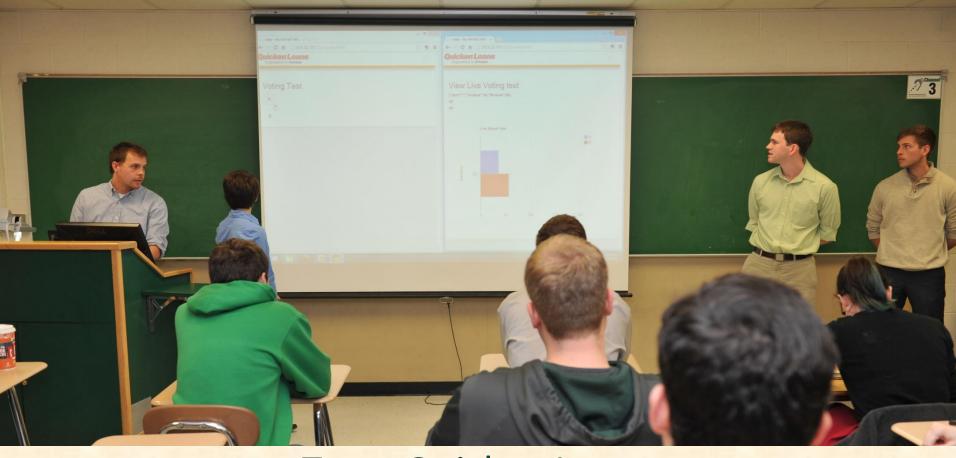




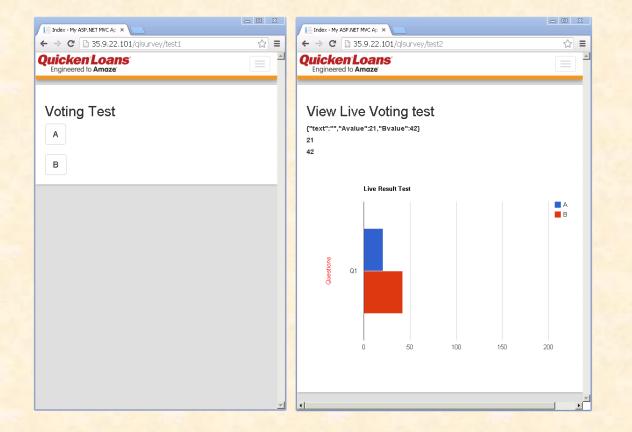
### **Review Survey Results**







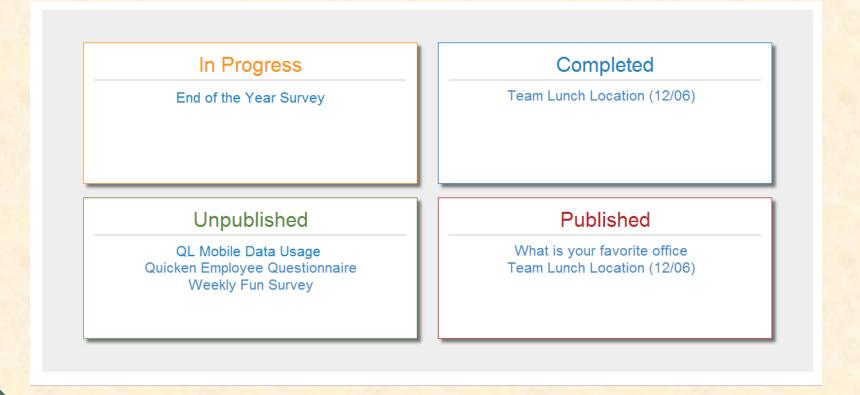
### Live Voting Results







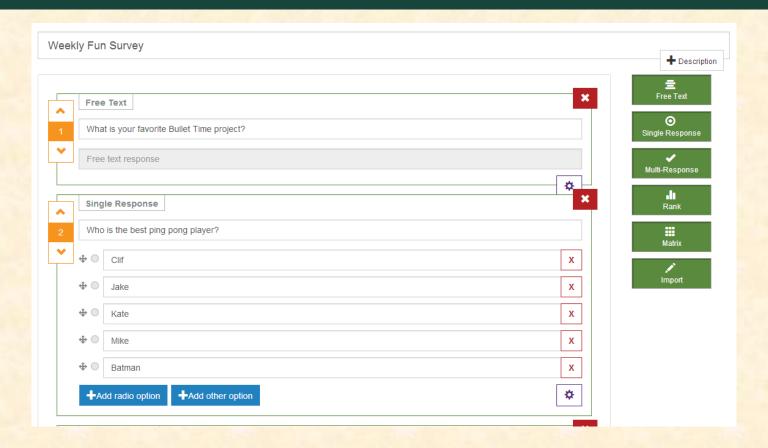
### Home Screen



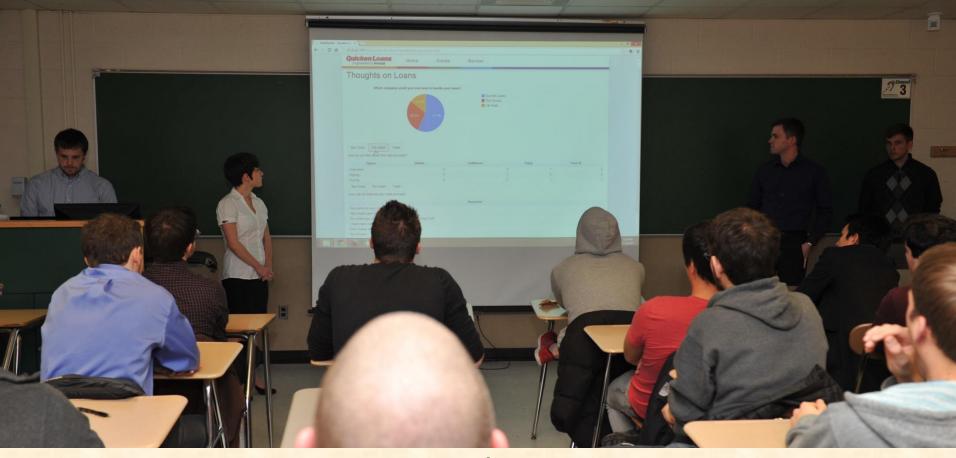


### Team Quicken Loans Beta Presentation

### **Create Survey**

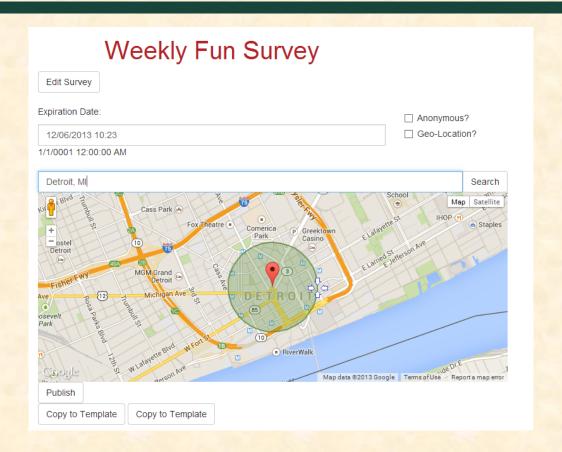






### Team Quicken Loans Beta Presentation

### **Publish Survey**







Team Quicken Loans Design Day





### Team Spectrum Health

Department of Computer Science and Engineering
Michigan State University
Fall 2013

