

MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Dr. Wayne Dyksen

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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

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](#).



All-Hands Meetings

- MW, 3:00-3:50pm, 2400 Engineering Building
- Presentations By
 - Professor
 - Teams
 - Status Reports
 - Formal Presentations
 - Project Plan
 - Alpha
 - Beta
 - Project Videos
 - Guest Speakers



All-Hands Meetings

- 01/10: Course Overview
- 01/12: Project Plan
- 01/17: (Martin Luther King Day, No Meeting)
- 01/19: Project Schedule and Risk
- 01/24: Team [Status Reports](#)
- 01/26: Prototyping
- 01/31: Team [Project Plan Presentations](#)
- 02/02: Team [Project Plan Presentations](#)
- 02/07: Team [Project Plan Presentations](#)
- 02/09: Team [Project Plan Presentations](#)
- 02/14: Resume Writing and Interviewing
- 02/16: Creating and Giving Presentations
- 02/21: Team [Alpha Presentations](#)
- 02/23: Team [Alpha Presentations](#)
- 02/28: Team [Alpha Presentations](#)
- 03/02: Team [Alpha Presentations](#)
- 03/07: (Spring Break, No Meeting)
- 03/09: (Spring Break, No Meeting)
- 03/14: [Design Day](#) and the [Project Videos](#)
- 03/16: Camtasia Demo
- 03/21: Team Status Reports
- 03/23: Team Status Reports
- 03/28: Team Status Reports
- 03/30: Team Status Reports
- 04/04: Team [Beta Presentations](#)
- 04/06: Team [Beta Presentations](#)
- 04/11: Team [Beta Presentations](#)
- 04/13: Team [Beta Presentations](#)
- 04/18: Ethics and Professionalism
- 04/20: Intellectual Property and Copyright
- 04/25: Team [Project Videos](#)
- 04/27: Team [Project Videos](#) and [All Deliverables](#)
- 04/28: [Design Day](#) Setup
- 04/29: [Design Day](#)
- 05/03: Team Project Videos



The Capstone Experience

Team Auto-Owners

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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



Auto-Owners Insurance

Life Home Car Business

The "No Problem" People®

Auto-Owners Insurance

[Customer Center](#) [Career Center](#) [Media Center](#)

[Our Products](#)

[Find an Agency](#)

[Corporate Information](#)

[Customer Claims](#)

search

Go!



Life

protecting your family



Home

property & liability



Car

security while on the road



Business

guarding your investment

The "No Problem" People[®]

Have questions? Want coverage? See why thousands of customers nationwide rely on Auto-Owners for "No Problem" service in life, home, car, or business insurance.



[CUSTOMER CENTER](#)

[Find an Agency](#)

[Career Center](#)

Team Auto-Owners Project Overview

Agent Multimedia Advertisement Builder

- Build Auto-Owners Advertisements
 - Customized by and for Independent Agents
 - Utilize Corporate Templates
- User Features
 - Upload Text, Photos, Images, Audio, and Video
 - Save , Open , Edit, Produce, and Submit
 - Shopping Cart
- Administrative Features
 - Manage User Profiles
 - Manage Ad Templates
 - Review, Approve, and Track Ads
- Technologies
 - Java / Eclipse
 - Struts 2
 - DB2 (Relational Database)



A photograph of three men standing in an office setting. They are positioned in front of a large screen that displays the Auto-Owners Insurance logo. The man on the left is wearing a light-colored checkered shirt and dark trousers. The man in the center is wearing a dark, long-sleeved button-down shirt and dark trousers. The man on the right is wearing a light blue dress shirt, a dark tie, and khaki trousers. The screen behind them shows the Auto-Owners Insurance logo, which includes a stylized blue circle with a white dot inside, followed by the text "Auto-Owners Insurance" in a serif font, "Life Home Car Business" in a smaller sans-serif font, and "The No Problem People®" in a script font.

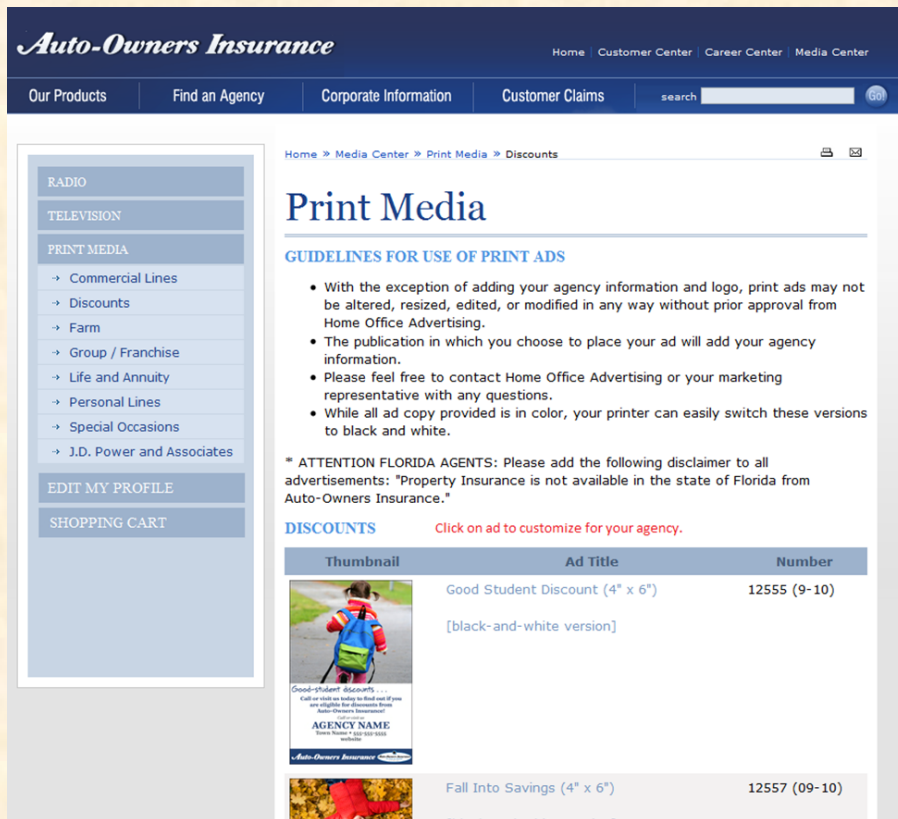
Patrick
Nelson

Joe
Korolewicz

Dan
Jones

Team Auto-Owners
Team Photo

Team Auto-Owners Screen Mockup



Screen Mockups



Team Auto-Owners
Project Plan Presentation

Team Auto-Owners Screen Mockups

Auto-Owners Insurance

Home | Customer Center | Career Center | Media Center

Our Products | Find an Agency | Corporate Information | Customer Claims | search

RADIO

TELEVISION

PRINT MEDIA

- Commercial Lines
- Discounts
- Farm
- Group / Franchise
- Life and Annuity
- Personal Lines
- Special Occasions
- J.D. Power and Associates

EDIT MY PROFILE

SHOPPING CART

Home » Media Center » Print Media » Discounts

Ad Preview: 5"x3" Cowabunga

Picture:

Logo:

Tagline:


Cowabunga . . . check out our farm insurance!


Call or visit us

SomeAgency

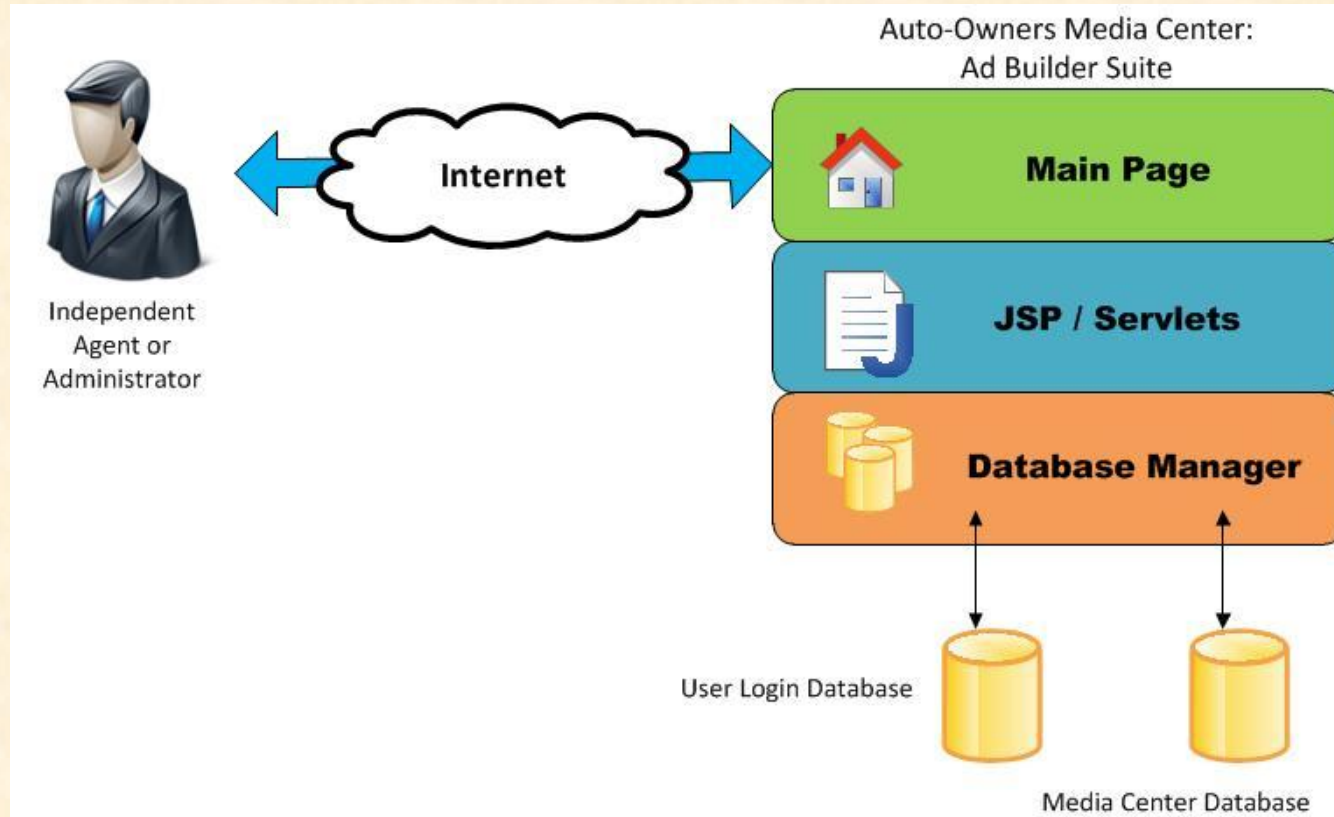
Lansing MI -- 517-123-4567

SA.com

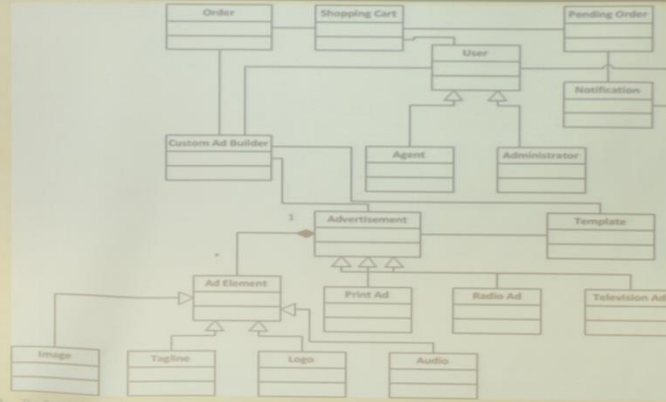


Auto-Owners Insurance 

Team Auto-Owners Architecture Diagram



Technical Specifications



Team Auto-Owners
Project Plan Presentation

Team Auto-Owners Alpha Presentation

Welcome Page

Auto-Owners Insurance *aoins.com*
agent multimedia advertisement builder




Live Online Support
Home



agent number here February 20, 111

- Media Center
- Edit My Profile
- Budget Calculator
- Administrator Order Approval
- Administrator View Ad Statistics
- Administrator View Order History

You're now authenticated in the Auto-Owners site!

Auto-Owners advertises through a generous co-op program with our independent agents, providing them with funds to be used for advertising. To view or download our radio, television or print ads click the appropriate button below.



Contact us:  1-800-346-0346 

[Home](#) | [Live Online Support](#) | [Terms of Use and Privacy Policy](#) | [Feedback & Comments](#)



Team Auto-Owners Alpha Presentation

Team Auto-Owners Alpha Presentation

Custom Print Ad Generation

Headline . . .

Copy.....

.....

.....

.....

Call or visit us

Spartan Insurance

East Lansing • 517-955-6543

spartan@insurance.com



Auto-Owners Insurance





Team Auto-Owners Alpha Presentation

Team Auto-Owners Beta Presentation

Review Print Ad

[Auto-Owners Approved Advertisements](#) [Custom Advertisement](#)


Final Review
Carefully review your advertisement. To make changes, return to the previous page by clicking the Back button.
If you are satisfied with the ad below, click Add To Cart. You will be redirected to your shopping cart to complete your order.


[<< Back](#)
[Add To Cart](#)

You're never too old ...

To save money! Ask about retirement association member discounts for your home and auto.

Wolverine Insurance
Ann Arbor • 666-666-6666
joe.korolewicz@gmail.com



Auto-Owners Insurance 





CONabunga ... check out our farm insurance!

Call or visit us
Spartan Insurance
East Lansing • 517-553-5555
paulwong@gmail.com

Auto-Owners Insurance

Team Auto-Owners
Beta Presentation

Team Auto-Owners Beta Presentation

Administrator Approval

Auto-Owners Insurance
agent multimedia advertisement builder

aoins.com

Live Online Support

Home

Media Center
Advertisement Builder
Edit My Profile
Shopping Cart
View Order History
Budget Calculator
Admin Tools
Order Approval
View Ad Statistics
Add New Media

Order Approval

Order Number	Date Added	Agency	Ad Type	Ad Name		
200	4/1/11	Spartan Insurance	Radio	AOI0003JDA-T.mp3	<input type="button" value="Approve"/>	<input type="button" value="Reject"/>
204	4/1/11	Spartan Insurance	Television	AOI_Reason.mp4	<input type="button" value="Approve"/>	<input type="button" value="Reject"/>
203	4/1/11	Spartan Insurance	Radio	AOI0003JDA-T.mp3	<input type="button" value="Approve"/>	<input type="button" value="Reject"/>
201	4/1/11	Spartan Insurance	Print	Never too old...	<input type="button" value="Approve"/>	<input type="button" value="Reject"/>

[Logout](#)
Contact us: 1-800-346-0346
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Auto-Owners Insurance

Order Approval

Order Number	Date Added	Agency	Ad Type	Ad Name	
541	4/12/11	Spokane Insurance	Print	COO Insurance	Approve Reject
551	4/12/11	Spokane Insurance	Print	3-041 Sample	Approve Reject
552	4/12/11	Washington Insurance	Print	4-0111 Sample	Approve Reject

Logout

Contact us: 1-800-548-0000

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Team Auto-Owners
Beta Presentation



Team Auto-Owners
Design Day

The Capstone Experience

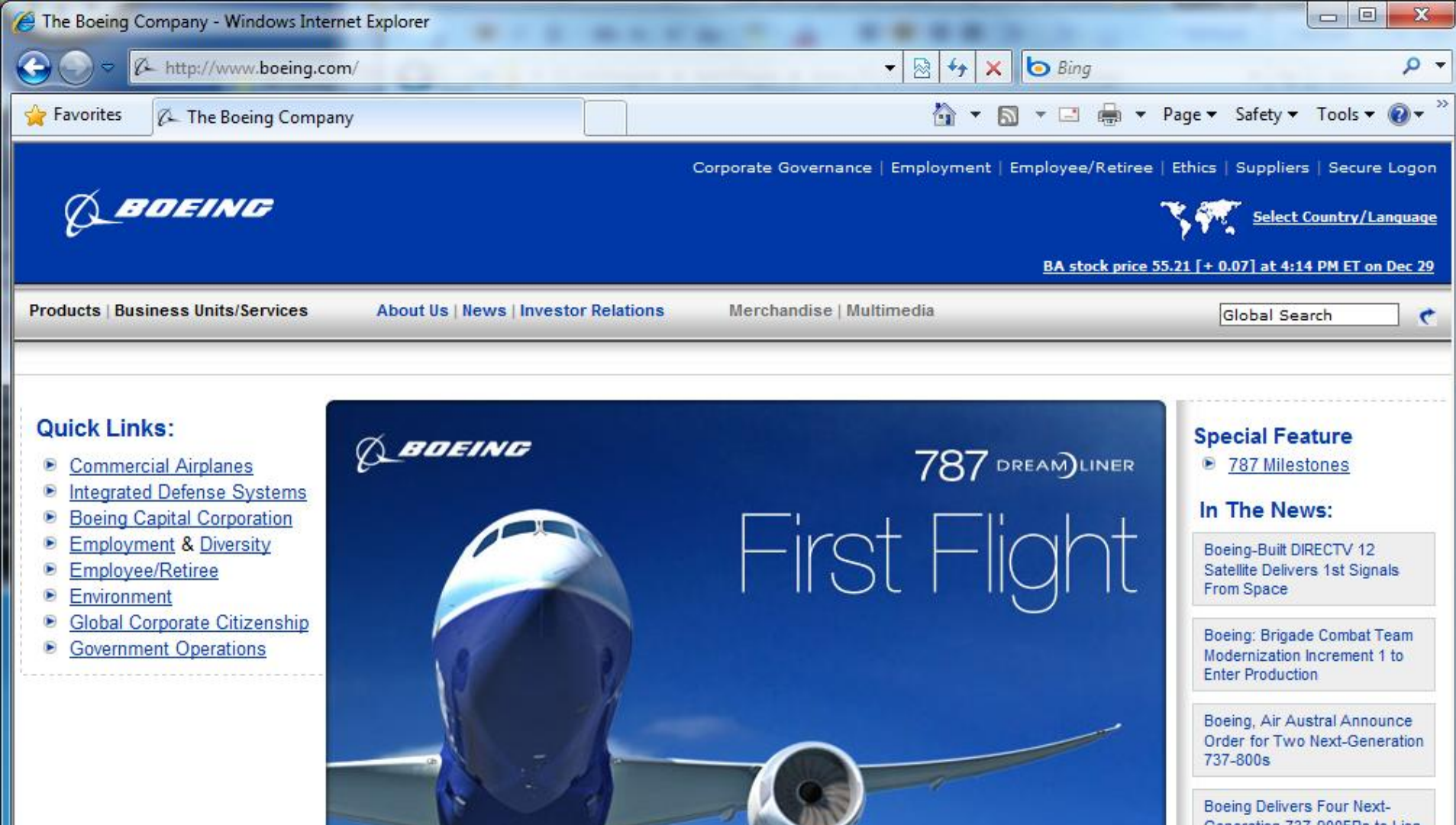
Team Boeing

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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





Select Country/Language

BA stock price 55.21 [+ 0.07] at 4:14 PM ET on Dec 29

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Merchandise | Multimedia

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- ▶ [Integrated Defense Systems](#)
- ▶ [Boeing Capital Corporation](#)
- ▶ [Employment & Diversity](#)
- ▶ [Employee/Retiree](#)
- ▶ [Environment](#)
- ▶ [Global Corporate Citizenship](#)
- ▶ [Government Operations](#)



Special Feature

- ▶ [787 Milestones](#)

In The News:

Boeing-Built DIRECTV 12
Satellite Delivers 1st Signals
From Space

Boeing: Brigade Combat Team
Modernization Increment 1 to
Enter Production

Boeing, Air Austral Announce
Order for Two Next-Generation
737-800s

Boeing Delivers Four Next-
Generation 737-800s to Lion

Team Boeing Project Overview

BAPS: Battle Aircraft Position Share

- 3D Game
 - Two Teams
 - Destroy Targets of Opposing Team
 - Use Aircraft with Various Capabilities
- Features
 - Similar to Chess and Battleship
 - Variety of Targets, Radars, and Weapons
 - Weather
 - Network-Based with Encryption
- Technologies
 - C++ and Python
 - OpenSceneGraph (OSG)
 - Blender (3D Modeling)
 - Internetworking
 - Windows XP, Windows 7



A group of four young men sitting at a long wooden table in an office setting. They are all wearing shirts and ties. The man on the far left is wearing a maroon shirt and a dark tie. The man next to him is wearing a white shirt and a patterned tie. The man in the center is wearing a dark striped shirt and a dark tie. The man on the far right is wearing a light blue striped shirt and a yellow tie. There are computer monitors and office equipment in the background.