### SPECTRUM HEALTH



### Team Spectrum Health Project Overview

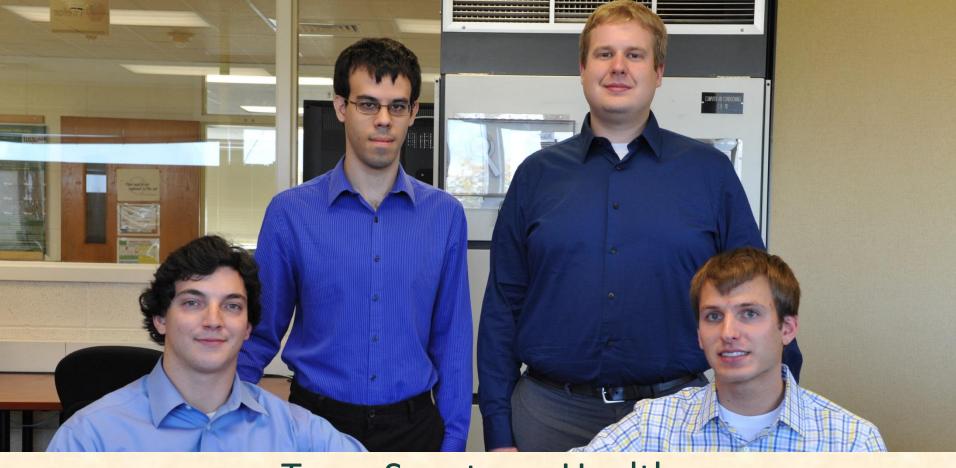
### **Talent Connections Careers Mobile Site**

- Functionalities
  - Apply for Spectrum Health Position
  - Via Mobile Devices
  - Including Phones and Tablets
- Features
  - Simple and Easy Process
  - Web App, Consistent with Non-Mobile Site
  - Useable by Both Internal and External Candidates
  - Support for High Resolution Displays
- Technologies
  - CSS, HTML5
  - JavaScript, Ajax
  - jQuery, jQuery Mobile
  - Microsoft C#, ASP.NET MVC 4.0
  - Microsoft Internet Information Services (IIS) 7.0
  - RESTful Web Services









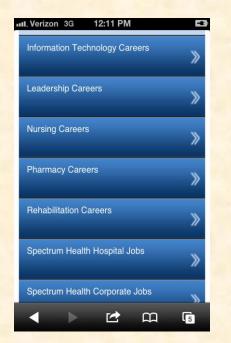
### Team Spectrum Health

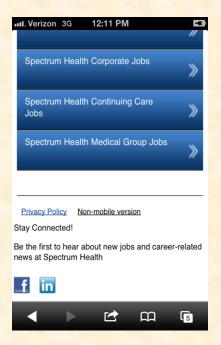
Max Sweet, Chris Cheaney, Hayden Boroski, Nate Langolf

### Team Spectrum Health Project Plan Presentation

### Screen Mockups





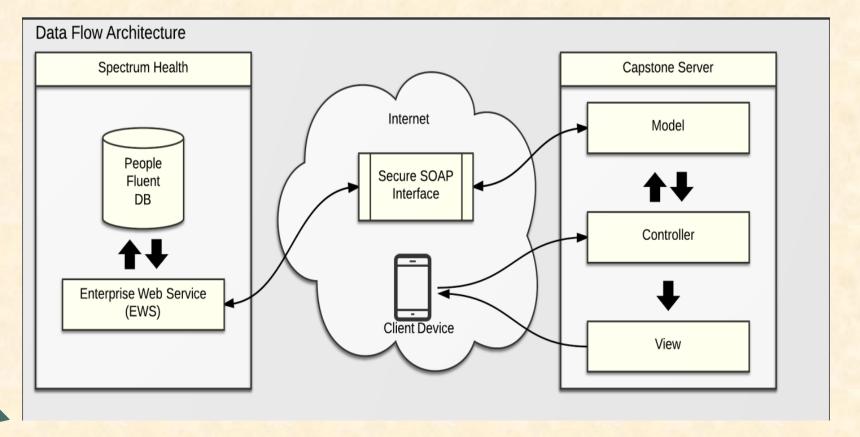






Team Spectrum Health Project Plan Presentation

## Team Spectrum Health Project Plan Presentation Architecture Diagram





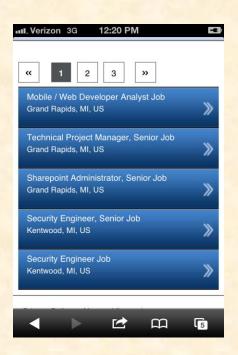
The Capstone Experience



Team Spectrum Health Project Plan Presentation

### Team Spectrum Health Project Plan Presentation

#### Screen Mockup





ull. Verizon 3G	12:21 PM		-6
Already a member	er?		
Ziroday a momo	21		
First Name*			
Last Name*			
Email*			
Teresa.nelson@sp	ectrumhealth	.org	
Create Passwor	d*		
Confirm Passwo	ord*		
* required field			
Save			
		ED.	[5

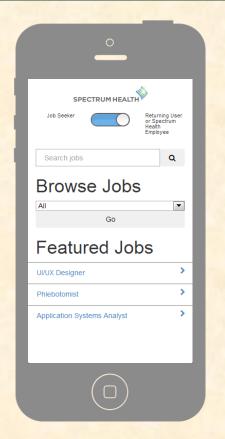




Team Spectrum Health Alpha Presentation

### Team Spectrum Health Alpha Presentation

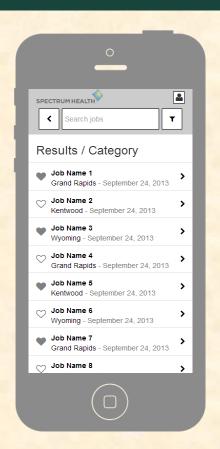
### Home Page





## Team Spectrum Health Alpha Presentation

Search Page



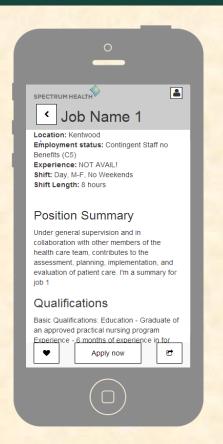




Team Spectrum Health Alpha Presentation

## Team Spectrum Health Alpha Presentation

#### **Position Description**







Team Spectrum Health Beta Presentation

## Team Spectrum Health Beta Presentation

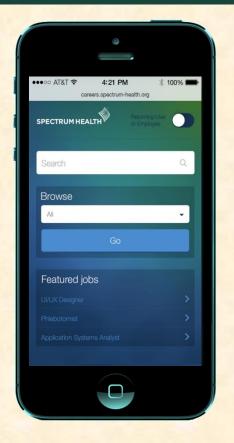
### Login Screen





## Team Spectrum Health Beta Presentation

#### Search Screen



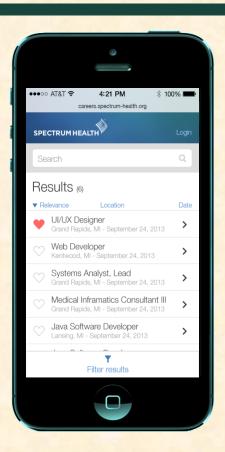




Team Spectrum Health Beta Presentation

### Team Spectrum Health Beta Presentation

#### Position Search and Details









Team Spectrum Health Design Day

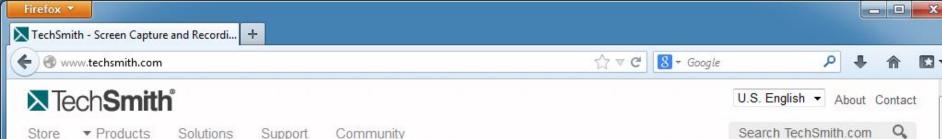




### Team TechSmith

Department of Computer Science and Engineering
Michigan State University
Fall 2013

# **TechSmith**



### Our Form Is Improving

With Coach's Eye 3.0 we've upped our game, so you can improve yours. Analyze two videos at once with our new split screen comparison, and quickly see how your skills stack up against yourself and others. Whatever you do, Coach's Eye will help you get better, faster.

Learn More ▶





## Team TechSmith Project Overview

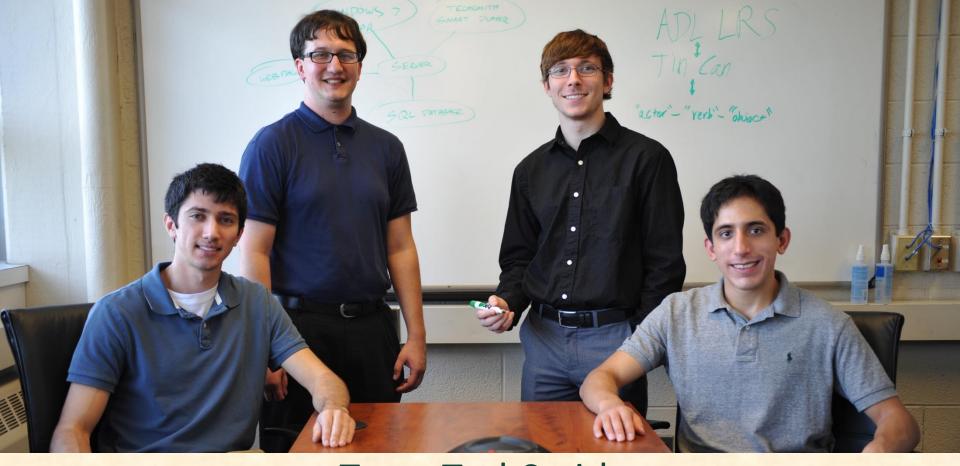
#### **Learning Activity Capture**

- Functionalities
  - Collect User Learning Activity Information
    - "Read an Article"
    - "Watched a Video"
    - "Took a Quiz"
    - o Etc.
  - Summarize Information for User
- Features
  - Collect Information Via
    - TechSmith Smart Player
    - Web Browser Add-On
    - Microsoft User Interface Automation
  - User Provided Activity Hints
  - Shareable Activity Lists
  - Learning Activity Reporting Web Site
- Technologies
  - CSS, HTML5, JavaScript
  - Python, C#/.NET
  - Microsoft Windows and Ubuntu (Unix)
  - Advanced Distributed Learning, Learning Records Store
  - Tin Can API
  - Microsoft Windows User Interface Automation









### Team TechSmith

Joe Lindlbauer, David Jones, Anthony Kazyaka, Mike Quiroga

## Team TechSmith Project Plan Presentation

#### Screen Mockup

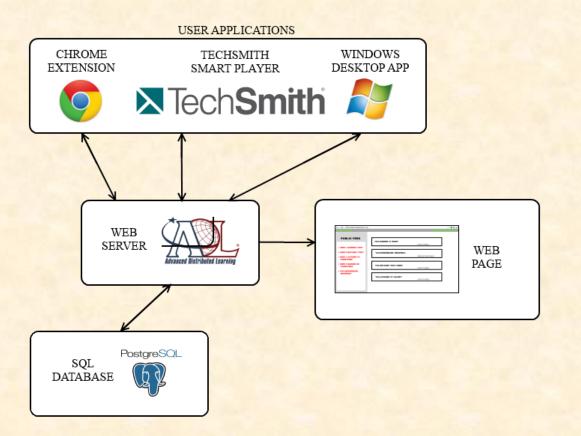






Team TechSmith Project Plan Presentation

## Team TechSmith Project Plan Presentation Architecture Diagram





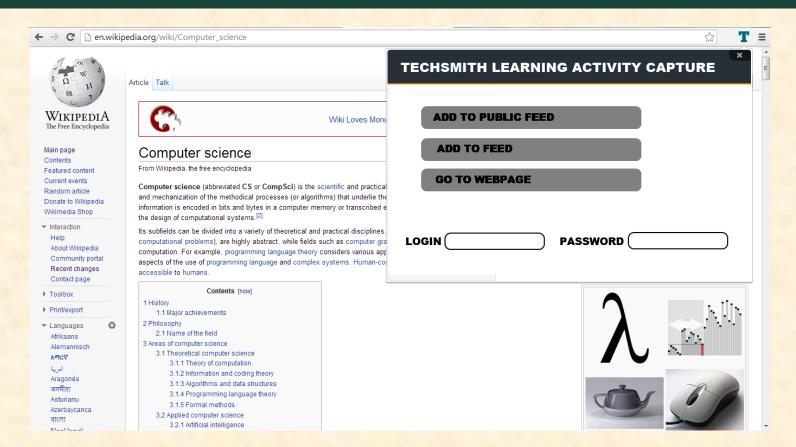
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Team TechSmith Project Plan Presentation