Steven
Garske

Eric
Muller

Adam
Cook

Andrew
Kos

Team Boeing
Team Photo

Team Boeing Screen Mockup

Transmitters

Trans1 (x, y, z)

Trans2

Trans3

Trans4

Trans5

Trans6

Trans7

Receivers

Rec1 (x, y, z)

Rec2

Rec3

Rec4

Rec5

Rec6

Rec7

Scan

Move

Fire

Elapsed Game Time

Game Time Remaining

Turn

Turn Time Remaining


Total Targets Hit

Your Targets Hit

Opponent Timeout Remaining

Your Timeout Remaining


Z-Level

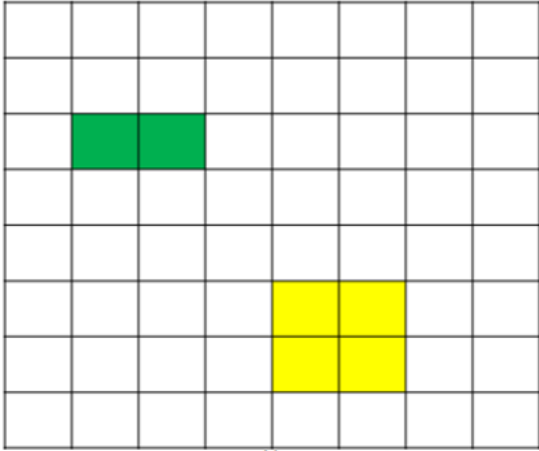


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Image steward: Team MSU Boeing BAPS Spring 2011

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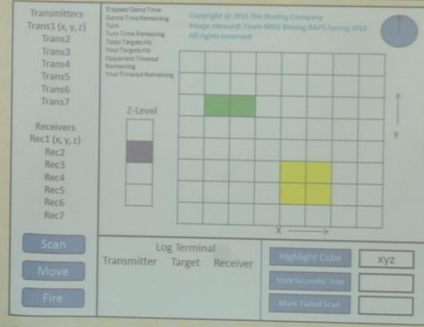




Log Terminal			Highlight Cube	xyz
Transmitter	Target	Receiver		
			Mark Successful Scan	
			Mark Failed Scan	

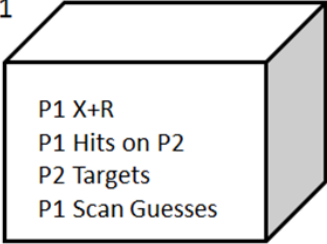
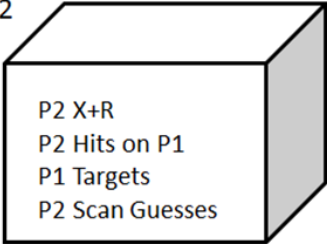


Screen Mockups



Team Boeing
Project Plan Presentation

Team Boeing Screen Mockup

Player 1  <p>P1 X+R P1 Hits on P2 P2 Targets P1 Scan Guesses</p>		<u>Activity Log</u> Hit Guess: x,y,z (Fail/Succeed) Scan Guess: x,y,z (Fail/Succeed) Xmtr Nav Cmd Rcvr Nav Cmd Checked In Checked In Confirmed Target T1 Pos: x,y,z Timeout Request <u>Updated Timeout Positions</u>
Player 2  <p>P2 X+R P2 Hits on P1 P1 Targets P2 Scan Guesses</p>		<u>Activity Log</u> Hit Guess: x,y,z (Fail/Succeed) Scan Guess: x,y,z (Fail/Succeed) Xmtr Nav Cmd Rcvr Nav Cmd Checked In Checked In Confirmed Target T2 Pos: x,y,z Timeout Request <u>Updated Timeout Positions</u>
Total Components Hit T.1. T.2 T.3 T.4 # Turns Taken Current Turn Current Time Remaining # Scan Attempts % Scan Success # Hit Attempts % Hit Success Timeout Remaining	<u>Player 1</u> 0/1 1/2 0/3 3/4 8 P1 10:23 23 45% 8 25% 2	<u>Player 2</u> 0/1 1/2 0/3 1/4 8 P1 10:23 30 65% 8 50% 2

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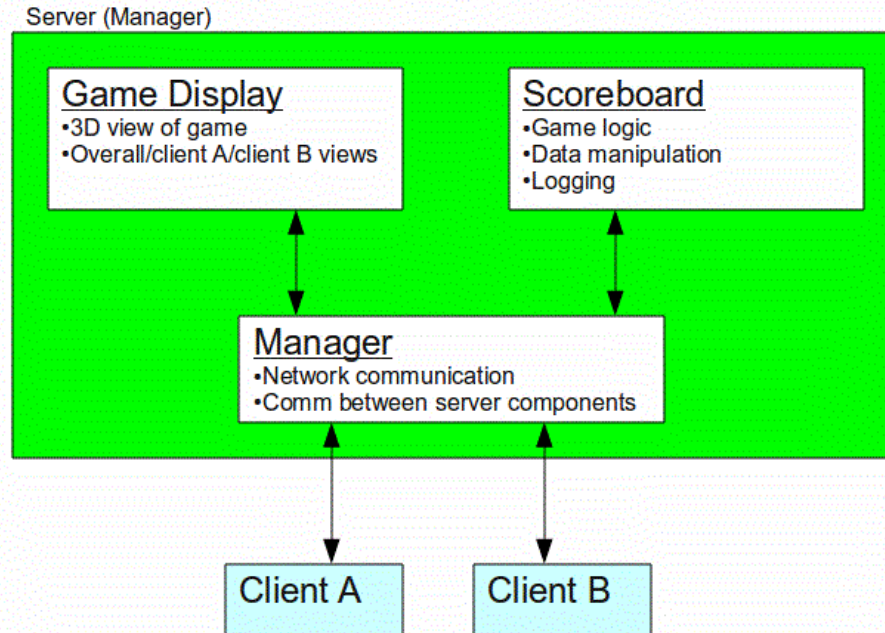
Image steward: Team
MSU Boeing BAPS Spring
2011

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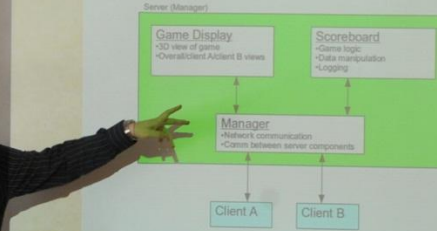
Team Boeing Architecture Diagram

Server Structure and Basic Communication



System Architecture

Server Structure and Basic Communication



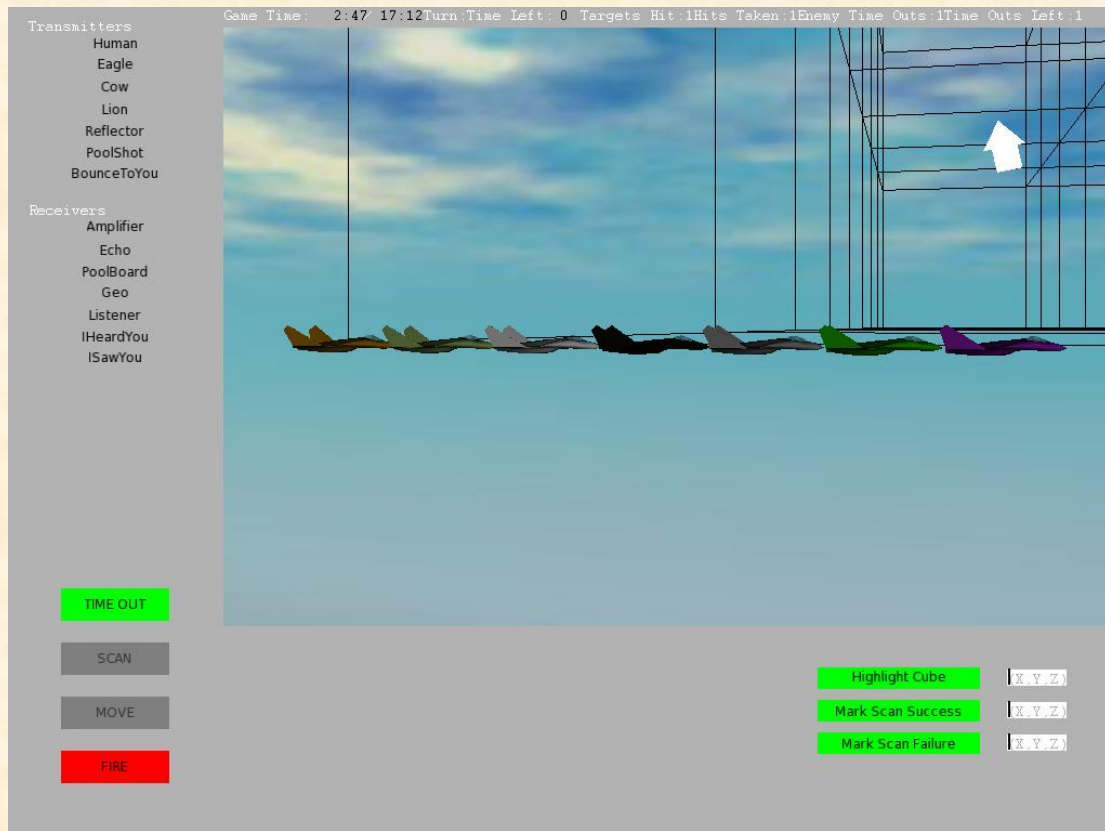
The Capstone Experience

Team Boeing Project Plan

Team Boeing
Project Plan Presentation

Team Boeing Alpha Presentation

Player Transmitters

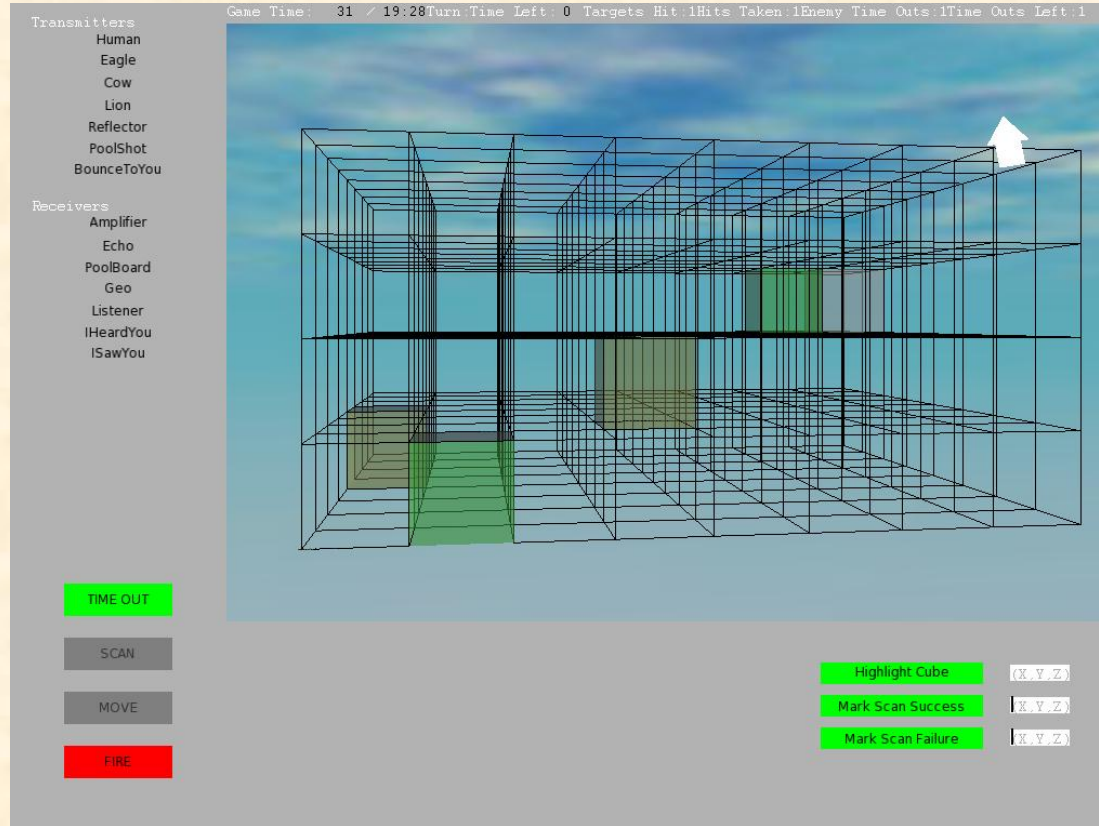


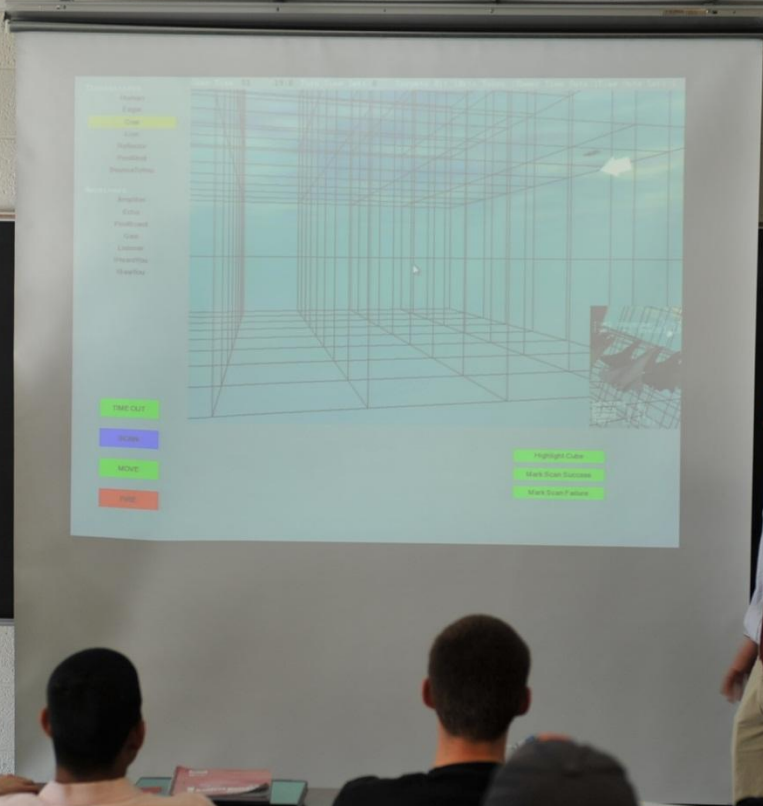


Team Boeing Alpha Presentation

Team Boeing Alpha Presentation

Game Board Highlighting





Team Boeing Alpha Presentation

Team Boeing Beta Presentation

Highlight Window

Boeing Battle Aircraft Position Share (BAPS)

ENEMY TURN

Game Left: 00:01:24
Game Time: 00:03:36
Turn Left: 00:00:04
Timeout Left: 00:00:00
Turn: 0
Targets Hit: 0
Hits Taken: 0
Enemy Timeouts: 0
Timeouts Left: 10

Transmitters
Receivers

SHOW MARKERS: ON
SHOW PLATFORMS: ON
SHOW RECEIVERS: ON
SHOW TRANSMITTERS: ON

TIMEOUT
UNIT PLACE
HIGHLIGHT
SCAN
MOVE
FIRE

Scan Highlight
target (3,3,3)

MISS HIT CLEAR

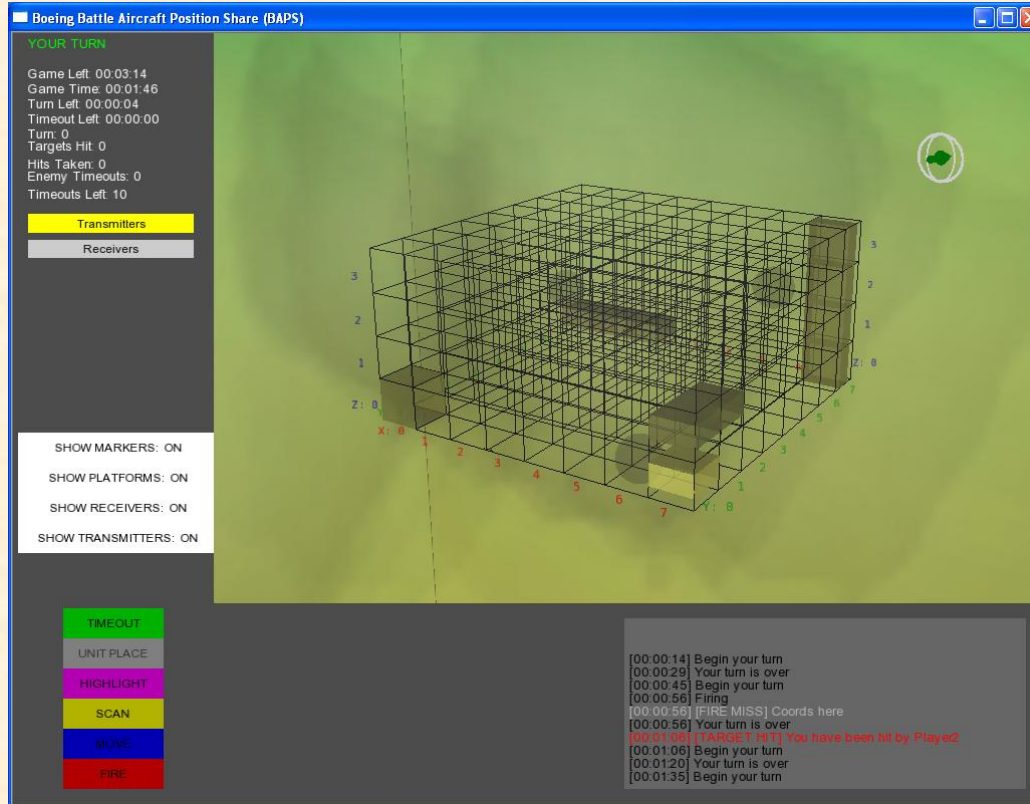
00:01:35] Your turn is over
00:01:50] Begin your turn
00:02:05] Your turn is over
00:02:20] Begin your turn
00:02:25] Firing
00:02:25] [FIRE HIT]
00:02:25] Your turn is over
00:02:39] Begin your turn
00:02:54] Your turn is over
00:03:09] Begin your turn
00:03:24] Your turn is over



Team Boeing Beta Presentation

Team Boeing Beta Presentation

Player Hit





Team Boeing Beta Presentation



The Boeing Company BAPS: Battle Aircraft Position Share

Battle Aircraft Position Share, or BAPS, combines strategy and quick thinking as players compete to win and destroy each other's aircraft in 3D battle space. BAPS is a fast-paced, turn-based and real-time game play. Players have a limited amount of time to select the best aircraft to use against their opponent.

Battle Aircraft Position Share is a fast-paced, turn-based and real-time game play. Players have a limited amount of time to select the best aircraft to use against their opponent.

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Battle Aircraft Position Share is a fast-paced, turn-based and real-time game play. Players have a limited amount of time to select the best aircraft to use against their opponent.