## Team TechSmith Project Plan Presentation

#### Screen Mockup



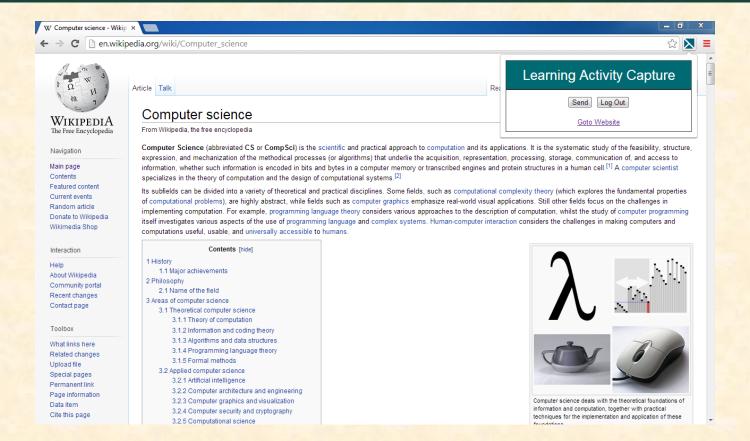




Team TechSmith Alpha Presentation

### Team TechSmith Alpha Presentation

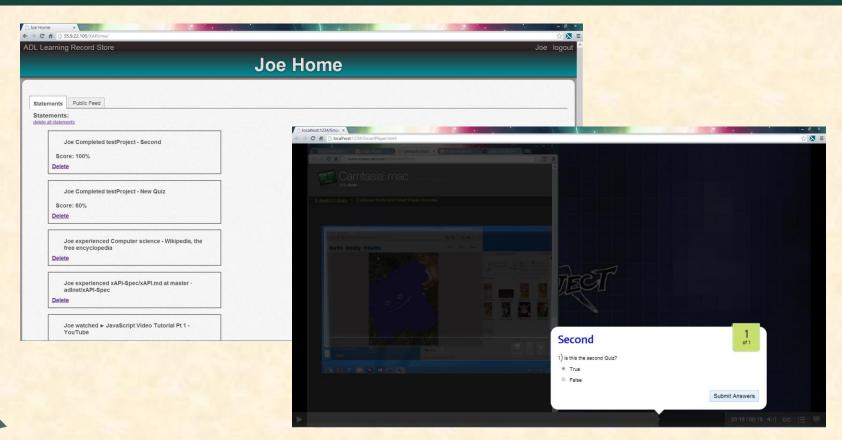
#### Chrome Extension





### Team TechSmith Alpha Presentation

### TechSmith Smart Player



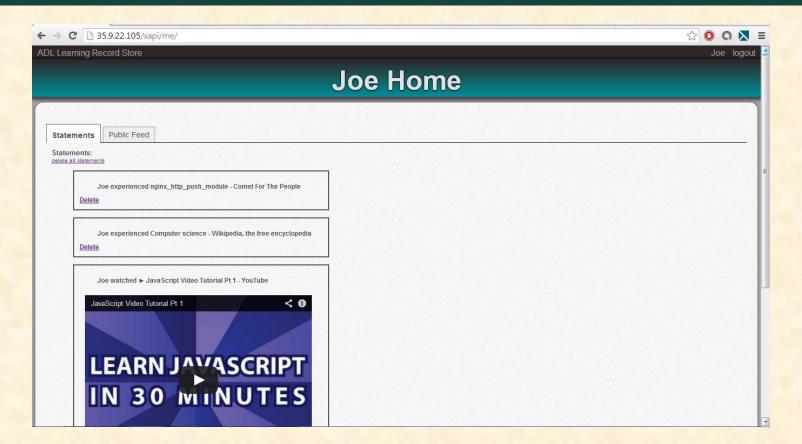




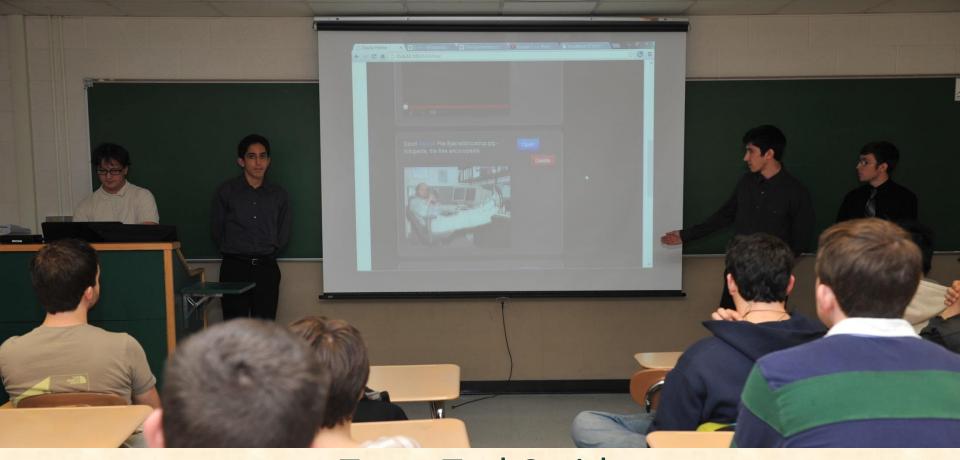
Team TechSmith Alpha Presentation

### Team TechSmith Alpha Presentation

Web Page

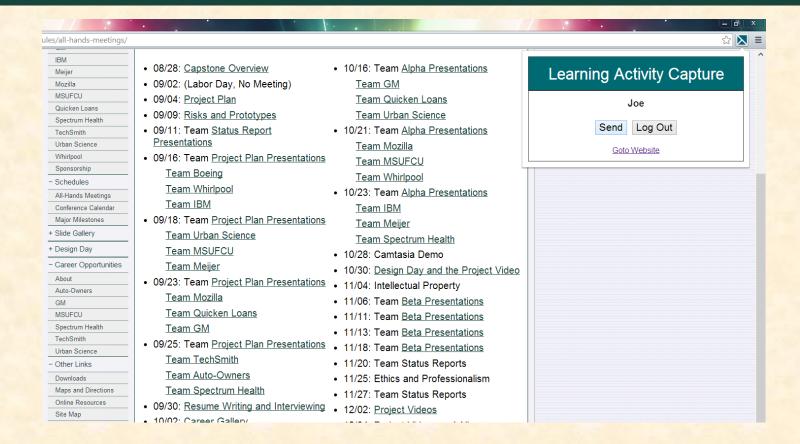






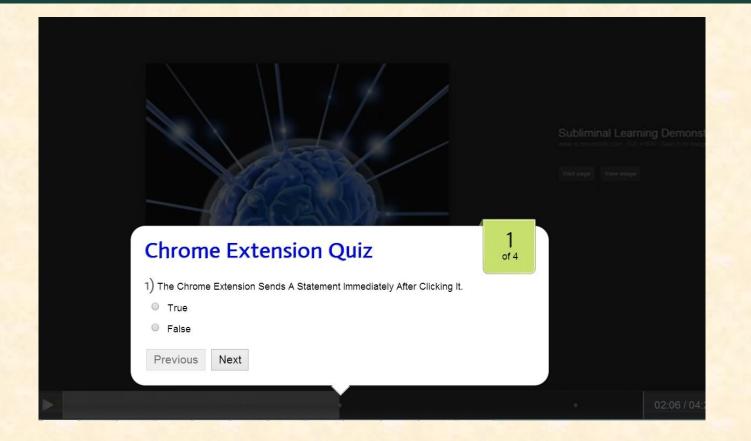
### Team TechSmith Beta Presentation

#### Chrome Extension





### TechSmith Smart Player

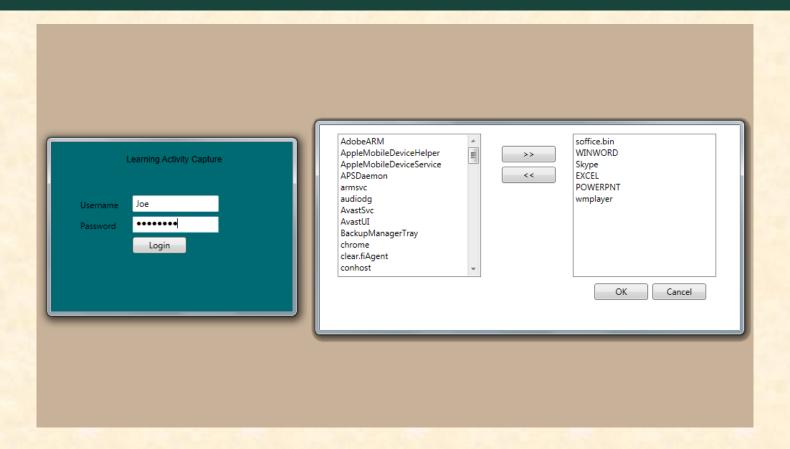




The Capstone Experience



### **Desktop Application**





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Team TechSmith Design Day



# The Capstone Experience

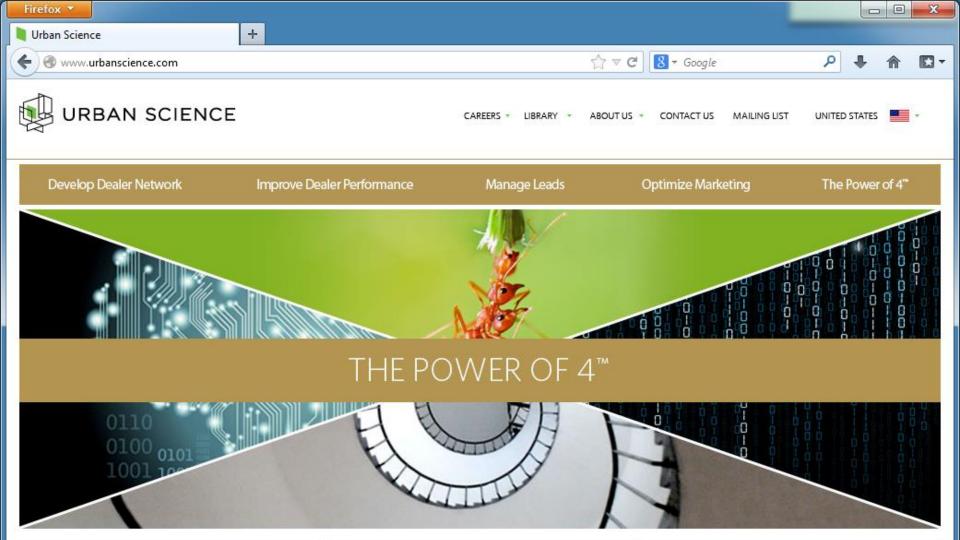


### Team Urban Science

Department of Computer Science and Engineering
Michigan State University
Fall 2013



# URBAN SCIENCE.

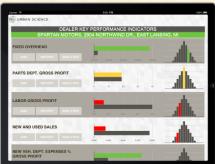


### Team Urban Science Project Overview

#### **Dealership Consultant Mobile Apps**

- Functionalities
  - Support Urban Science Consultants
  - Meetings with Automobile Dealers
  - Provide and Collect Information
    - Before Meeting
    - During Meeting
    - After Meeting
  - Natively on iPad and Android Tablet
- Features
  - Useable During Meeting
  - Provide and Collect
    - Specific Action Plan
    - Dealer's Reaction
    - Meeting Atmosphere
    - Specific Process to be Utilized
    - Dealer Agreements
  - All Information Stored in SQL Database
- Technologies
  - Apple iOS iPad and Google Android Tablet
  - Microsoft Bing Maps or Google Maps
  - Web Services
  - SQL Server
  - Capstone Mobile Geography Management, Fall 2012
  - Capstone Dealership Consultant Mobile App, Spring 2013







URBAN SCIENCE

Detroit, Michigan



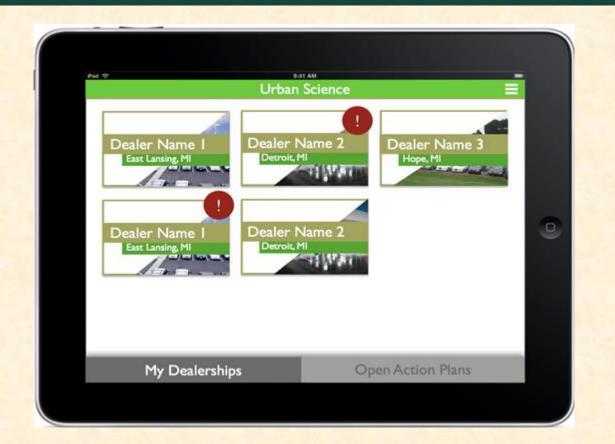


#### Team Urban Science

Ryan Tempas, Matt Ao, Eric Zipple, Zach Kuzmanic

### Team Urban Science Project Plan Presentation

#### Screen Mockup







Team Urban Science Project Plan Presentation

### Team Urban Science Project Plan Presentation Architecture Diagram





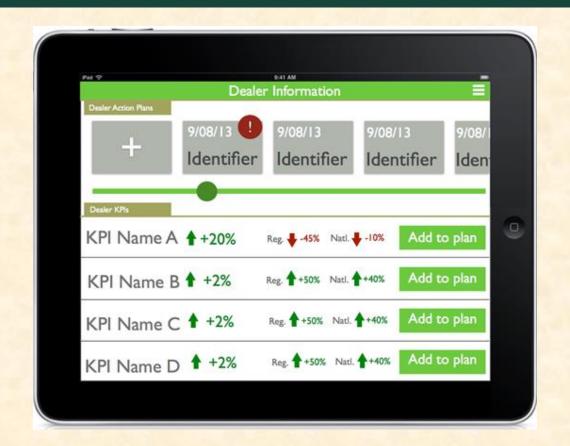
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Team Urban Science Project Plan Presentation

### Team Urban Science Project Plan Presentation

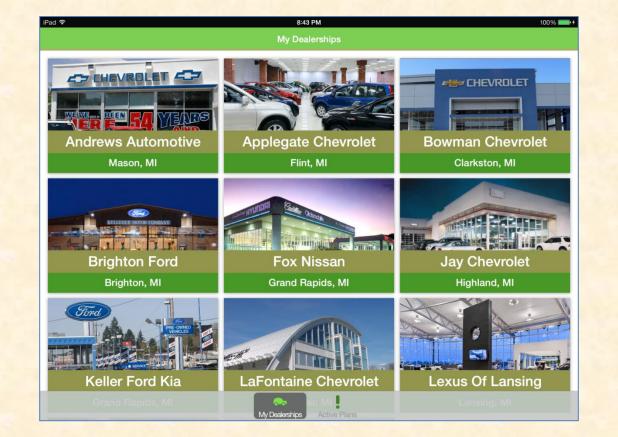
#### Screen Mockup





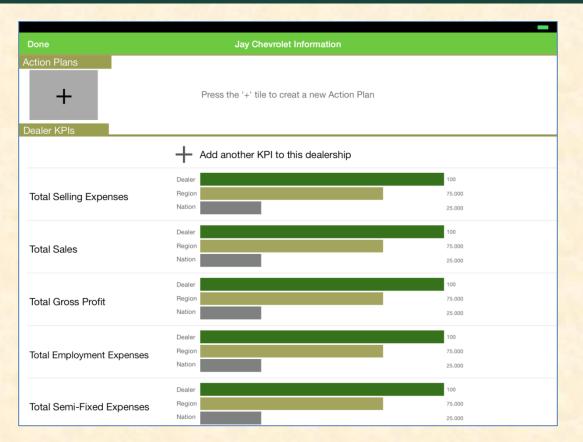


#### **Dealership Viewing**





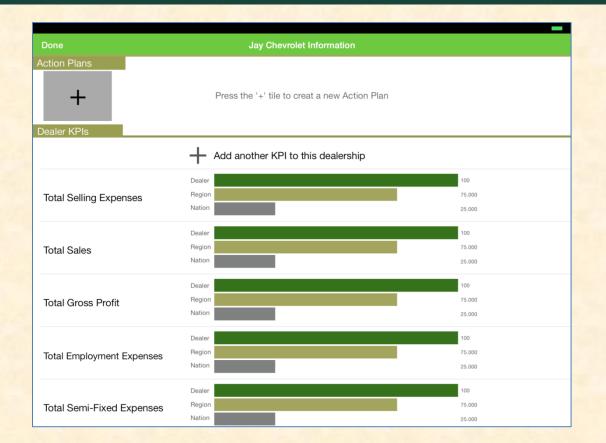
#### **Dealership Information**







#### **Key Performance Indicators**



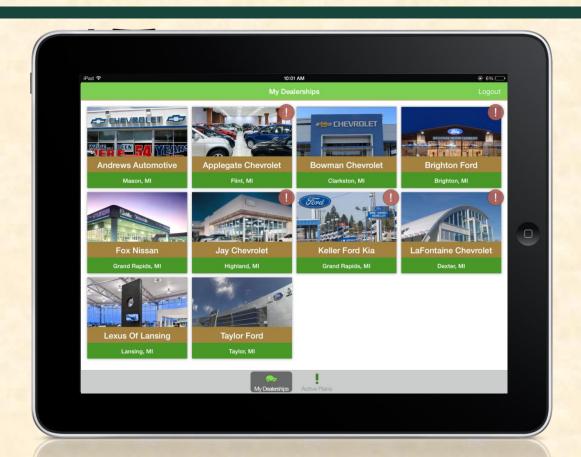




# The Capstone Experience

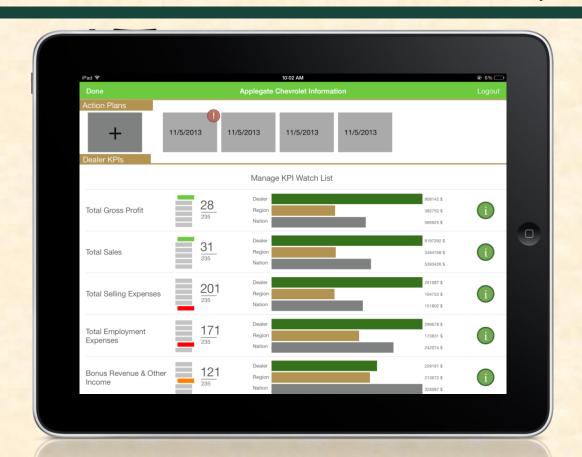
#### Team Urban Science Beta Presentation