Team Boeing
Design Day

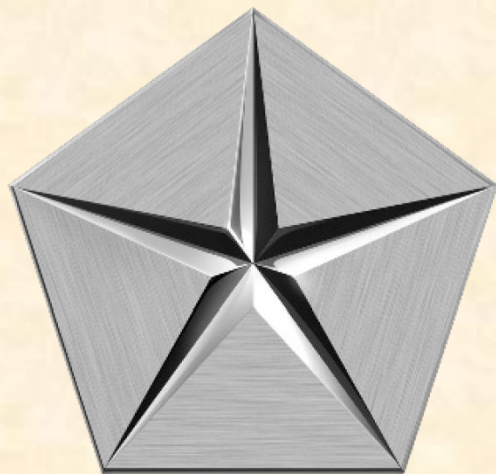
The Capstone Experience

Team Chrysler

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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



CHRYSLER

CHRYSLER



[Home](#) | [Chrysler Collection](#)

VEHICLE LINEUP ▶

[Find A Dealer](#) ZIP ▶

[Build My Own](#)

[Shopping Tools](#) ▶

[For Owners](#) ▶

WATCH OUR TV COMMERCIALS



STYLE BOOSTER

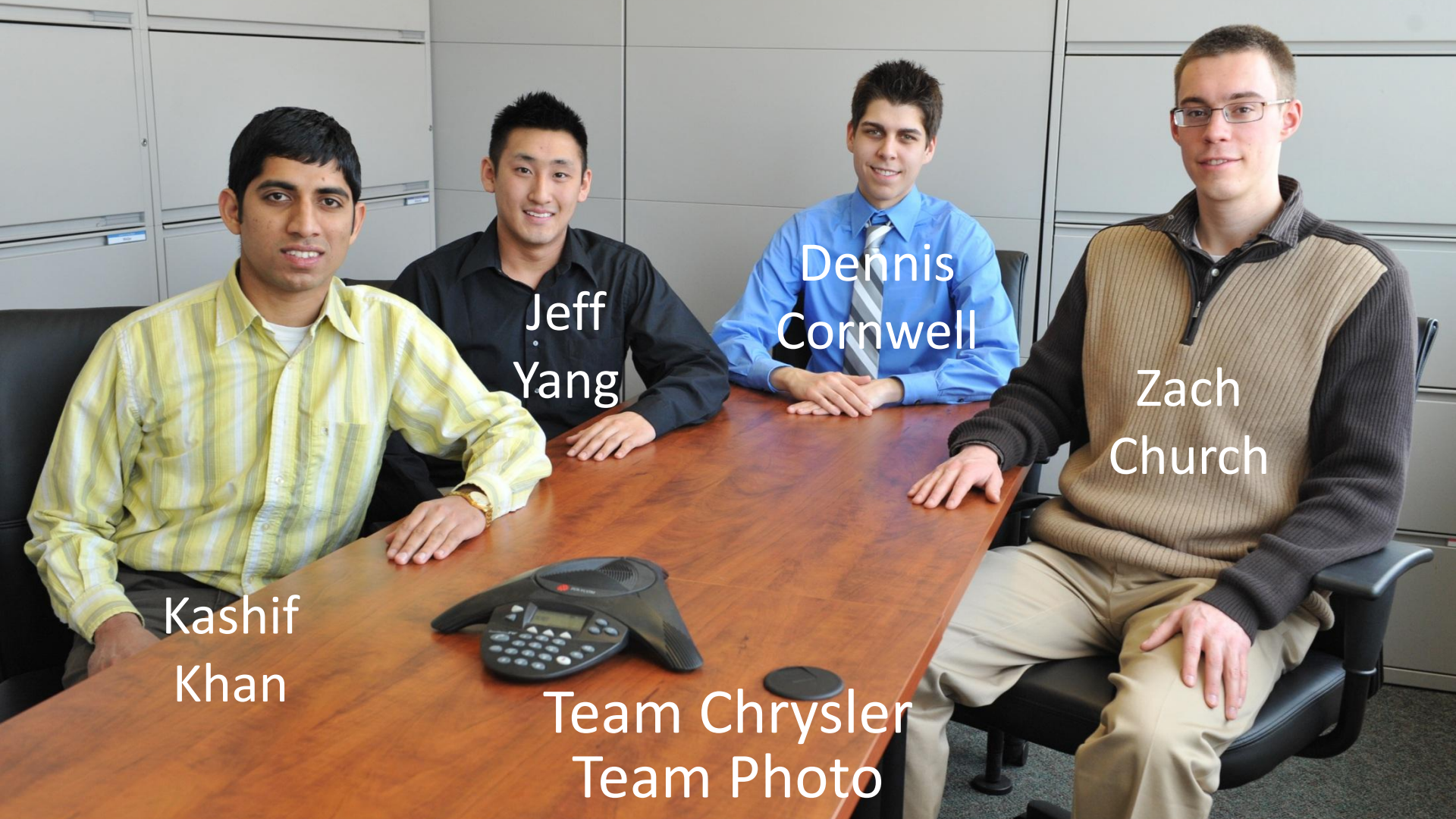
MEET THE NEW CHRYSLER 300S

Team Chrysler Project Overview

Fleet Auction Distribution and Sale Optimizer

- Fleet
 - Vehicles
 - Group of Vehicles Cars, Trucks, Etc.
 - Owned by Company, Dealers, or Daily Rental Companies
 - Marshaling Yards
 - Returned Fleet Vehicles
 - Assigned to Auction by Chrysler
- Optimize Fleet Auction Sales Net Revenue
 - Distribute Vehicles Geographically
 - Maximize Net Sales Revenue Based On
 - Current Vehicle Location
 - Historical Sales Data
 - Transportation Costs
- Features
 - Web Application
 - Form and Map Interface
 - Drag-and-Drop Vehicle from Site to Site
 - Revenue Models and Forecast Reports
- Technologies
 - Java (or JavaScript)
 - SQL (Database Structured Query Language)
 - Google Maps





Kashif
Khan

Jeff
Yang

Dennis
Cornwell

Zach
Church

Team Chrysler
Team Photo

Team Chrysler Screen Mockup

Current Stats	Suggested Changes	Summary
<div>Detroit -> Orlando</div>	<div>Sort by (\$, make, model...)</div>	<div>Transportation Details</div> <div><div>KC Auction Base estimate: \$27,000 Mileage(16.5 k): -\$200 Regional/Seasonal: \$700 ----- Total: \$26,100 Atlanta Auction: Base estimate: \$27,000 Mileage(16.5 k): -\$200 Regional/Seasonal: \$0 Transportation: -\$100 ----- Total: \$27,700 Difference: +\$600</div></div>
<div>Kansas City -> Atlanta</div>	<div><input type="checkbox"/> 2009 Dodge Avenger (+\$800)</div>	
<div>Create Custom...</div>	<div><input checked="" type="checkbox"/> 2010 Dodge Charger (+\$600)</div>	
	<div><input checked="" type="checkbox"/> 2003 Chrysler T&C (+\$300)</div>	
<div>Accept or reject suggestion</div>		

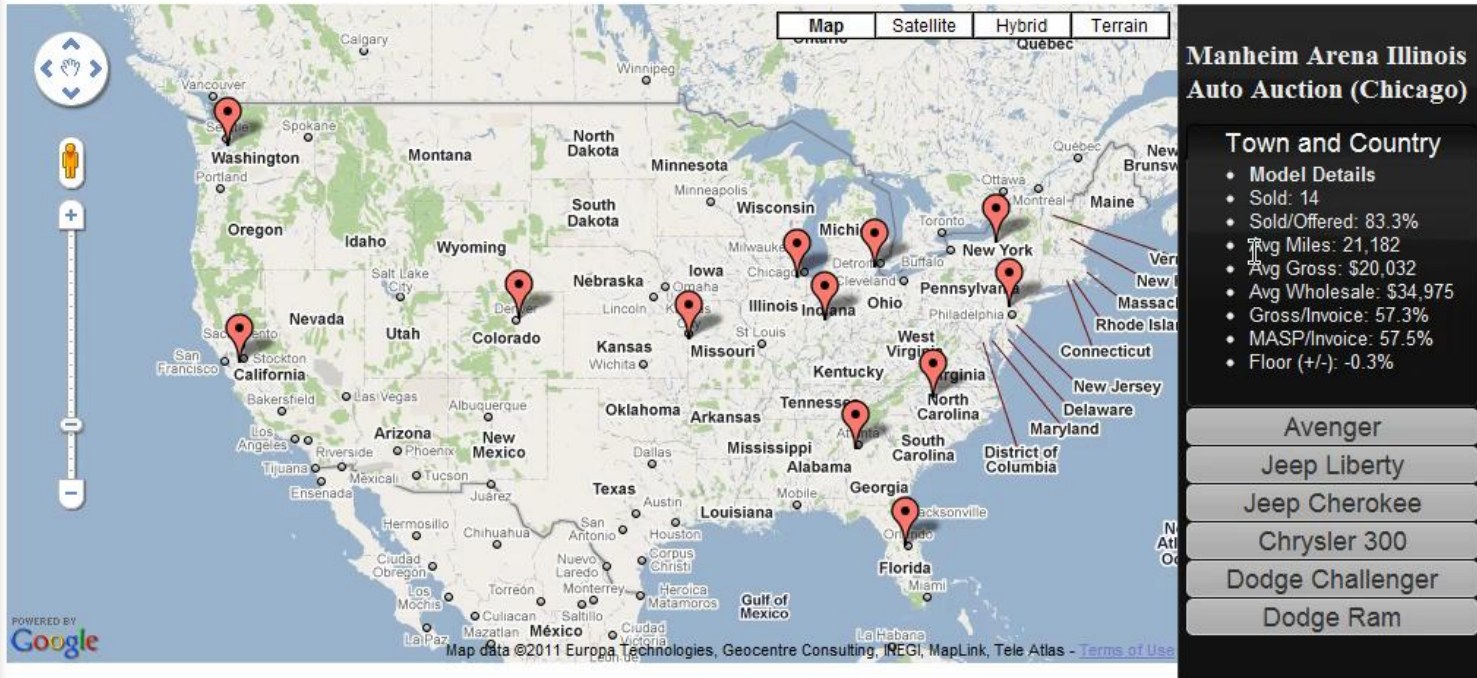
Screen Mockups



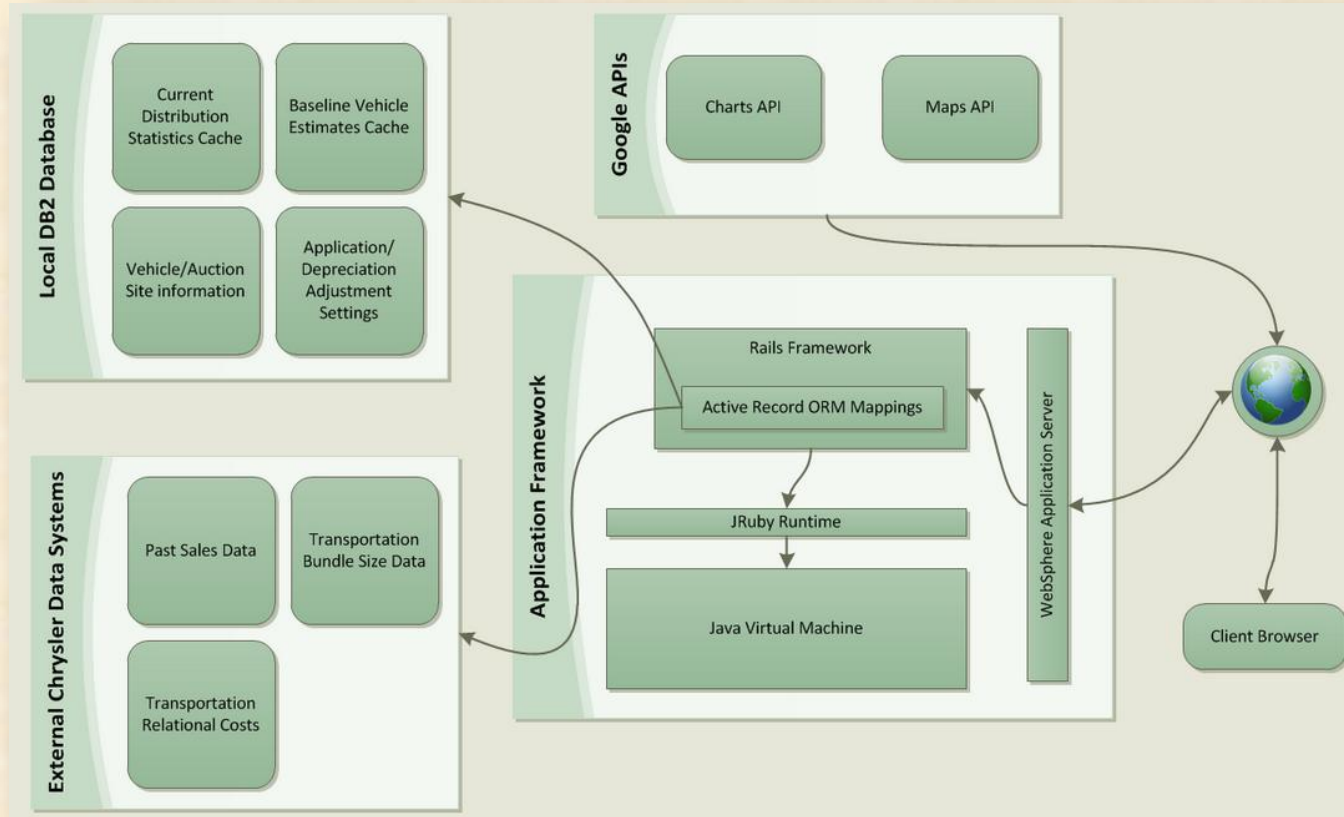
Team Chrysler
Project Plan Presentation

Team Chrysler Screen Mockup

Auctions



Team Chrysler Architecture Diagram



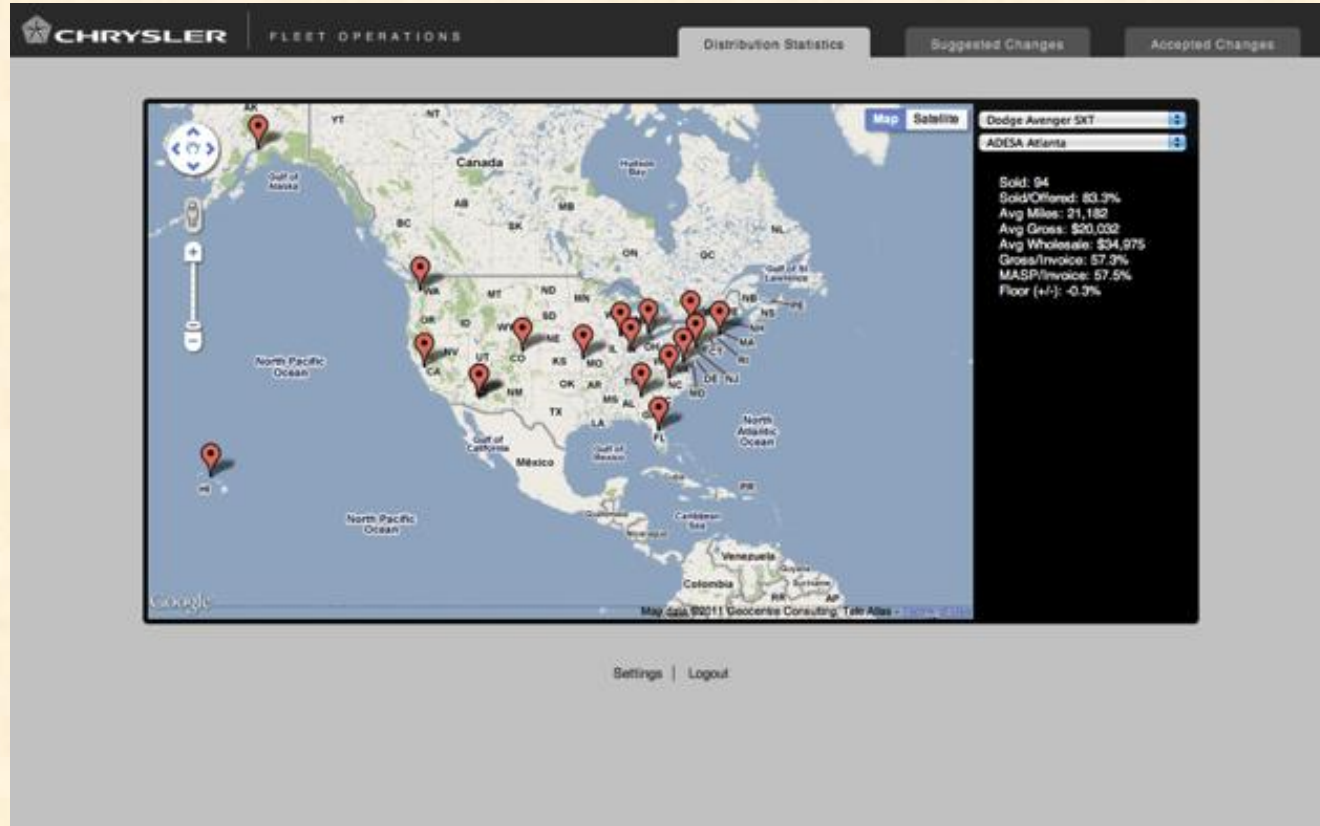
System Architecture



Team Chrysler
Project Plan Presentation

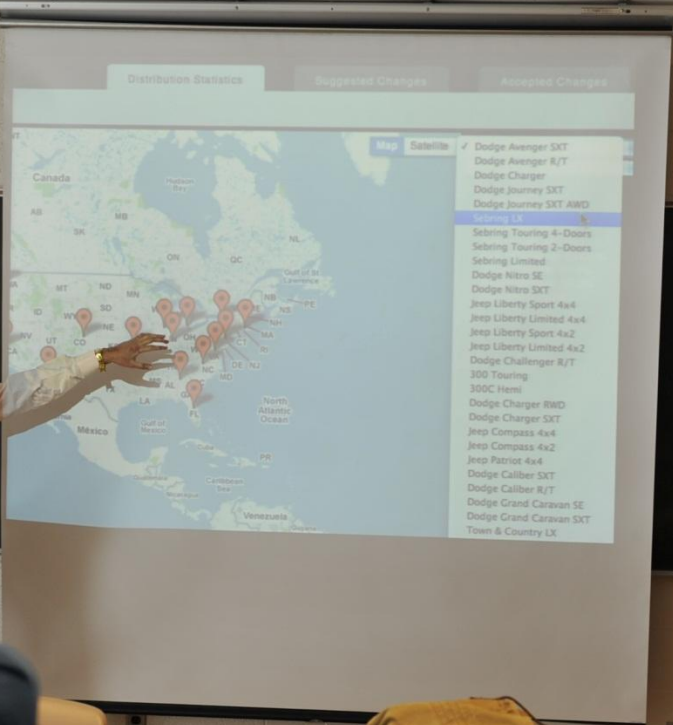
Team Chrysler Alpha Presentation

Distribution Statistics





Team Chrysler Alpha Presentation



Team Chrysler Alpha Presentation

Suggested Changes

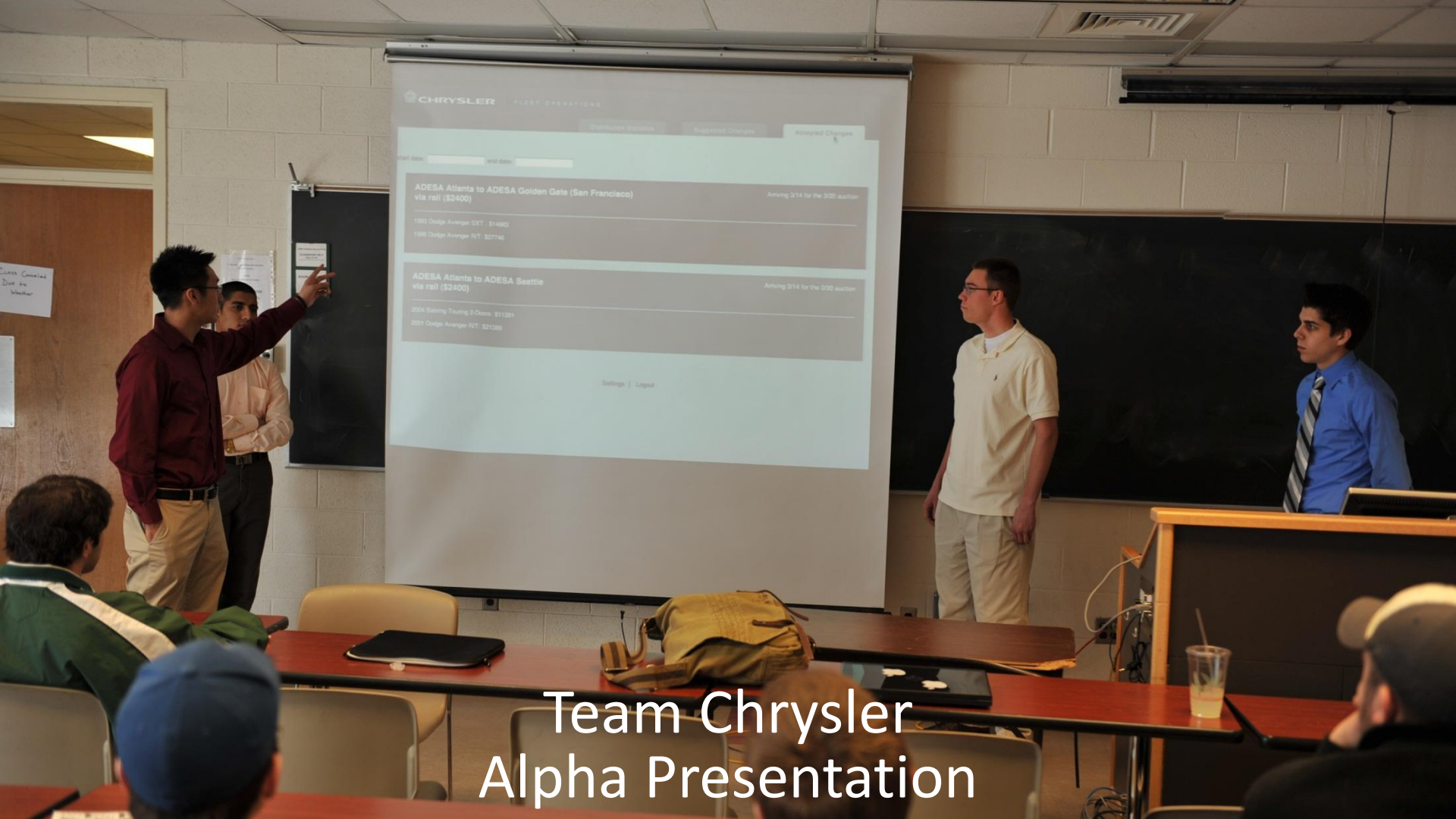
The screenshot displays the Chrysler Fleet Operations interface. At the top, there are tabs for 'Distribution Statistics', 'Suggested Changes' (which is active), and 'Accepted Changes'. The main content area is divided into three columns. The left column contains a list of locations with a dropdown menu set to 'ADESA Atlanta' and a vehicle type dropdown set to 'Dodge Avenger SXT (1000)'. The middle column lists various Dodge Avenger models with their respective prices, including a tooltip for '1994 Dodge Avenger SXT (-\$2,530)'. The right column shows a summary of '3 vehicles via rail (\$2400)' arriving on '2011-02-28', followed by a list of specific vehicles and their prices, including a 'Dodge Charger (\$1,583)'. A 'New Bundle' section is also visible. At the bottom, there are links for 'Settings' and 'Logout'.

Location	Vehicle Model	Price
ADESA Atlanta	1990 Dodge Avenger SXT	-\$14,673
ADESA Atlanta	1995 Dodge Avenger SXT	-\$609
ADESA Atlanta	1991 Dodge Avenger SXT	-\$2,485
ADESA Atlanta	1994 Dodge Avenger SXT	-\$2,530
ADESA Atlanta	1992 Dodge Avenger SXT	-\$8,523
ADESA Atlanta	2009 Dodge Avenger SXT	-\$8,550
ADESA Atlanta	2000 Dodge Avenger SXT	(\$15,726)
ADESA Atlanta	2005 Dodge Avenger R/T	-\$415
ADESA Atlanta	2004 Dodge Avenger R/T	-\$349
ADESA Atlanta	1999 Dodge Avenger R/T	-\$1,666
ADESA Atlanta	1990 Dodge Avenger R/T	(\$6,634)
ADESA Atlanta	2001 Dodge Avenger R/T	(\$3,639)
ADESA Atlanta	2001 Dodge Avenger R/T	(\$1,902)

3 vehicles via rail (\$2400)
Arriving 2011-02-28

Vehicle Model	Price
1993 Dodge Avenger SXT	(\$2,857)
1993 Dodge Avenger SXT	(\$5,589)
Dodge Charger	(\$1,583)

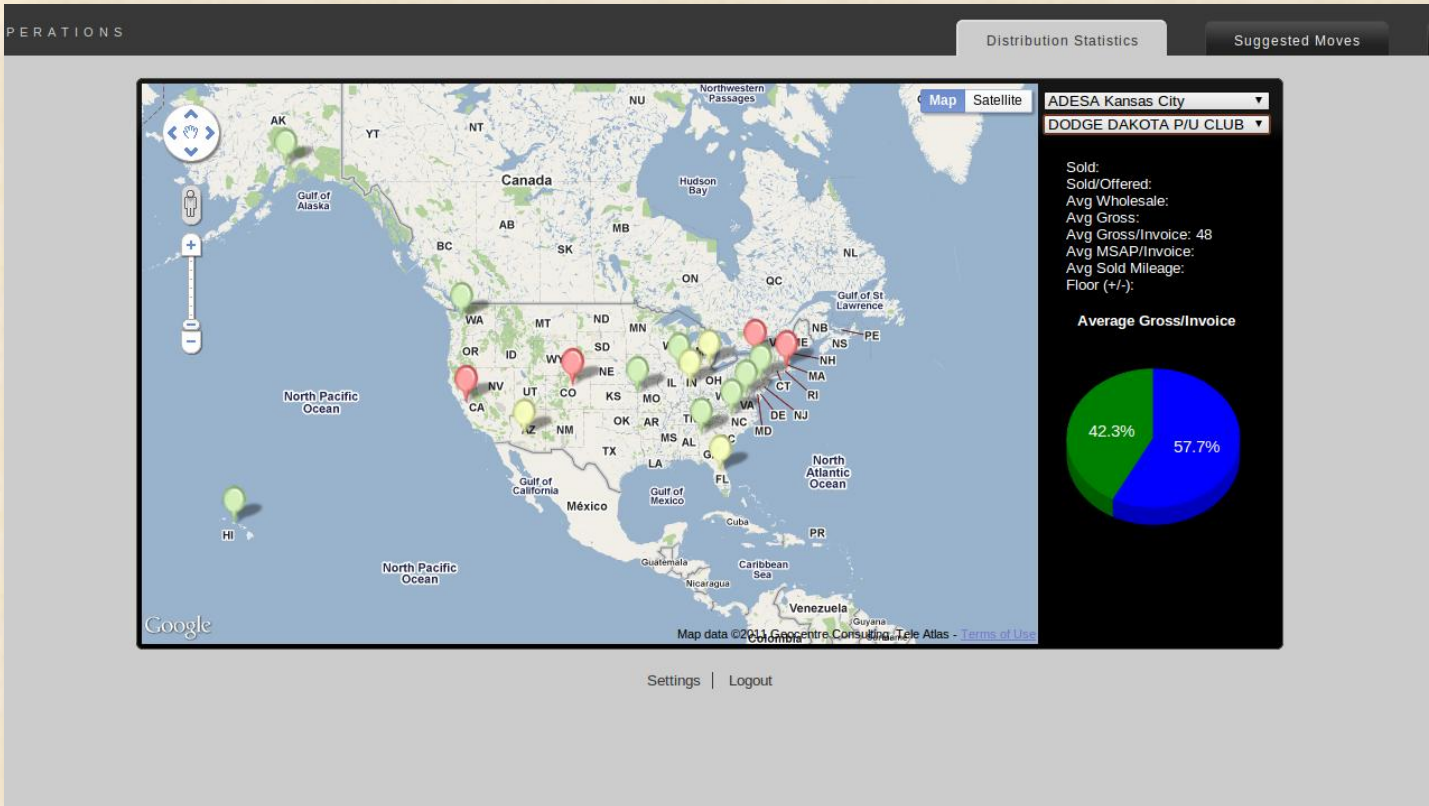
New Bundle

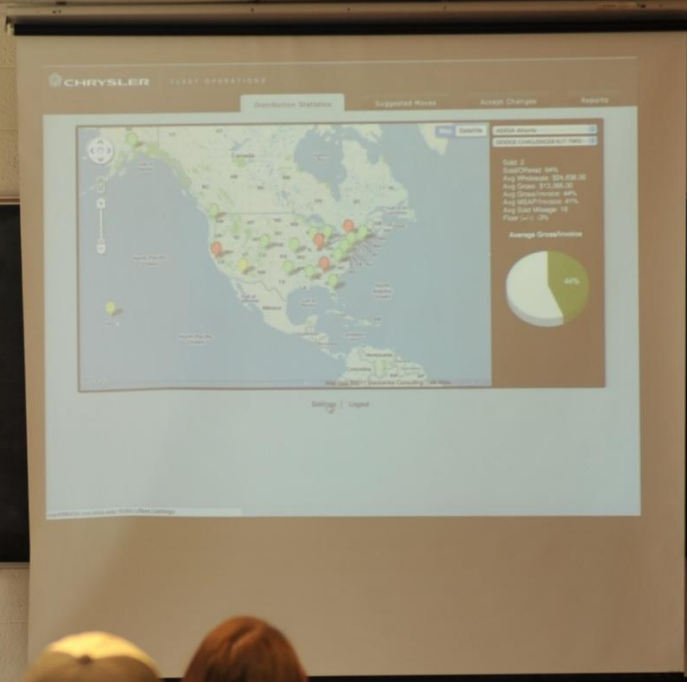


Team Chrysler Alpha Presentation

Team Chrysler Beta Presentation

Current Distribution Statistics





Team Chrysler
Beta Presentation

Team Chrysler Beta Presentation

Suggested Transports/Bundles

OPERATIONS

Distribution Statistics

Suggested Moves

ADESA Atlanta
0 vehicles to be assigned

ADESA Golden Gate (San Francisco)
0 vehicles to be assigned

**ADESA Indianapolis
13 vehicles to be assigned**

ADESA Kansas City
0 vehicles to be assigned

ADESA Seattle
0 vehicles to be assigned

ADESA Syracuse
0 vehicles to be assigned

Dealers Auto Auction of Alaska
0 vehicles to be assigned

Greensboro
0 vehicles to be assigned

Manheim Arena Illinois (Chicago)
0 vehicles to be assigned

Manheim Denver

Auto-bundle

2001 DODGE DAKOTA ...
7,008 miles

1999 CHRYSLER SEBR...
12,840 miles

2009 DODGE DAKOTA ...
21,948 miles

**1999 CHRYSLER TOWN...
16,310 miles**

2007 DODGE GRAND C...
14,150 miles

2000 DODGE GRAND C...
11,097 miles

2006 CHRYSLER 300C...
20,172 miles

2009 DODGE AVENGER...
19,950 miles

2007 DODGE CALIBER...
20,412 miles

2001 CHRYSLER SEBR...

2007 DODGE CALIBER R/T FWD FOUR-DOOR HATCHBACK

Staying Local
can accept 13, G/I: 40%

ADESA Atlanta
can accept 12, G/I: 64%
0 of 0 bundles with room

ADESA Golden Gate (San Francisco)
can accept 4, G/I: 56%
0 of 0 bundles with room

ADESA Kansas City
can accept -1, G/I: 70%
0 of 0 bundles with room

ADESA Seattle
can accept 1, G/I: 51%
0 of 0 bundles with room

ADESA Syracuse
can accept -5, G/I: 65%
0 of 0 bundles with room

Dealers Auto Auction of Alaska
can accept 5, G/I: 61%
0 of 0 bundles with room

Greensboro
0 of 0 bundles with room

Staying local

2005 CHRYSLER 300C...
3,607 miles

2008 CHRYSLER 300C...
21,590 miles

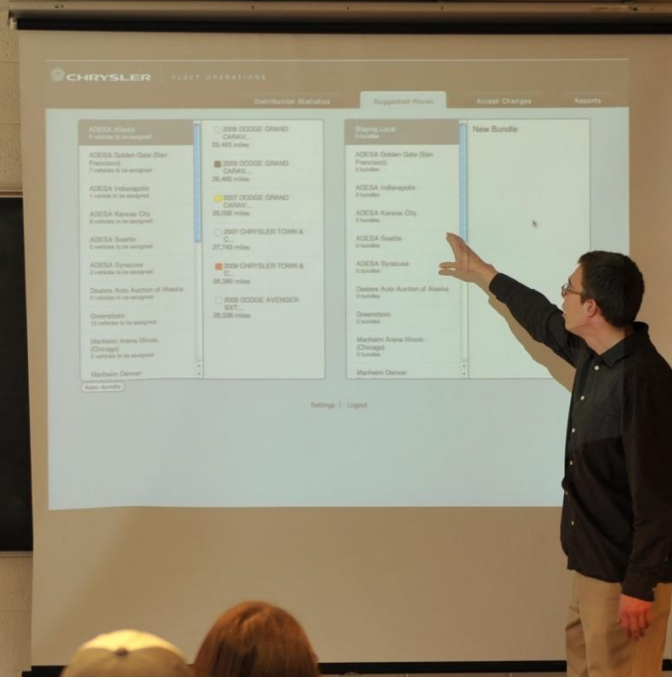
2001 DODGE DAKOTA ...
10,573 miles

2009 CHRYSLER 300 ...
10,359 miles

New Bundle

Settings | Logout





Team Chrysler
Beta Presentation

Chrysler Group, LLC Fleet Auction Distribution and Sale Optimizer

Chrysler Group, LLC fleet customers return vehicles to auctioning yards at various locations throughout the nation. The objective is to distribute each vehicle to the auction that will sell it at the highest price.

The Chrysler distribution manager will be using our application to determine the optimal auction location around the country to send and subsequently sell the returned vehicle. There are eight auction sites to consider, and a vehicle may sell for a different price at each, depending on the local demand for that type of vehicle.

Our application automates the process of predicting approximately how much a vehicle will sell for at each auction and shows which auction has the highest demand for a specific vehicle based on past sales and inventory data. The system allows the manager to target a specific vehicle body model and automatically distribute vehicles throughout the country.

In the screenshot shown to the right, the distribution manager can view a summary of how vehicles are selling, and how the current distribution compares to the target distribution. Our system determines the optimal auction site for each vehicle. The distribution manager is then able to make adjustments to the stock of vehicles at each auction site as they deem necessary.

Our system automates most of the decision making, but our focus is on providing the distribution manager with the information required to make the best possible decisions, overriding our system's decisions when necessary.



Team Chrysler Design Day

The Capstone Experience

Team Dow

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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



SEARCH



MYACCOUNT



PRODUCTS AND SERVICES

INVESTOR RELATIONS

OUR COMPANY

NEWS

SUSTAINABILITY

ENERGY

INNOVATION

CAREERS

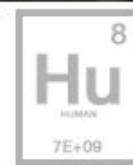
Dow helps rebuild damaged schools in earthquake ravaged China ➔



Dow Education Video Entered in National Contest ➔



Dow Announces Third Quarter Earnings ➔



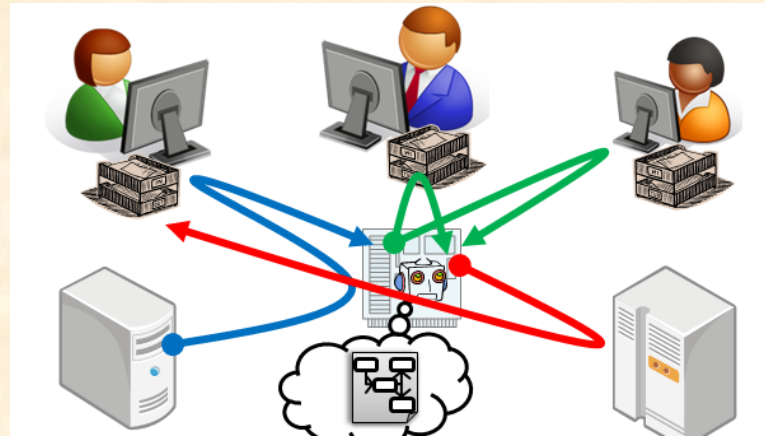
The Human Element ▶

Team Dow

Project Overview

Business Approval System

- Business Workflow Approval
 - Sequence of Connected Steps
 - Used to Approve Business Requests
- Spending Delegation of Authority
 - Authorization to Spend Money
 - Based On
 - Requester
 - Sequence of Authorized Approvers
- Features
 - Administrative and User Interfaces
 - Device Agnostic
 - Web Browsers
 - Mobile Devices
 - Microsoft SharePoint Farm Solution
- Technologies
 - Microsoft SharePoint 2010
 - Web Application Programming
 - Blackberry (Java)
 - iPhone and iPad (Objective-C)



A photograph of three men standing in an office environment. The man on the left is wearing a grey and white striped long-sleeved shirt and khaki pants. The man in the center is wearing a green long-sleeved button-down shirt and grey trousers. The man on the right is wearing a light blue and white striped long-sleeved shirt and dark trousers. They are standing in front of a black server rack with a Dell logo. A window is visible in the background on the right, showing a building outside. A microwave is on a desk to the right.

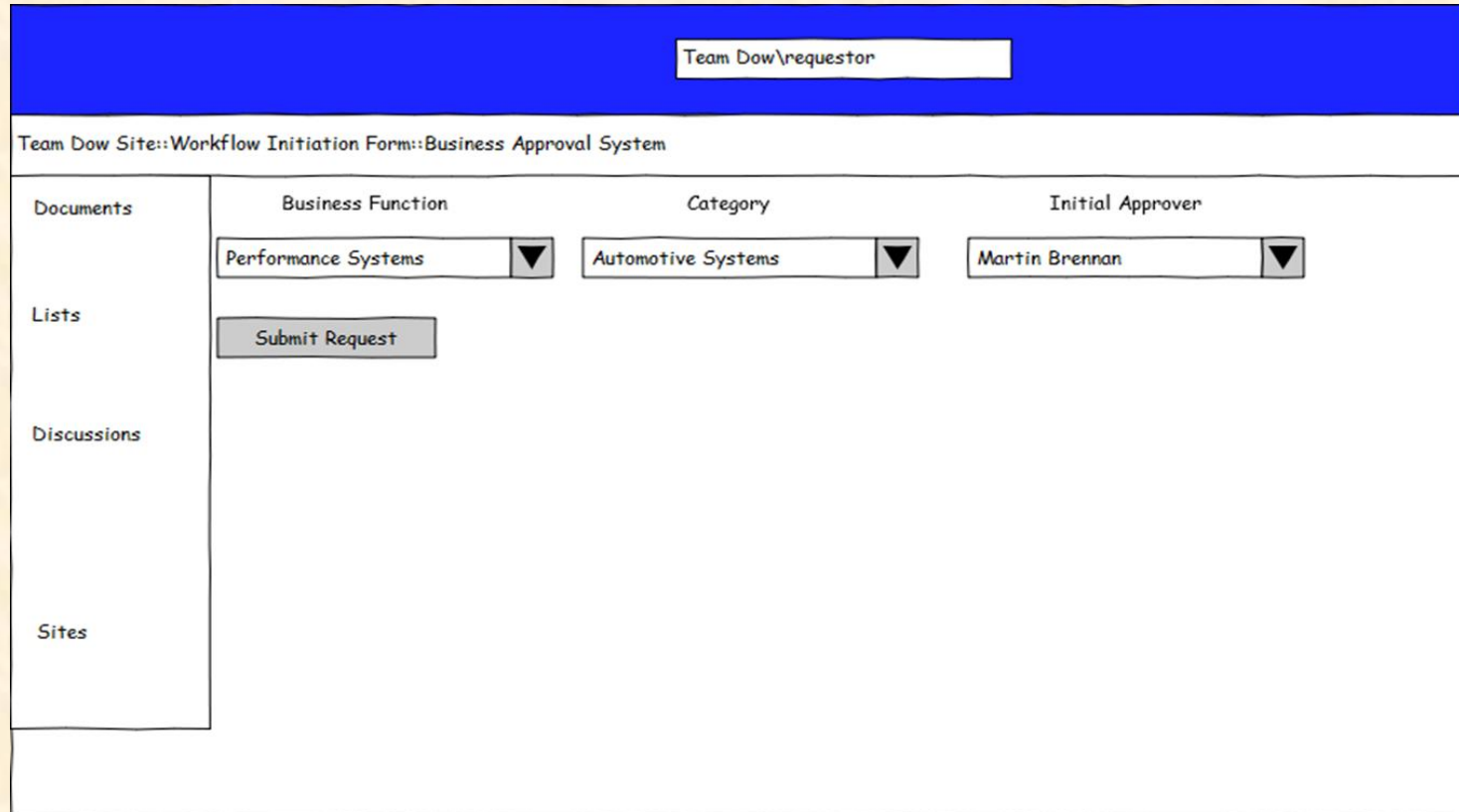
Joe
Amenta

John
Furcean

Joe
Langford

Team Dow
Team Photo

Team Dow Screen Mockup



The mockup shows a web application interface. At the top is a blue header bar with a white text box containing 'Team Dow\requestor'. Below this is a white bar with the text 'Team Dow Site::Workflow Initiation Form::Business Approval System'. The main content area has a left sidebar with links: 'Documents', 'Lists', 'Discussions', and 'Sites'. The main area contains three dropdown menus labeled 'Business Function', 'Category', and 'Initial Approver'. The first two are set to 'Performance Systems' and 'Automotive Systems' respectively. Below these is a 'Submit Request' button.