#### Dealerships





#### **Dealership Information**





The Capstone Experience



# he Capstone Experience

#### Team Urban Science Beta Presentation

#### **KPI Information**







Team Urban Science Design Day



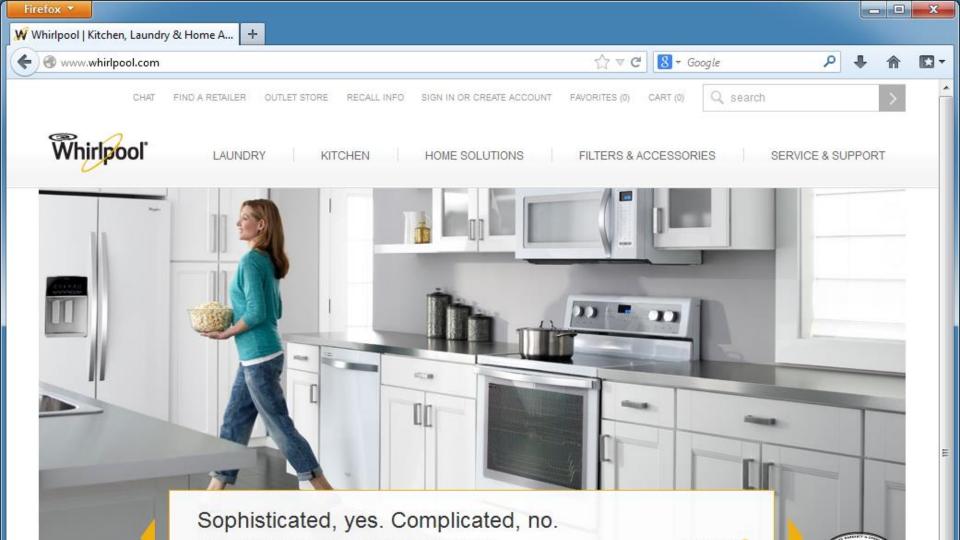
# The Capstone Experience



### Team Whirlpool

Department of Computer Science and Engineering
Michigan State University
Fall 2013





# The Capstone Experience

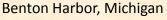
# Team Whirlpool Project Overview

#### **Connected Appliance SmartZones**

- Functionalities
  - Extend Whirlpool Connected Appliance Feature
  - Enable Consumer Interaction Using SmartZones
  - Mobile Apps
- Features
  - Native Apple iPad and Google Android Tablet Apps
  - Use Geolocation and Geofencing
  - Support Various SmartZones
    - Vacation
    - Comfort
    - AlertMe
    - RemindMe
- Technologies
  - Apple iOS 6.x or Higher
  - Android Jelly Bean 4.2 or Higher
  - PhoneGap (Optional)
  - Mapping APIs (for Showing Locations of Geofenced SmartZones)
  - Whirlpool Connected Appliance APIs











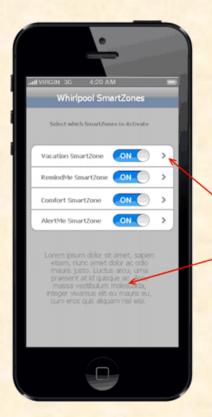
Team Whirlpool

Joe Wandyez, Jack Schinderle, Josh Geschwendt, Anthony Donofrio

# The Capstone Experience

### Team Whirlpool Project Plan Presentation

#### Screen Mockup



**Activate Screen** 

With this screen you will turn the various SmartZones on and off.

Tapping on the right arrow will take you to the Create/Modify SmartZone screen.

Text details here are TDB.





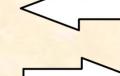
Team Whirlpool Project Plan Presentation

# Team Whirlpool Project Plan Presentation Architecture Diagram

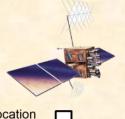




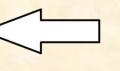




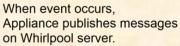
The Connected Appliance SmartZone application interacts with appliances via the Connected Appliance API













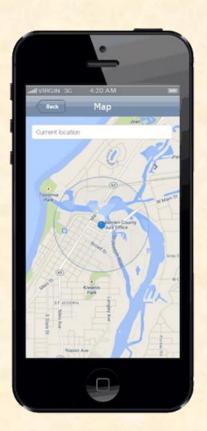


Team Whirlpool Project Plan Presentation

# The Capstone Experience

## Team Whirlpool Project Plan Presentation

#### Screen Mockup



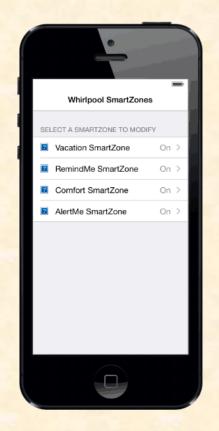
Map It Screen

On this screen the consumer shall be able to see the location of the geo fence they just created. I think we should be able to use the Google Map API for this. Let's research.