Team Dow\requestor

Team Dow Site::Workflow Initiation Form::Business Approval System

Documents

Business Function

Category

Initial Approver

Performance Systems ▼

Automotive Systems ▼

Martin Brennan ▼

Lists

Submit Request

Discussions

Sites



Screen Mockups

Mobile Site

Mobile Site

Items

- ☐ Item 1
- ☐ Item 2
- ☐ Item 3
- ☐ Item 4

Team Dow Site Mockup Submission Form

Business Plan

Performance Metrics ☐

Category

Performance Metrics ☐

Initial Approval ☐

Final Review ☐

Submit

Team Dow
Project Plan Presentation

Team Dow Screen Mockup

Mobile Device

Business Approval System

[Documents](#)
[Lists](#)
[Discussions](#)
[Sites](#)

Team Dow Site::Workflow Initiation Form

Business Function

Performance Systems

▼

Category

Automotive Systems

▼

Initial Approver

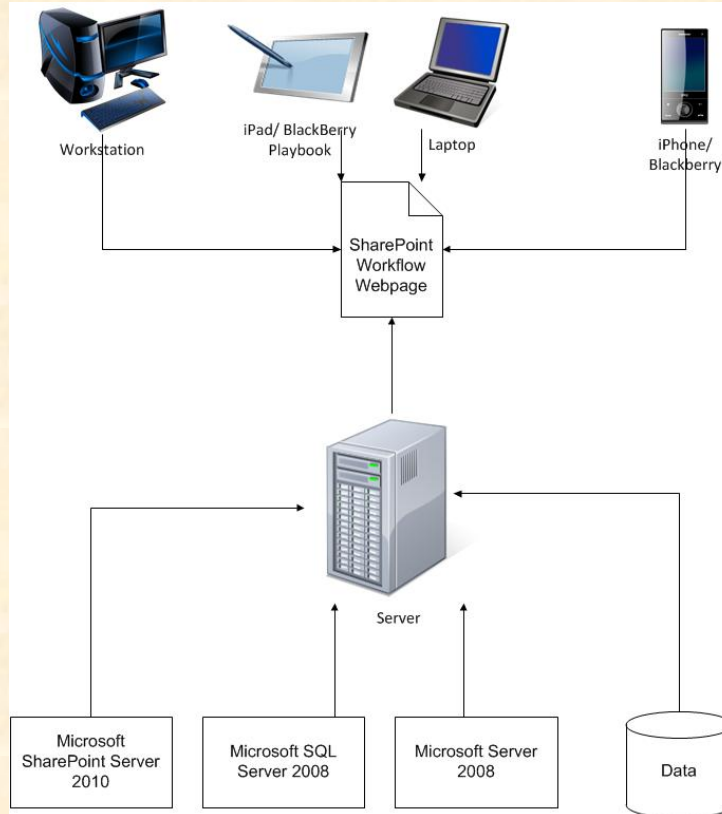
Martin Brennan

▼

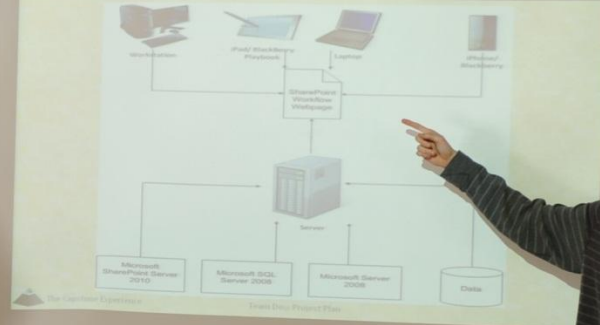
Submit



Team Dow Architecture Diagram



System Architecture



Team Dow
Project Plan Presentation

Team Dow Alpha Presentation

List of Approvers

Site Actions		List Tools		Joe Amenta			
Browse		Items	List				
New Item	New Folder	View Item	Edit Item	Version History	Item Permissions	Attach File	Alert Me
		Delete Item		Workflows	Approve/Reject	I Like It	Tags & Notes
New		Manage	Actions	Share & Track	Workflows	Tags and Notes	
Libraries		Username		business1	business2	business3	orderOf
Site Pages		TEAMDOW-SERVER\amentajo NEW		Performance Systems	Automotive Systems		1
Shared Documents		TEAMDOW-SERVER\dow NEW		Performance Systems	Automotive Systems		2
Approval Forms		TEAMDOW-SERVER\angfor6 NEW		Performance Systems	Automotive Systems		3
Drop Off Library		TEAMDOW-SERVER\furceanj NEW		Performance Systems	Automotive Systems		4
Lists		Add new item					
Calendar							
Tasks							
Approvers							
Discussions							
Team Discussion							
Recycle Bin							
All Site Content							

Team Dow Alpha Presentation

Adding Request Approver

Approvers - New Item

Edit

Save Cancel Paste Cut Copy Attach File Spelling

Commit Clipboard Actions Spelling

Username * Houston, Sam

business1 Performance Systems

business2 Dow Wire & Cable

business3

orderOf 1

Save Cancel




Team Dow Alpha Presentation


Team Dow Alpha Presentation


New Spending Request


Shared Documents - Spending Request


Edit


 Save

 Cancel

 Paste

 Cut


 Copy

 Delete Item

Commit

Clipboard

Actions

 The document was uploaded successfully. Use this form to update the properties of the document.

Name *

Spending Request

Title

Request for \$1000

Created at 2/20/2011 8:07 PM by [Joe Amenta](#)
Last modified at 2/20/2011 8:07 PM by [Joe Amenta](#)

Save


Cancel



Team Dow Beta Presentation

iPhone App

Business Approval System



Admin Menu

Business Functions >

Approval Menu

2 All Spending Requests >

2 Pending Approval >

0 Approved >

0 Rejected >

Request Menu

3 All Spending Requests >


1 Pending Submission >

2 Pending Approval >

0 Approved >

0 Rejected >

Business Approval System

 Main Menu


Please review Department PC Replacements


Spending Request Title Department PC Replacements

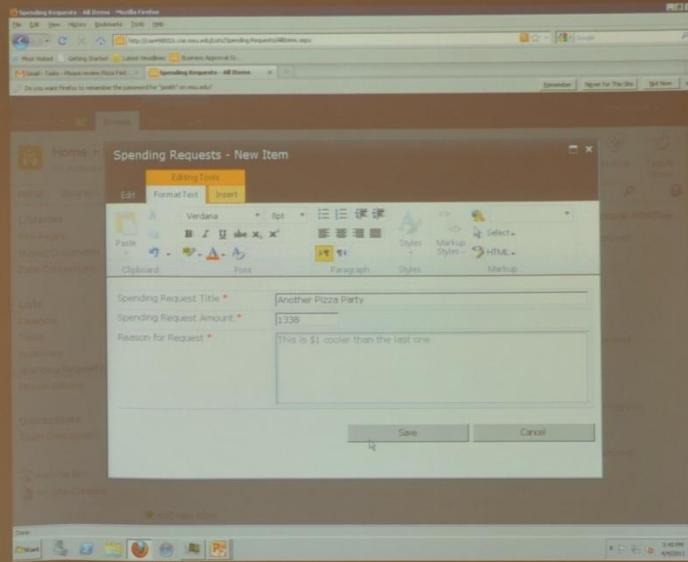
Spending Request Amount 20000

Reason for Request Our department is using 5 year old PCs. The computers are extremely slow and outdated. This is drastically effecting our work efficiency.

Comments

 Approve Request >

 Reject Request >



Team Dow Beta Presentation

Team Dow Beta Presentation

New Request

Spending Requests - New Item

Edit

Save Cancel Paste Cut Copy Spelling

Commit Clipboard Spelling

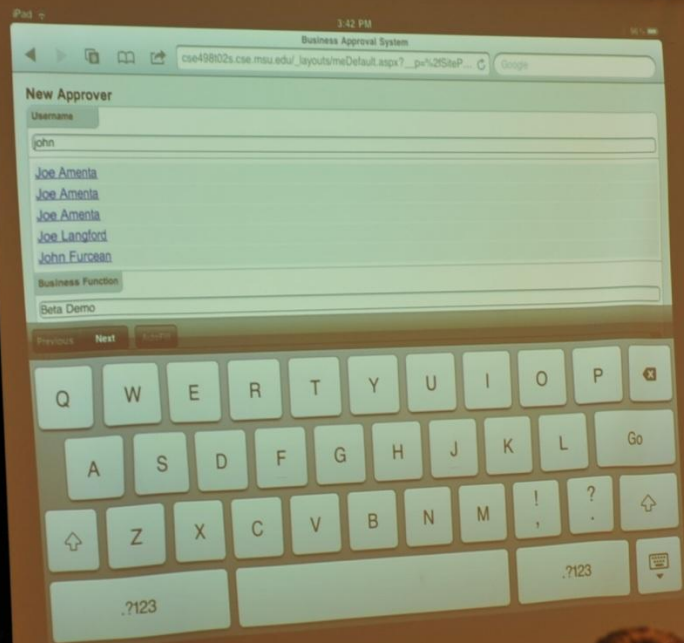
Spending Request Title * Pizza Party

Spending Request Amount * 1000.00

Reason for Request *
Need \$1000.00 for a pizza party on Friday.

Save Cancel





Team Dow
Beta Presentation

A man in a white dress shirt and a dark tie with white polka dots stands in the center of a classroom, facing a group of students. He is wearing glasses and has short brown hair. The students are seated at wooden desks with metal frames, some of which have red seats. They are all looking towards the man. The room has a plain, light-colored wall and a black cord hanging from the ceiling. The lighting is warm and slightly dim.

Team Dow Beta Presentation



The Dow Chemical Company Business Approval System

Money is the lifeblood of every company. Every corporate officer and board member has an obligation to the shareholders to ensure that money is being used responsibly.

The Dow Chemical Company currently has a process in place to approve or reject spending requests. For every department in the company, there is a clearly defined chain of approval through which all material spending requests must be routed. These people serve as the chain of approval for the request, the funding is provided.

One of the purposes of technology is to improve the quality of our lives by making certain tasks easier. With that idea in mind, we set out to build a system to handle the existing approval process electronically. Our software enables the people involved in the approval process by email when a new request is created, it also routes the request to each individual in the appropriate order.

Our Business Approval System also allows each approver in the chain to enter comments, and all of the people in the process can review these and add their own. A historical record of all requests is maintained.

In the three-part module, Business Approvals, people need to be able to access the software from a variety of devices, from a PC or laptop to an iPad or smartphone. Our software is able to be used from any of those devices to facilitate that lifestyle.



Business Approval System

Team Members:
John Albrecht
Drew B. Buehler
John A. Buehler
Drew B. Buehler
Drew B. Buehler
Drew B. Buehler

Team Dow
Design Day

The Capstone Experience

Team GE Aviation

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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



12,405,144^{*} hours

The GE90 reaches 10 million hours of flight

^{*} Estimated based on fleet averages



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Our Engines

-- Select -- **GO**

Our Services

-- Select -- **GO**

Sign-In

-- Sign In -- **GO**



GENx-2B First Engine to Test

GE's GENx-2B engine for the new Boeing 747-8 airplane achieves 70,000 Lbs. takeoff thrust in first test.



The right engine. Right now.

Explore program milestones, specifications, downloads and more for GE's next

GE Stock

Dec 29, 2009 at 16:00 ET 15.44 +0.10



OnPointSM

Interactive



Team GE Aviation Project Overview

MSU Next Generation Flight Deck

- Pilot Tasks
 - Aviate
 - Navigate
 - Communicate
 - Manage Systems
- MSU Capstone Flight Deck, V1
 - Integrate Previous Capstone Projects
 - Add New Features and Functionality
 - Integrate with X-Plane
- Aviation Use Case
 - Real Life
 - Demonstrate Improved
 - Efficiency
 - Safety
- Technologies
 - X-Plane
 - Previous Capstone Projects
 - [Synthetic Vision Display](#), Fall 2009
 - [Lateral Map Display](#), Spring 2010
 - [Super Synoptics](#), Fall 2010
 - Open GL, GL Studio, GLUT, GLEW



A group of four young men are seated at a long wooden conference table in an office. From left to right: Bill Zajac, Steven Cornfield, Alex Delgado, and Dan Alexander. Bill and Steven are wearing dark suits with white shirts and ties. Alex is wearing a blue and white plaid shirt with a dark tie. Dan is wearing a dark suit with a white shirt and a patterned tie. They are all smiling at the camera. The background shows office equipment, including a computer monitor on the left and a small refrigerator on the right, and a window looking out onto a building and trees.

Bill
Zajac

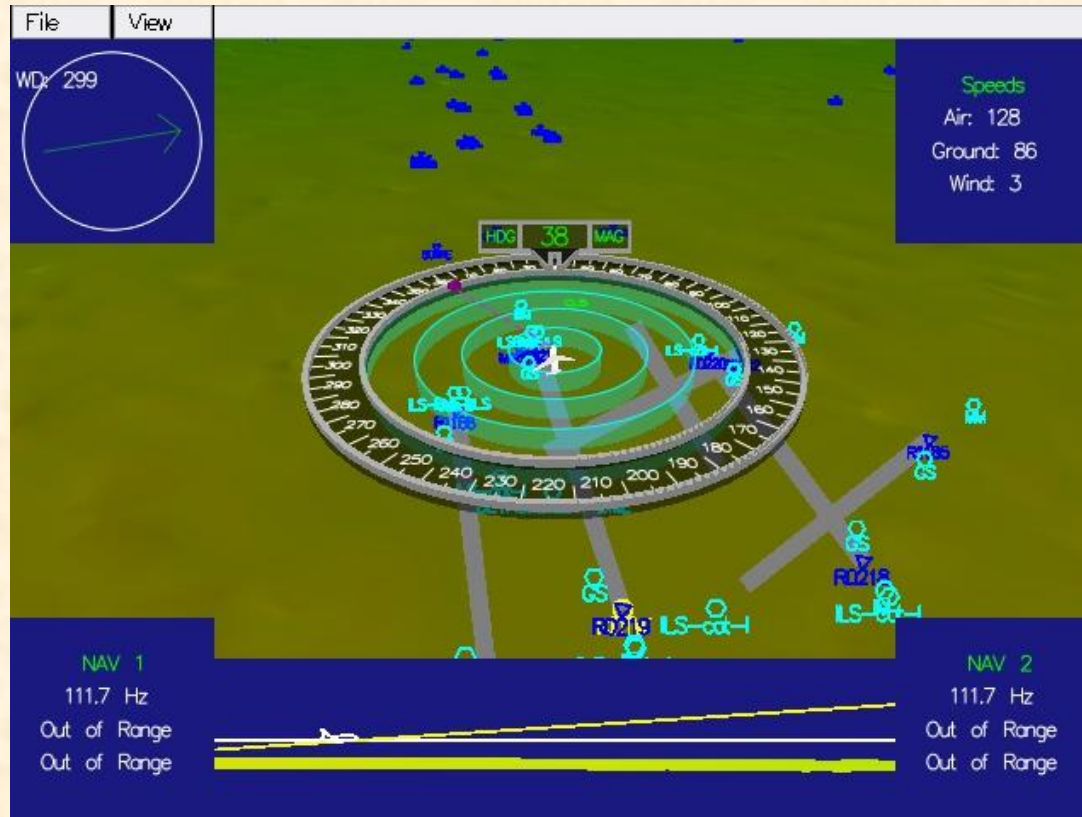
Steven
Cornfield

Alex
Delgado

Dan
Alexander

Team GE Aviation
Team Photo

Team GE Aviation Screen Mockup

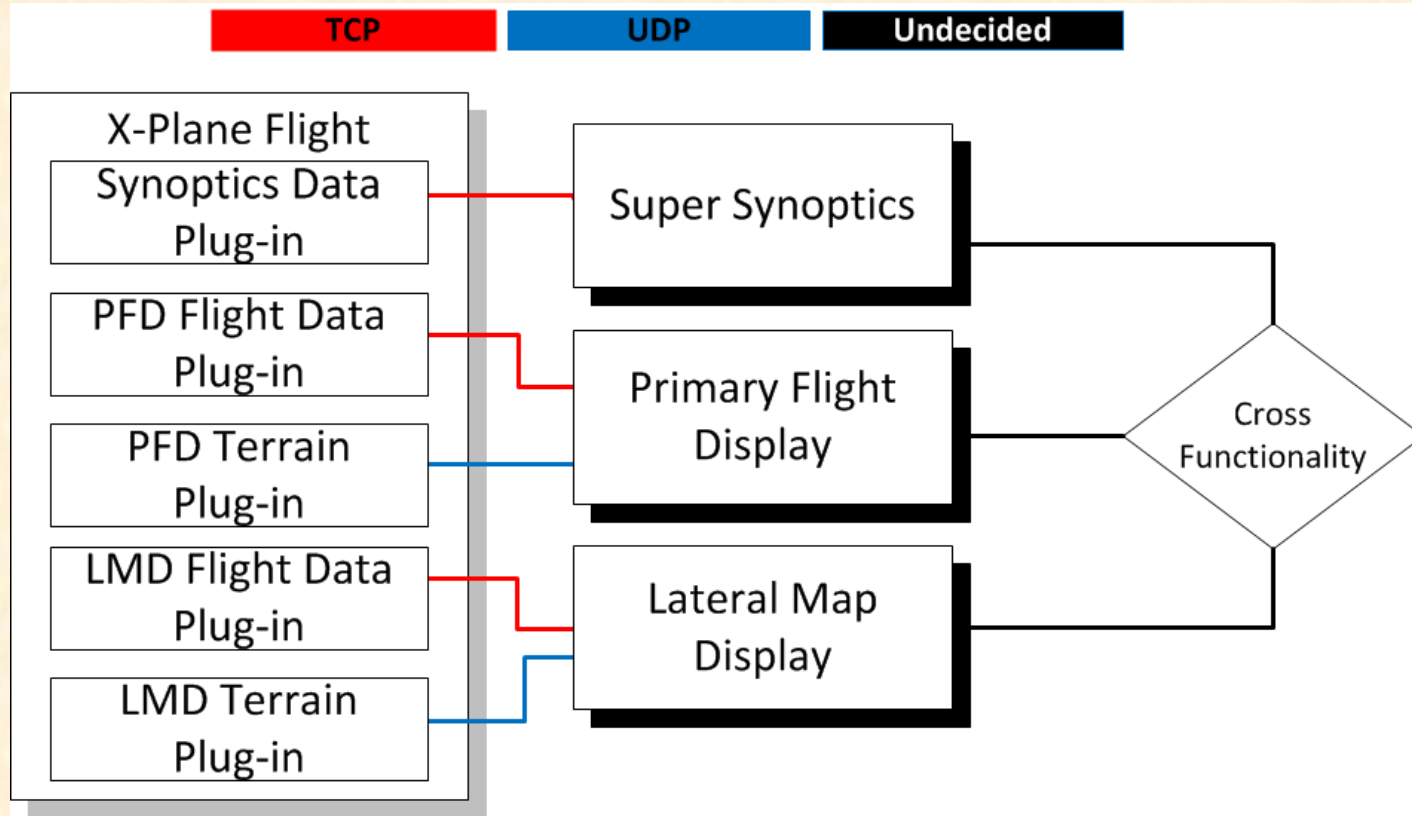


Screen Shot - Super Synoptics

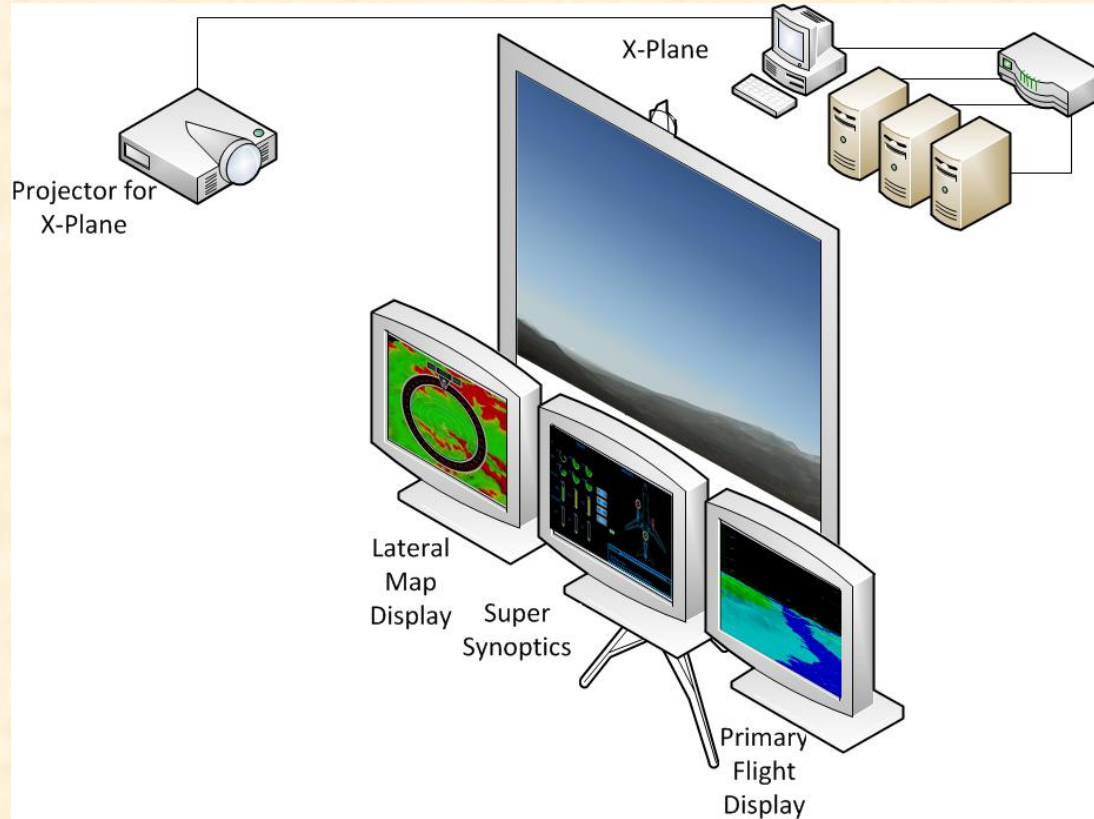


Team GE Aviation
Project Plan Presentation

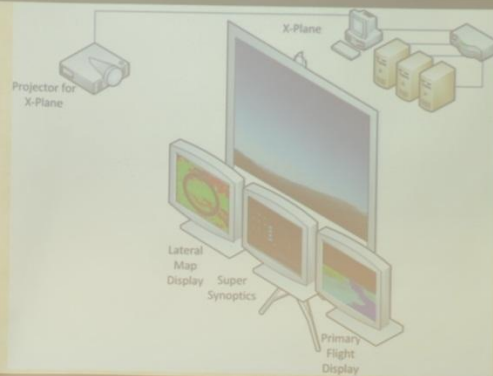
Team GE Aviation Architecture Diagram



Team GE Aviation Hardware Setup

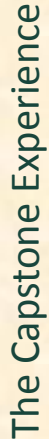


Hardware Setup



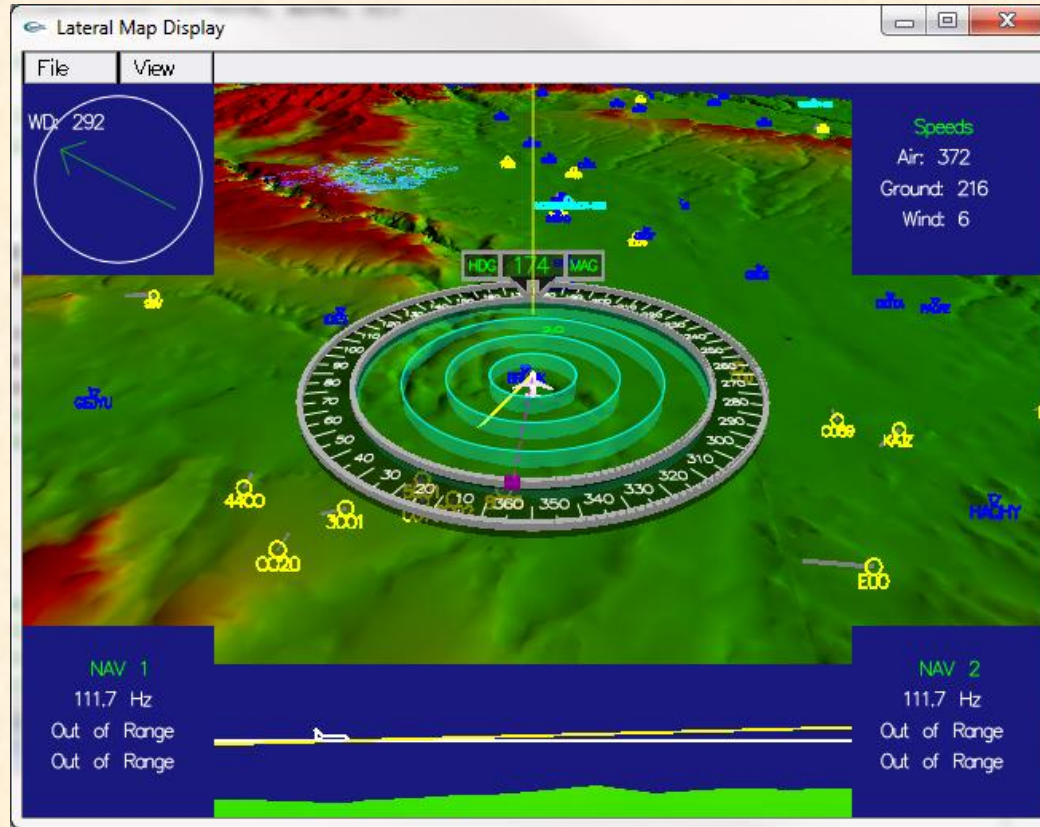
Team GE Aviation
Project Plan Presentation

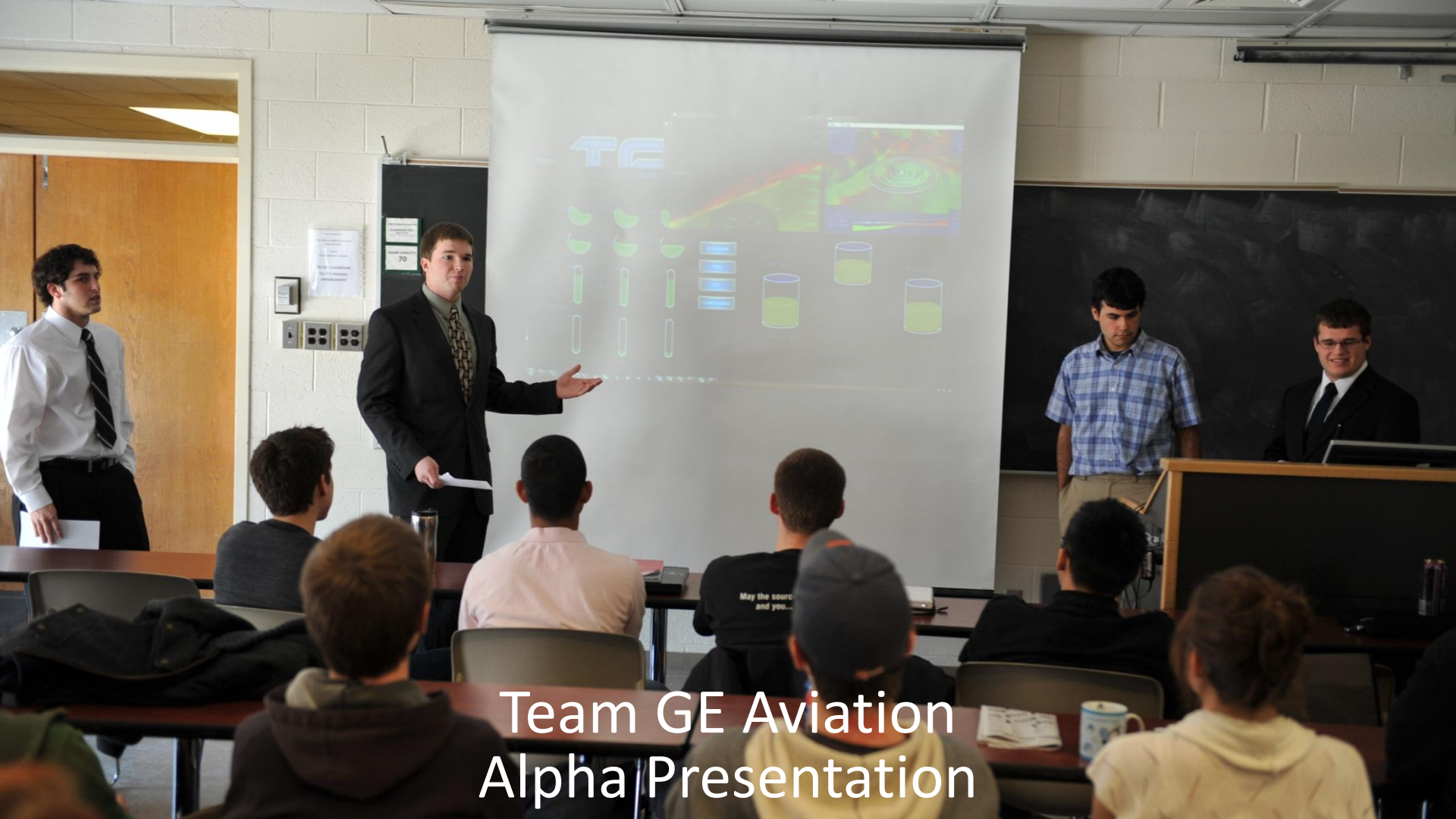
Weather Avoidance (PFD)



Team GE Aviation Alpha Presentation

Weather Avoidance (LMD)

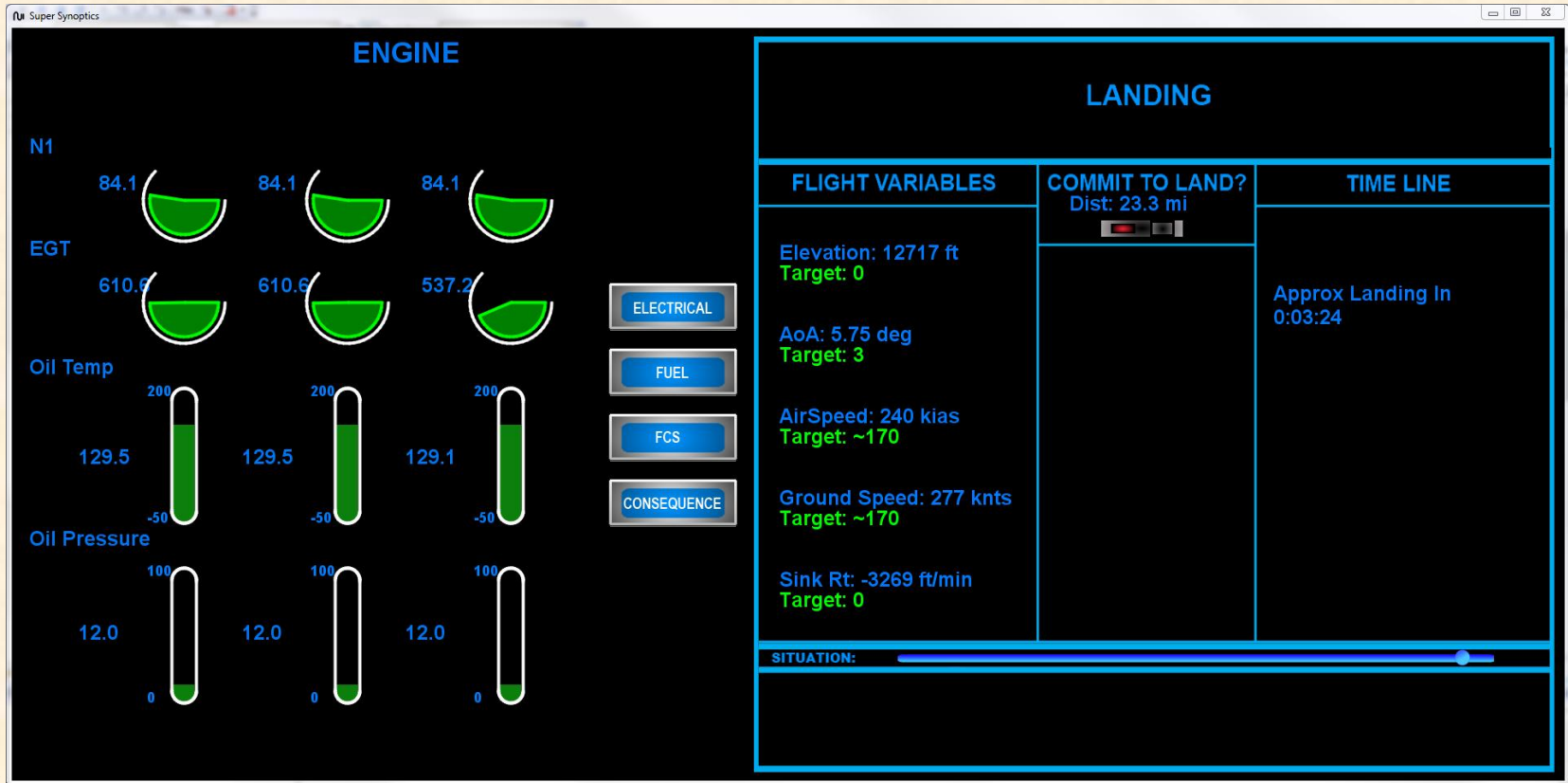




Team GE Aviation Alpha Presentation

Team GE Aviation Alpha Presentation

Super Synoptics

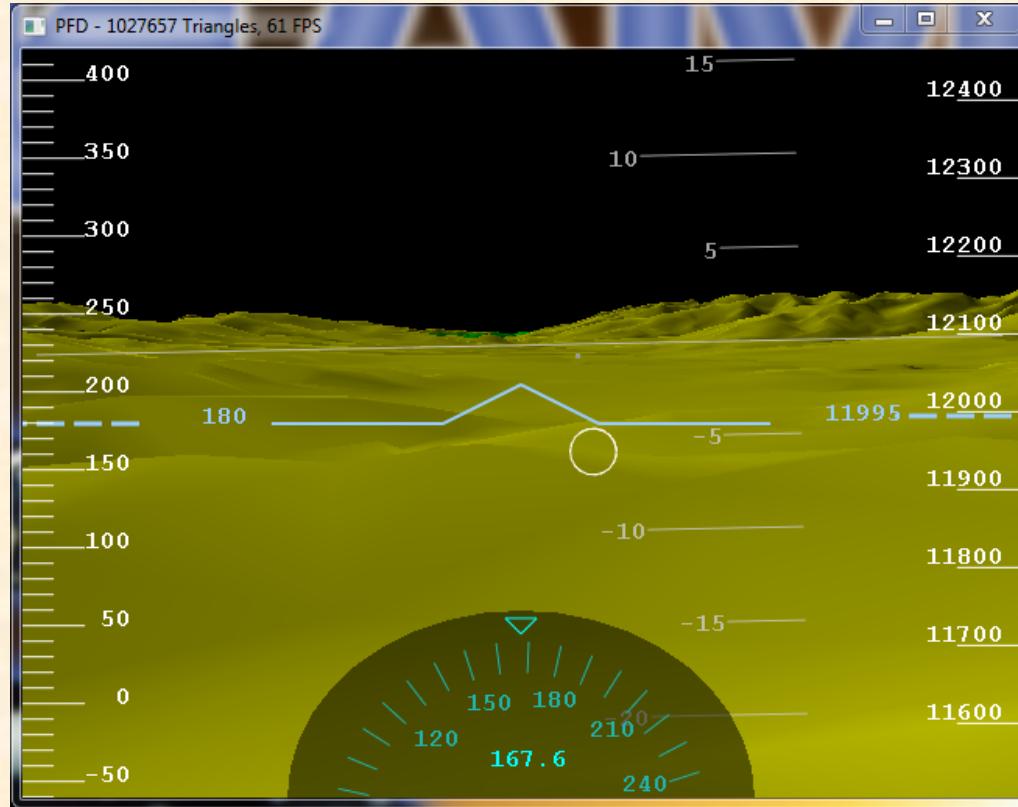




Team GE Aviation Alpha Presentation

Team GE Aviation Beta Presentation

Primary Flight Display

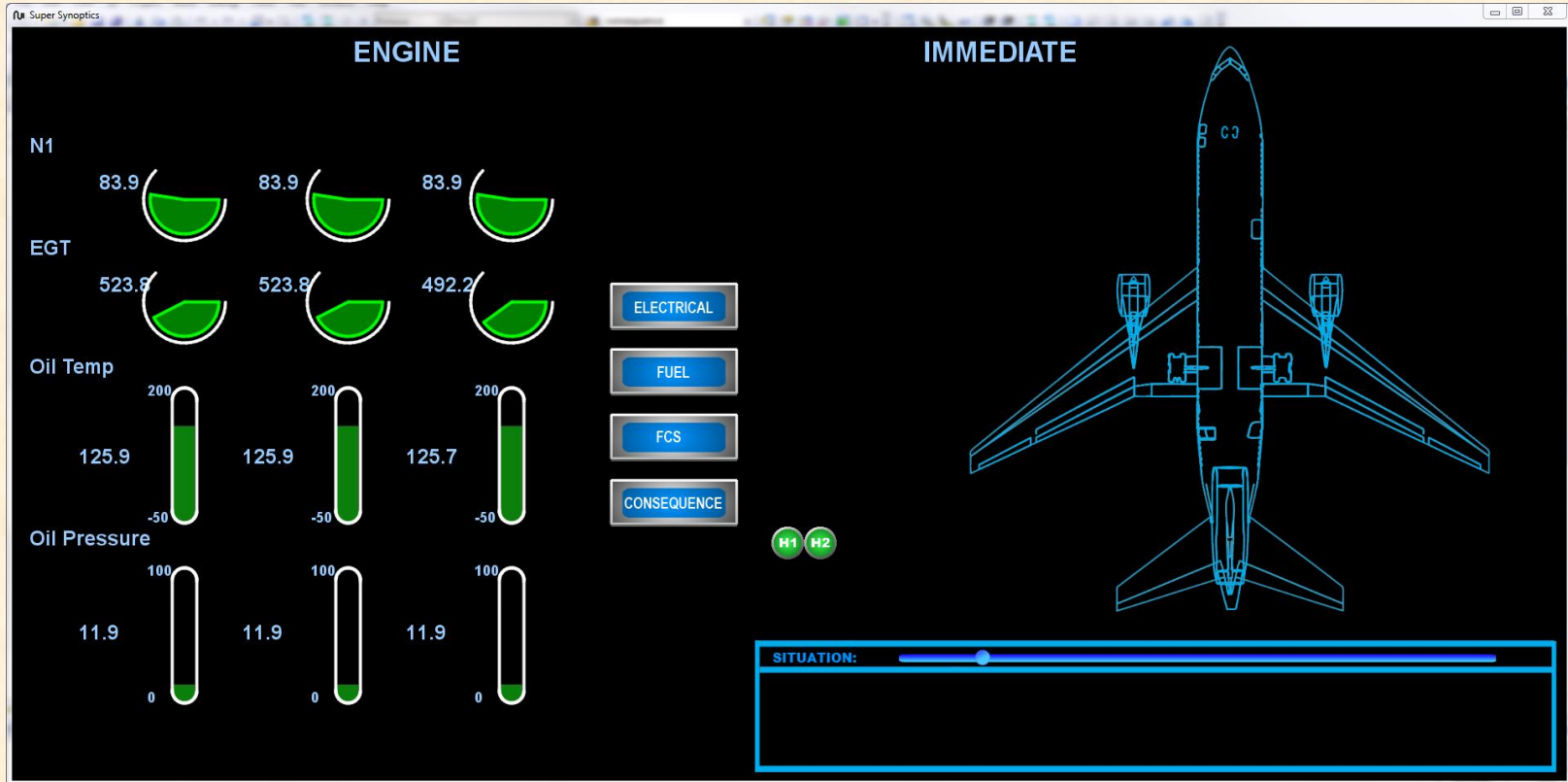




Team GE Aviation Beta Presentation

Team GE Aviation Beta Presentation

Super Synoptics





Team GE Aviation
Beta Presentation



Team GE Aviation
Design Day

The Capstone Experience

Team Medtronic

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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Medtronic Worldwide