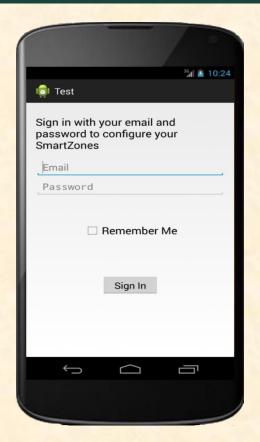


#### iPhone Zone Manager





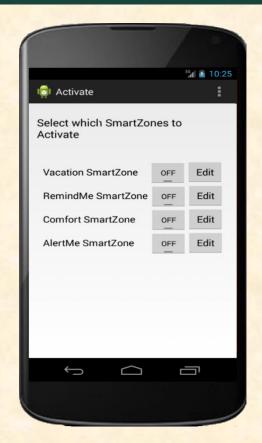
#### **Android Login**







#### **Android Zone Manager**





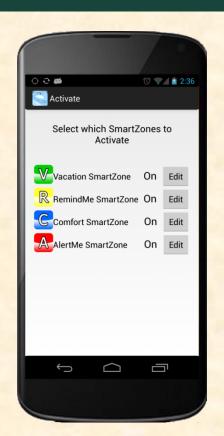


Team Whirlpool Beta Presentation

#### Team Whirlpool Beta Presentation

#### Zone Manager



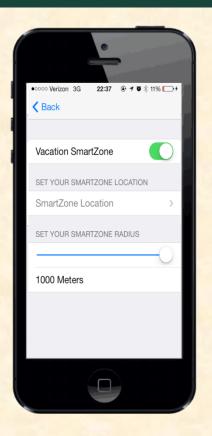


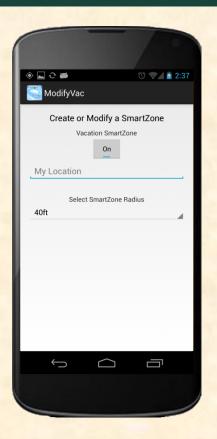




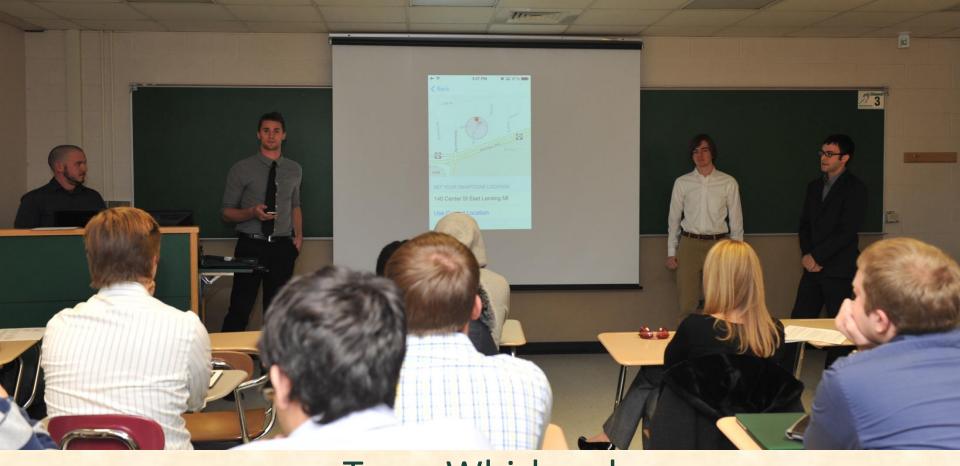
#### Team Whirlpool Beta Presentation

#### Vacation SmartZone







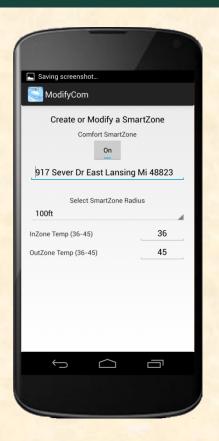


Team Whirlpool Beta Presentation

#### Team Whirlpool Beta Presentation

#### Comfort SmartZone









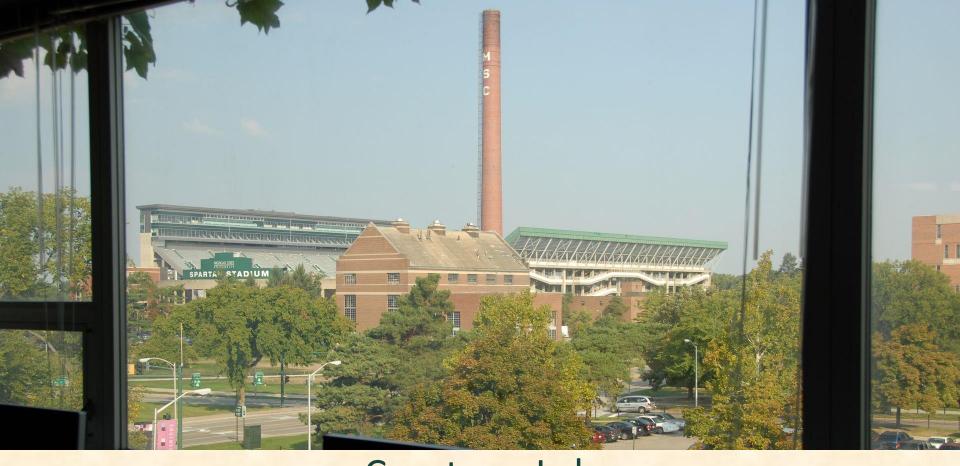
Team Whirlpool Design Day



Dr. Wayne Dyksen

Department of Computer Science and Engineering
Michigan State University
Fall 2013

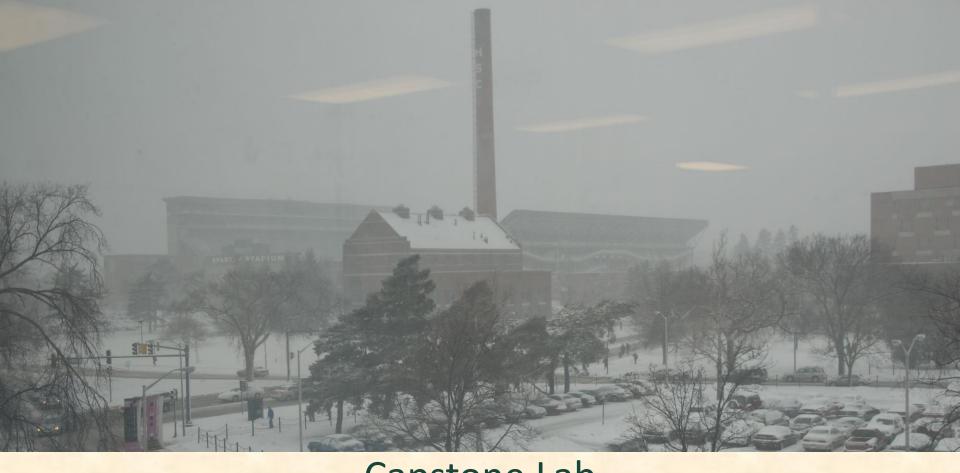




Capstone Lab View of Spartan Stadium



Capstone Lab View of Spartan Stadium sans Smokestack



Capstone Lab Winter View of Spartan Stadium



#### Design Day Award Winners

December 6, 2013

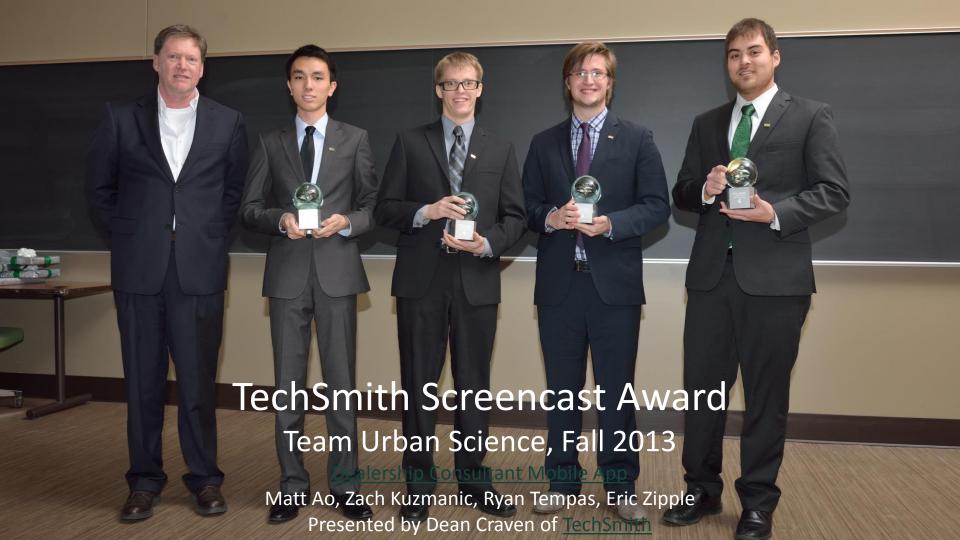




All-Hands Design Day, December 6, 2013

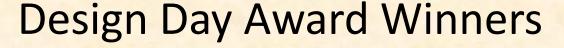












April 26, 2013





All-Hands Design Day, April 26, 2013











Dr. Wayne Dyksen

Department of Computer Science and Engineering
Michigan State University
Fall 2013





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