Choose a health condition or therapy to learn how we may help you feel better

Team Medtronic Project Overview

Cloud-Based Athletics Operations Center

- University Athletics Information Portal
 - Resources
 - People (Coaches, Athletes, Managers, Trainers, Etc.)
 - Facilities (Practice, Training, Meeting, Etc.)
 - Etc.
 - Information
 - Schedules (People, Facilities, Teams, Etc.)
 - Athlete Health Records
 - Videos (Scouting, Training, Etc.)
 - News Feeds
 - Weather and Travel Conditions
 - Etc.
- User Features
 - People Presence
 - Calendaring, Emailing, Instant Messaging
 - Video Conferencing
 - Etc.
- Technologies
 - ASP.net, C#.net
 - Microsoft Office 365 Cloud Services
 - Microsoft Azure Cloud Services
 - Microsoft HealthVault



Medtronic

The Capstone Experience



Caitlin
Russ



Mike
Holp



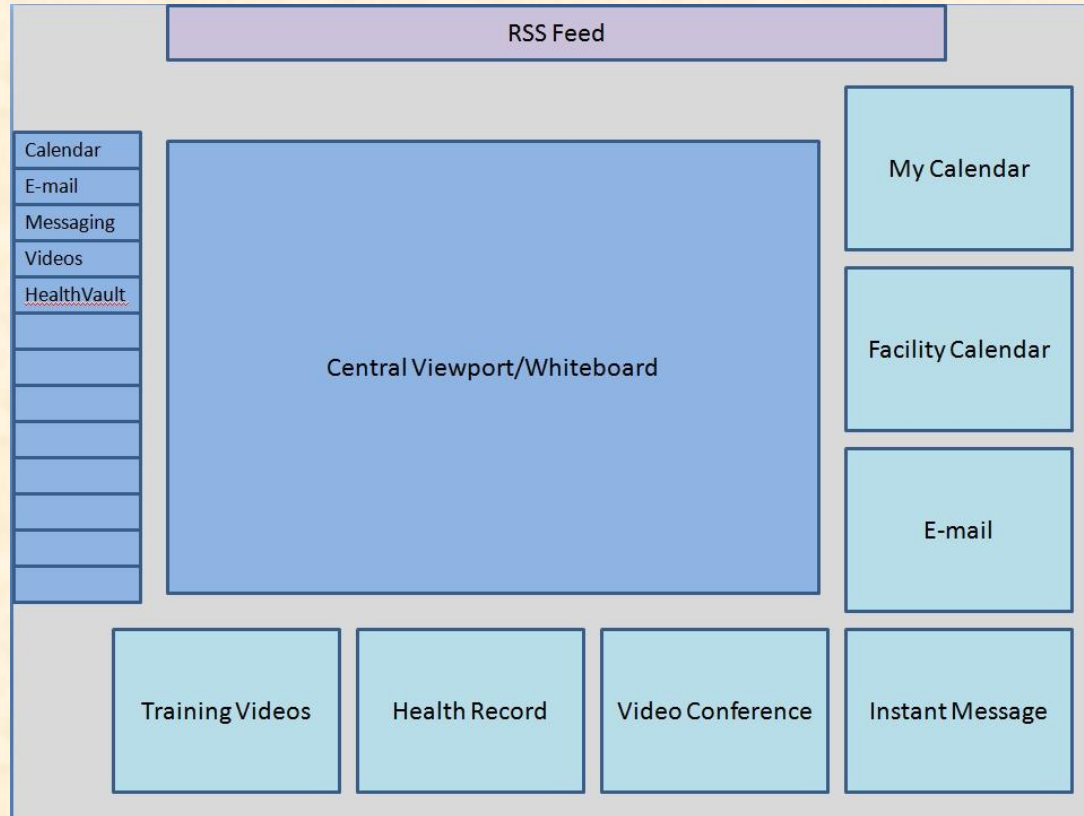
Evan
Francis



Chris
Paterson

Team Medtronic
Team Photo

Team Medtronic Screen Mockup



System Components

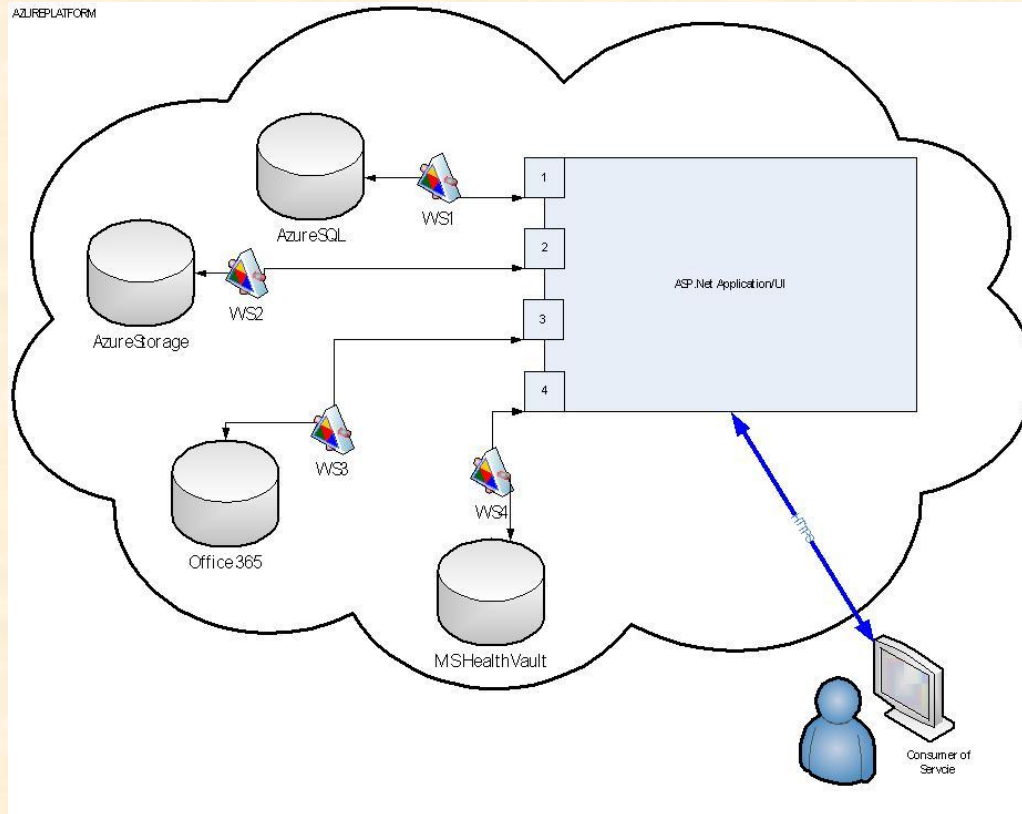
- Hardware Platforms
 - Azure Cloud Platform
 - Windows 7 Professional 64-bit
- Software Platforms / Technologies
 - ASP.NET / C#
 - jQuery
 - Microsoft SQL Azure
 - Microsoft Azure Storage
 - Microsoft Office 365
 - Microsoft Health Vault

The Capstone Experience

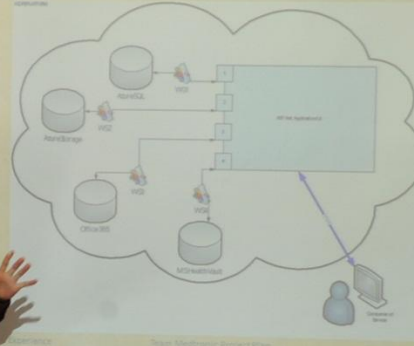
Team Medtronic Project Plan

Team Medtronic
Project Plan Presentation

Team Medtronic Architecture Diagram



System Architecture



Team Medtronic
Project Plan Presentation

Team Medtronic Alpha Presentation

Personal Calendar

Cloud-Based Athletics Operations [Log In]

Home About

This is a sample RSS text!

Navigate me!

- My Calendar
- Facility Calendar
- School Calendar
- HealthVault
- Video Tutorials

Message me!

My Calendar

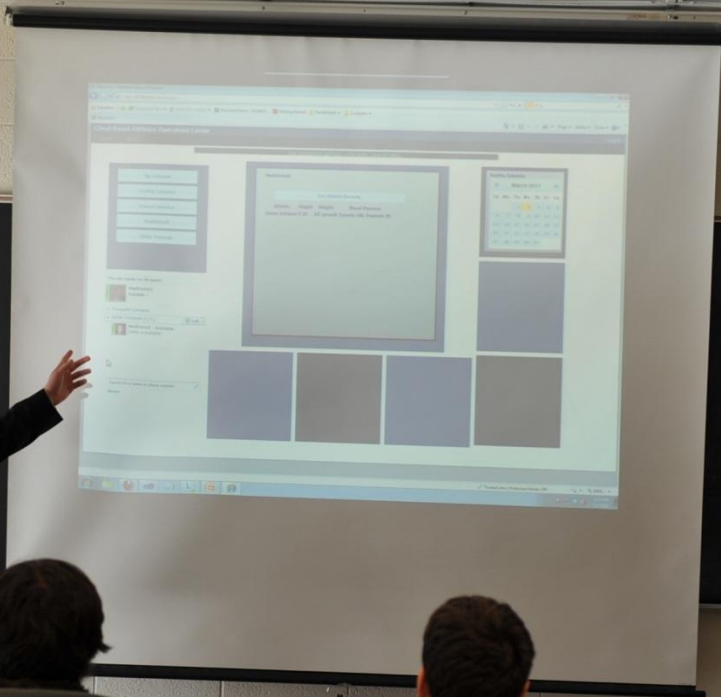
February 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	1	2	3	4	5
6	7	8	9	10	11	12

Facility Calendar

February 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	1	2	3	4	5
6	7	8	9	10	11	12



Team Medtronic
Alpha Presentation

Team Medtronic Alpha Presentation

Video Tutorials

Cloud-Based Athletics Operations [Log In]

Home About

This is a sample RSS text!

Navigate me!

- My Calendar
- Facility Calendar
- School Calendar
- HealthVault
- Video Tutorials

Message me!

Video Tutorials

Name: *


Category: *

Upload File:

Upload Video

Browse...

First Aid CPR



HealthVault Name:

Get Height Records Offline

Get Weight Records Offline

Get Blood Pressure Records Offline

School Calendar

February 2011						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	1	2	3	4	5
6	7	8	9	10	11	12

Facility Calendar

February 2011						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	1	2	3	4	5
6	7	8	9	10	11	12

My Calendar


February 2011						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	1	2	3	4	5
6	7	8	9	10	11	12



Team Medtronic Alpha Presentation

Team Medtronic Beta Presentation


Main Interface


 **Medtronic** CLOUD-BASED ATHLETICS OPERATIONS CENTER [Logout](#)

Connecticut edges Kentucky to reach title game

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[Facility Calendar](#)
[School Calendar](#)
[HealthVault](#)
[Video Tutorials](#)

This site makes my life easier!

 **Medtronic1**
Available

 **Medtronic2** - Available


IM Call Video Share

Medtronic2
can you tell me where the tennis facility is? 2:04 PM

A

Facility Calendar

	Sun Apr 03, 2011	Mon Apr 04, 2011	Tue Apr 05, 2011	Wed Apr 06, 2011	Thu Apr 07, 2011	Fri Apr 08, 2011	Sat Apr 09, 2011
6AM							
7AM							
8AM							
9AM		09:00 am to 10:30 am Project Meeting		09:00 am to 10:30 am Project Meeting		09:00 am to 10:30 am Project Meeting	
10AM							
11AM							
12PM							
1PM							
2PM							
3PM							
4PM							
5PM							
6PM							
7PM							
8PM							



School Calendar

	Sun Apr 03, 2011	Mon Apr 04, 2011	Tue Apr 05, 2011	Wed Apr 06, 2011	Thu Apr 07, 2011	Fri Apr 08, 2011	Sat Apr 09, 2011
8AM				09:00 am to 05:00 pm			
9AM							
10AM		10:00 am to 01:00 pm		School Closed			
11AM							

HealthVault

Login to HealthVault

Your Health Information

You are now logged in to HealthVault!
Name: James Johnson

Type	Date	Value
Height	4/2/2011 7:24:07.795 PM	3.00
	4/2/2011	

HealthVault

Warning: This is a development and test environment. Do not store personal information.

This is not the public Microsoft HealthVault site, and the HealthVault privacy statement does not apply here. Do not enter any personal information when creating accounts or records or when using applications on this site. Enter test data only. [Click here to go to the public HealthVault site.](#)

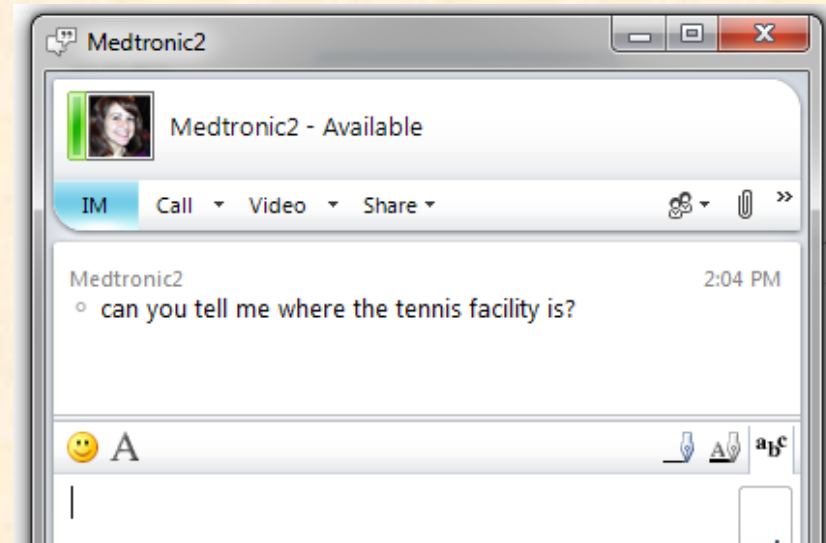
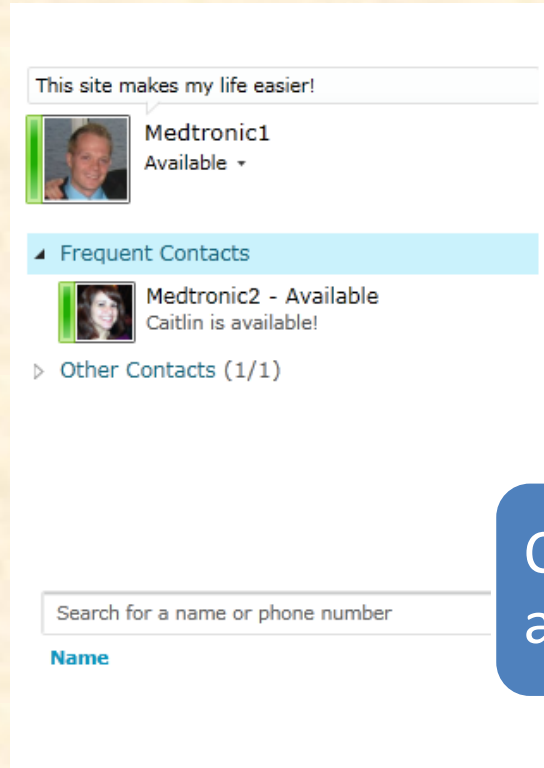
Review changes made to James Johnson's record in the last 30 days

Summary	Type	Changed by	Date	Status	Progress	Details
Summary: 135, Cholesterol (HDL)	Blood Pressure Measurement	James Johnson	4/8/2011 3:44:43 PM	Completed	100%	100
135/94	Weight Measurement	James Johnson	4/8/2011 3:44:43 PM	Completed	100%	100
135 lb	Weight Measurement	James Johnson	4/8/2011 3:44:43 PM	Completed	100%	100
Summary: 135, Cholesterol (LDL)	Blood Pressure Measurement	James Johnson	4/8/2011 3:45:33 PM	Completed	100%	100
135/94	Weight Measurement	James Johnson	4/8/2011 3:45:33 PM	Completed	100%	100
135 lb	Weight Measurement	James Johnson	4/8/2011 3:45:33 PM	Completed	100%	100
Summary: 135, Cholesterol (Total)	Blood Pressure Measurement	James Johnson	4/8/2011 3:46:03 PM	Completed	100%	100
135/94	Weight Measurement	James Johnson	4/8/2011 3:46:03 PM	Completed	100%	100
135 lb	Weight Measurement	James Johnson	4/8/2011 3:46:03 PM	Completed	100%	100
Summary: 135, Cholesterol (VLDL)	Blood Pressure Measurement	James Johnson	4/8/2011 3:46:33 PM	Completed	100%	100
135/94	Weight Measurement	James Johnson	4/8/2011 3:46:33 PM	Completed	100%	100
135 lb	Weight Measurement	James Johnson	4/8/2011 3:46:33 PM	Completed	100%	100
Summary: 135, Cholesterol (HDL)	Blood Pressure Measurement	James Johnson	4/8/2011 3:47:03 PM	Completed	100%	100
135/94	Weight Measurement	James Johnson	4/8/2011 3:47:03 PM	Completed	100%	100
135 lb	Weight Measurement	James Johnson	4/8/2011 3:47:03 PM	Completed	100%	100
Summary: 135, Cholesterol (LDL)	Blood Pressure Measurement	James Johnson	4/8/2011 3:47:33 PM	Completed	100%	100
135/94	Weight Measurement	James Johnson	4/8/2011 3:47:33 PM	Completed	100%	100
135 lb	Weight Measurement	James Johnson	4/8/2011 3:47:33 PM	Completed	100%	100
Summary: 135, Cholesterol (Total)	Blood Pressure Measurement	James Johnson	4/8/2011 3:48:03 PM	Completed	100%	100
135/94	Weight Measurement	James Johnson	4/8/2011 3:48:03 PM	Completed	100%	100
135 lb	Weight Measurement	James Johnson	4/8/2011 3:48:03 PM	Completed	100%	100
Summary: 135, Cholesterol (VLDL)	Blood Pressure Measurement	James Johnson	4/8/2011 3:48:33 PM	Completed	100%	100
135/94	Weight Measurement	James Johnson	4/8/2011 3:48:33 PM	Completed	100%	100
135 lb	Weight Measurement	James Johnson	4/8/2011 3:48:33 PM	Completed	100%	100

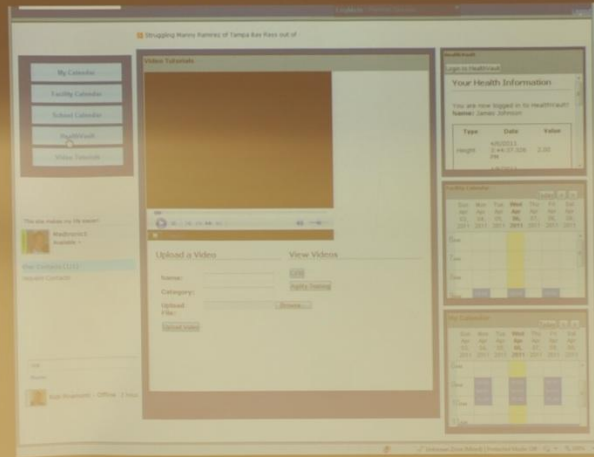
Team Medtronic
Beta Presentation

Team Medtronic Beta Presentation

Lync Presence Controls



Communicate with instant messaging
and video conferencing



Team Medtronic
Beta Presentation



Medtronic, Inc. Cloud-Based Athletics Operations Center

For over 100 years, Medtronic's mission has been to advance patient, patient health, and extend life, the driving force behind our products, a simple service offering based on Microsoft Azure Cloud Services was designed and developed.

The objective of our software system is to give coaches, athletes, and fans a platform to manage and analyze data to provide information and collaboration on improving the overall health of the athletes to ensure they are safe. With many tools and features to manage, proper allocation of resources and support functions at all times.

Our team has created a Cloud Based Athletics Operations Center to enable coaches and athletes alike to use of sports to enhance athletes such as People Presence, Calculating, and better strategies. The system also allows access to Health Records, Video, and relevant RPA tools.

The key focus of the Athletics Operations Center is to provide coaches and athletes alike a secure environment in which to access reliable information, secure Managing results coaches to easily communicate with others using the system. The Calculating feature allows for quick recognition of event results, or medication resources.

The Athletics Operations Center is accessible via any modern web browser, and is primarily designed to be viewed on large touch-like systems. The web application is written in ASP.NET and it runs in Windows Azure cloud-based back end.



Medtronic Design Day

Coaches Name
Athlete Name
Team Name
Event Name
Event Date
Event Time
Event Location
Event Status
Event Results
Event Comments
Event Notes
Event Photos
Event Videos
Event Audio
Event Documents
Event Links
Event Contacts
Event Addresses
Event Phone Numbers
Event Email Addresses
Event Websites
Event Social Media
Event Other Information

Team Medtronic
Design Day

The Capstone Experience

Team Meijer

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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

meijer[®]



Meijer: Higher Standards, Lower Prices on Gro...



Page

Safety

Tools



Higher Standards
meijer
Lower Prices

WEEKLY AD
STORE INFO
MORE... ▼

WELCOME. SIGN IN OR CREATE AN ACCOUNT FOR EXCLUSIVE SAVINGS.



[View Cart/Checkout](#)

0 items

\$0.00



Search

All Products

GO

Grocery Drugstore Kitchen & Dining Furniture Home & Crafts Garden & Outdoor Sports & Recreation Pet Online Sale
Music & Movies Electronics Photo Toys Video Games Baby & Kids Jewelry & Accessories Gift Shop & Gift Cards **Clearance**



Spend Your Meijer Gift Card, Get **FREE Standard Shipping!**



dailysteal



dailysteal

16 Hrs 41 Mins 28 Secs



Acoustic Research

After Christmas
Online Clearance
Save 20-60%!

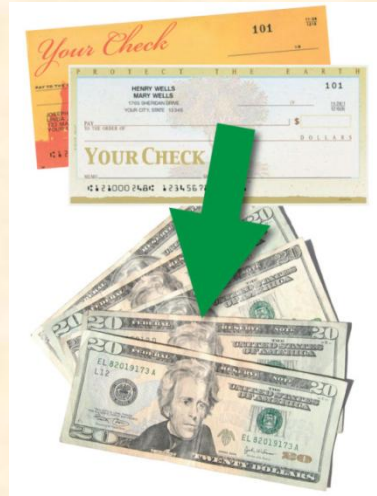
clearance

**save
20-60%**

Team Meijer Project Overview

Consumer Payroll Check Cashing Analytics


- Consumer Payroll Check Cashing Service
 - In Store At Service Desk
 - Users Must Enroll 7 Days in Advance
 - Uses Third Party Authentication Service (Certegy)
- Design and Implement Reporting Features
 - Ad Hoc Reports by Customer, Store, Date, Etc.
 - Fraud Analysis
 - Reports by Store, Groups of Stores, and All Stores
 - Upload and Store Images of Returned Checks
 - Print Automated Prosecution Package for Law Enforcement
 - Predictive Alerts Engine
 - Transaction Trending
- Technologies
 - Microsoft Visual Studio 2010
 - Microsoft Office 2007, 2010
 - Microsoft SQL Server 2008
 - Microsoft SQL Server Reporting Services (SSRS)



meijer

The Capstone Experience



A group photo of four men standing in front of a large window. From left to right: Hussein Hijazi in a dark suit, Anthony Graziosi in a blue striped shirt, Moe Yassine in a brown blazer, and Matt Rose in a light blue shirt. The background shows a cityscape through the window.

Hussein
Hijazi

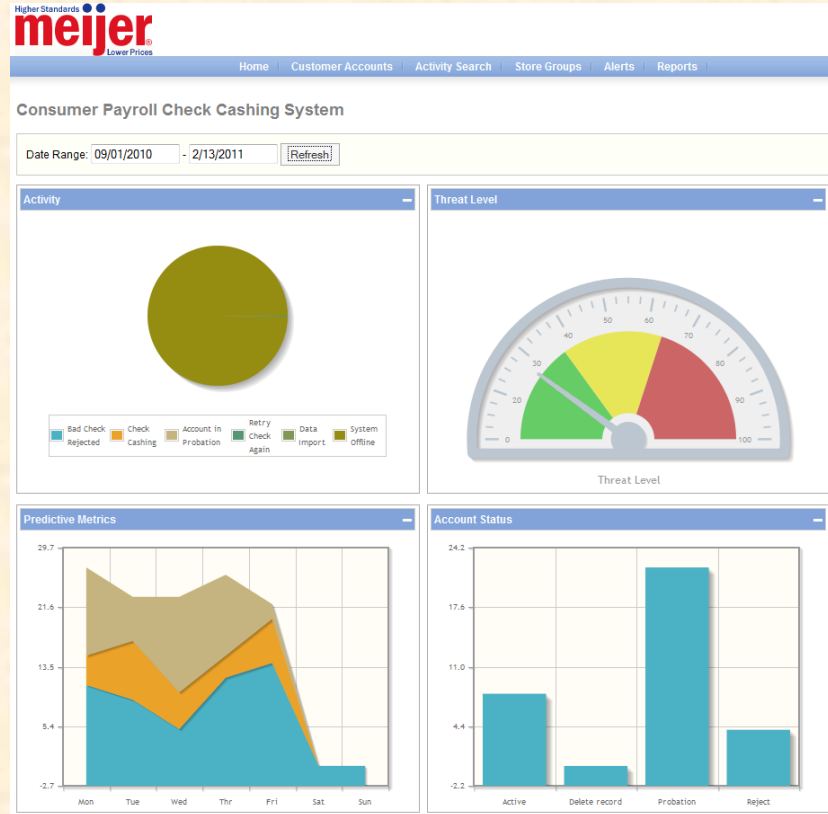
Anthony
Graziosi

Moe
Yassine

Matt
Rose

Team Meijer
Team Photo

Team Meijer Screen Mockup



Screen Mockups



Team Meijer
Project Plan Presentation

Team Meijer Screen Mockup



[Home](#) | [Customers](#) | [Activity Search](#) | [Reports](#) | [Utilities](#)

John Doe (A1212341)

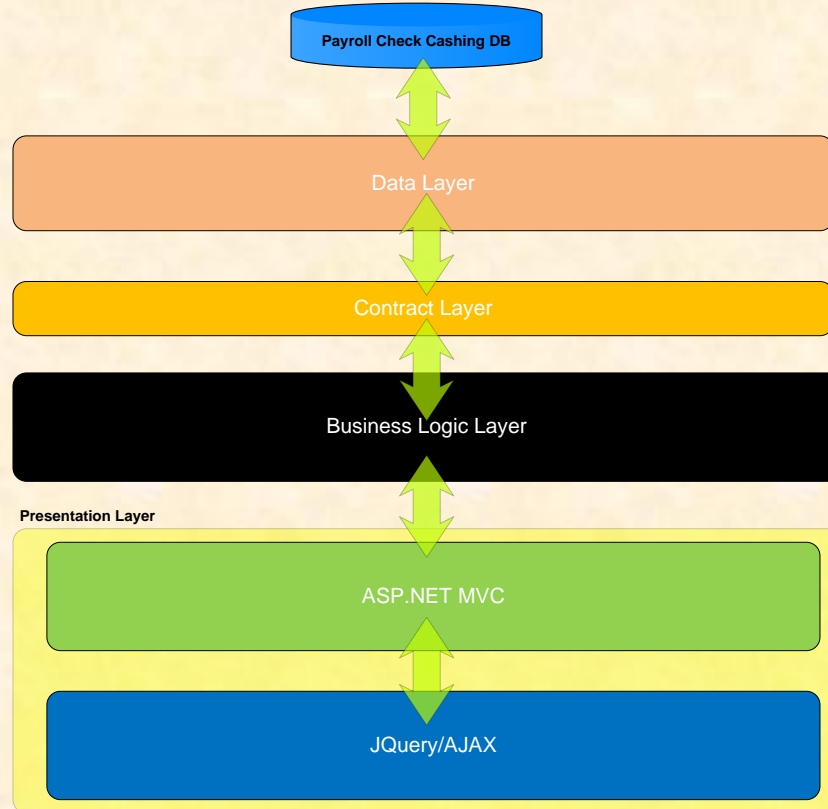
Customer Name John Doe
Enrolment Date 1/1/2009
Date of Birth 1/1/1989
Account Status Active Account

Employer Name Michigan State University
Employer Number EMP123215

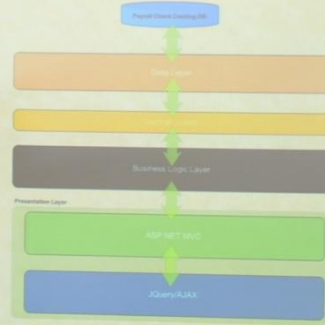
Activity Log

	Activity Date	Action Type	Activity Status
View	1/1/2010	Action Type	Declined
View	1/1/2010	Action Type	Declined
View	1/1/2010	Action Type	Declined

Team Meijer Architecture Diagram



System Architecture



The Capstone Experience

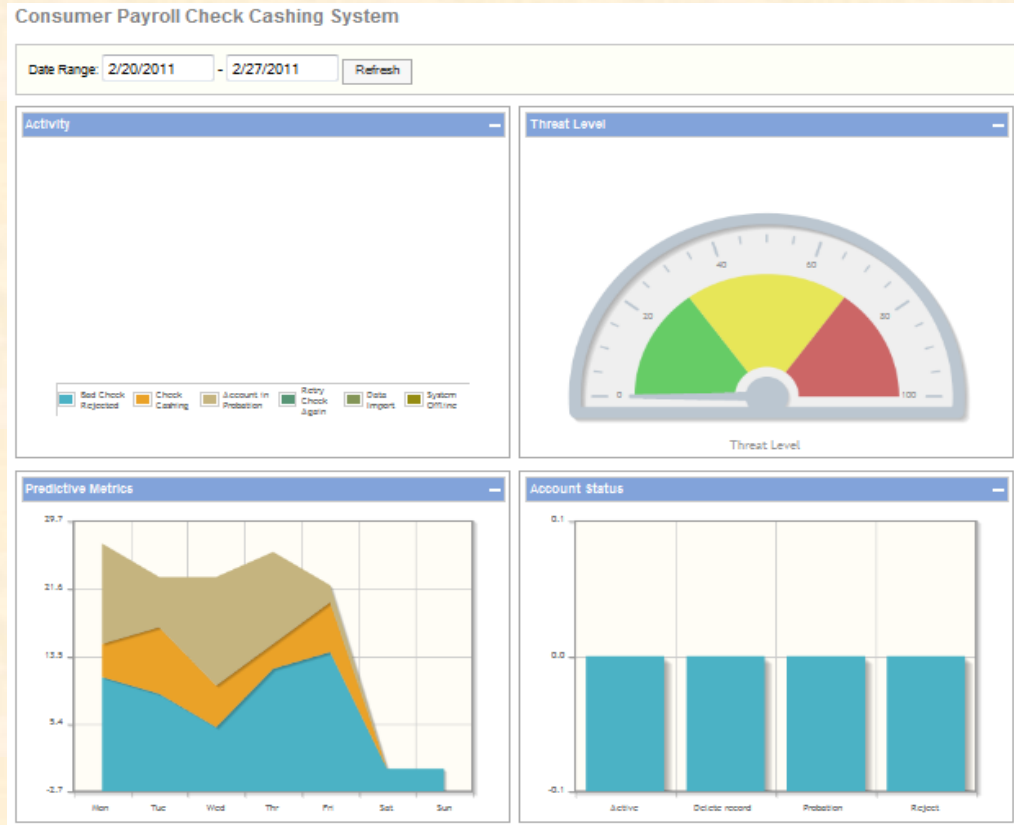
Team <Company Name> Project Plan

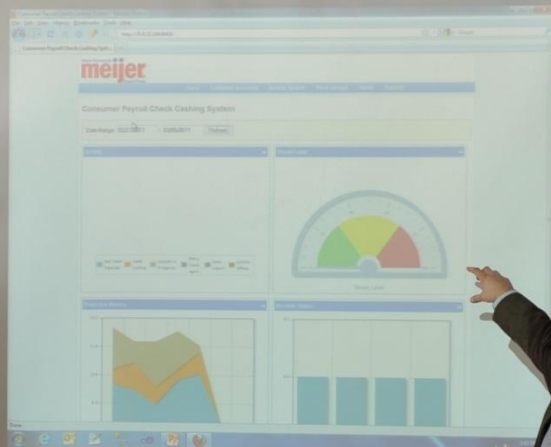
12

Team Meijer
Project Plan Presentation

Team Meijer Alpha Presentation

Dashboard Screen





Team Meijer
Alpha Presentation

Team Meijer Alpha Presentation

Activity Search Screen

Higher Standards
meijer
Lower Prices

Home | Customer Accounts | Activity Search | Store Groups | Alerts | Reports

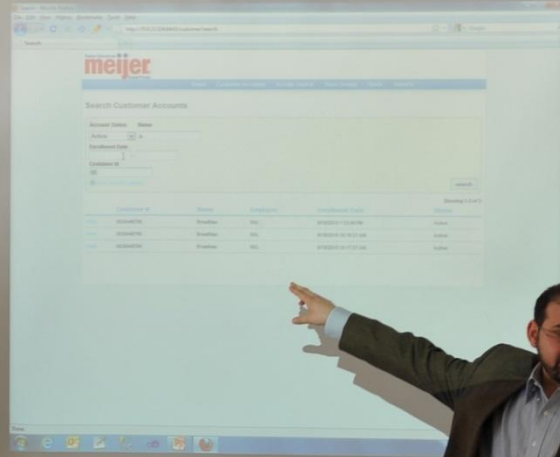
Activity Search

Action Type Activity Date -

[more search options](#) [download results](#)

Showing 1-20 of 53030


	Customer #	Check Date	Check Amount	Meijer	Certegy	Action	Date
view	B123456789456	1/18/2011	\$30.00	Do Not Cash Check - Try Again	ID type and number dont match	Retry Check Again	1/18/2011
view	B123456789456	1/18/2011	\$30.00	Do Not Cash Check - Try Again	ID type and number dont match	Retry Check Again	1/18/2011
view	B123456789456	1/18/2011	\$30.00	Do Not Cash Check - Try Again	ID type and number dont match	Retry Check Again	1/18/2011
view	B123456789456	1/18/2011	\$90.00	Do Not Cash - Do not Try Again	Offline to Cert - no cashing	System Offline	1/18/2011
view	B123456789456	1/18/2011	\$70.00	Do Not Cash Check - Try Again	Invalid SSN	Retry Check Again	1/18/2011
view	B123456789456	1/18/2011	\$70.00	Do Not Cash Check - Try Again	Invalid SSN	Retry Check Again	1/18/2011
view	B123456789456	1/18/2011	\$70.00	Do Not Cash Check - Try Again	Invalid SSN	Retry Check Again	1/18/2011
view	B123456789456	1/18/2011	\$60.00	Do Not Cash Check - Try Again	ID and DOB did not match	Retry Check Again	1/18/2011
view	B123456789456	1/18/2011	\$90.00	Do Not Cash - Do not Try Again	Decline Message	Bad Check Rejected	1/18/2011
view	B123456789456	1/18/2011	\$40.00	Do Not Cash - Do not Try Again	Decline Message	Bad Check Rejected	1/18/2011
view	B123456789456	1/18/2011	\$45.00	Cash Check	No Text - Cash Check	Check Cashing	1/18/2011
view	B123456789456	1/18/2011	\$30.00	Do Not Cash - Do not Try Again	Decline Message	Account in Probation	1/18/2011
view	B123456789456	1/18/2011	\$30.00	Do Not Cash Check - Try Again	ID type and number dont match	Retry Check Again	1/18/2011
view	B123456789456	1/18/2011	\$20.00	Do Not Cash - Do not Try Again	Decline Message	Bad Check Rejected	1/18/2011
view	B123456789456	1/18/2011	\$10.00	Do Not Cash - Do not Try Again	Decline Message	Bad Check Rejected	1/18/2011
view	B123456789456	12/31/2010	\$25.00	Cash Check	No Text - Cash Check	Check Cashing	1/14/2011
view	B123456789456	1/5/2011	\$150.00	Do Not Cash Check - Try Again	Recollect all data and retry	Retry Check Again	1/14/2011
view	B123456789456	1/5/2011	\$150.00	Do Not Cash Check - Try Again	Recollect all data and retry	Retry Check Again	1/14/2011



Team Meijer
Alpha Presentation

Team Meijer Beta Presentation

Customer Info Screen



Home | Customer Accounts | Activity Search | Store Groups | Alerts | Reports

B123456789456

Customer Number B123456789456

Name tester

Date Of Birth 3/19/1974 12:00:00 AM

Enrollment Date 1/18/2011 10:42:17 AM

Employer Id 38

Employer Name NUL

Routing Number 876543212

Government Check? No

Activity Log

Showing 1-10 of 183

	Customer #	Check Date	Check Amount	Meijer	Certegy	Action	Date
View	B123456789456	1/18/2011	\$30.00	Do Not Cash Check - Try Again	ID type and number dont match	Retry Check Again	1/18/2011
View	B123456789456	1/18/2011	\$30.00	Do Not Cash Check - Try Again	ID type and number dont match	Retry Check Again	1/18/2011
View	B123456789456	1/18/2011	\$30.00	Do Not Cash Check - Try Again	ID type and number dont match	Retry Check Again	1/18/2011
View	B123456789456	1/18/2011	\$90.00	Do Not Cash - Do not Try Again	Offline to Cert - no cashing	System Offline	1/18/2011
View	B123456789456	1/18/2011	\$70.00	Do Not Cash Check - Try Again	Invalid SSN	Retry Check Again	1/18/2011
View	B123456789456	1/18/2011	\$70.00	Do Not Cash Check - Try Again	Invalid SSN	Retry Check Again	1/18/2011
View	B123456789456	1/18/2011	\$70.00	Do Not Cash Check - Try Again	Invalid SSN	Retry Check Again	1/18/2011
View	B123456789456	1/18/2011	\$60.00	Do Not Cash Check - Try Again	ID and DOB did not match	Retry Check Again	1/18/2011
View	B123456789456	1/18/2011	\$50.00	Do Not Cash - Do not Try Again	Decline Message	Bad Check Rejected	1/18/2011
View	B123456789456	1/18/2011	\$40.00	Do Not Cash - Do not Try Again	Decline Message	Bad Check Rejected	1/18/2011

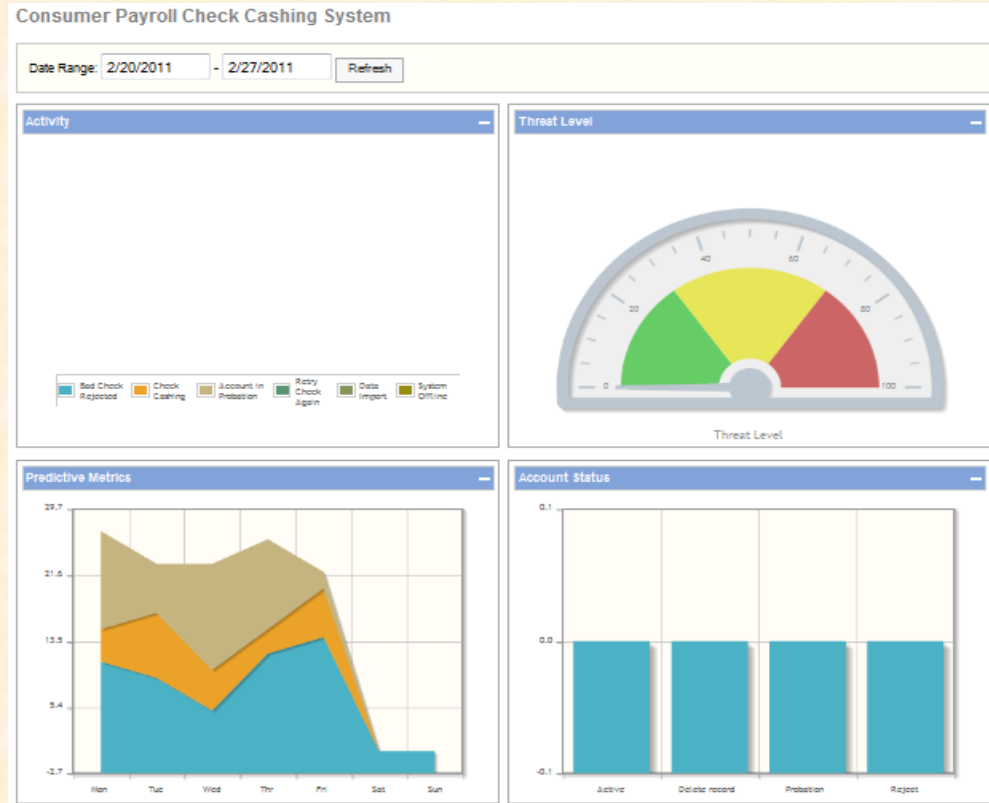
Next Page



Team Meijer Beta Presentation

Team Meijer Beta Presentation

Dashboard Screen





Team Meijer
Design Day

The Capstone Experience

Team Motorola Mobility

Department of Computer Science and Engineering
Michigan State University
Spring 2011



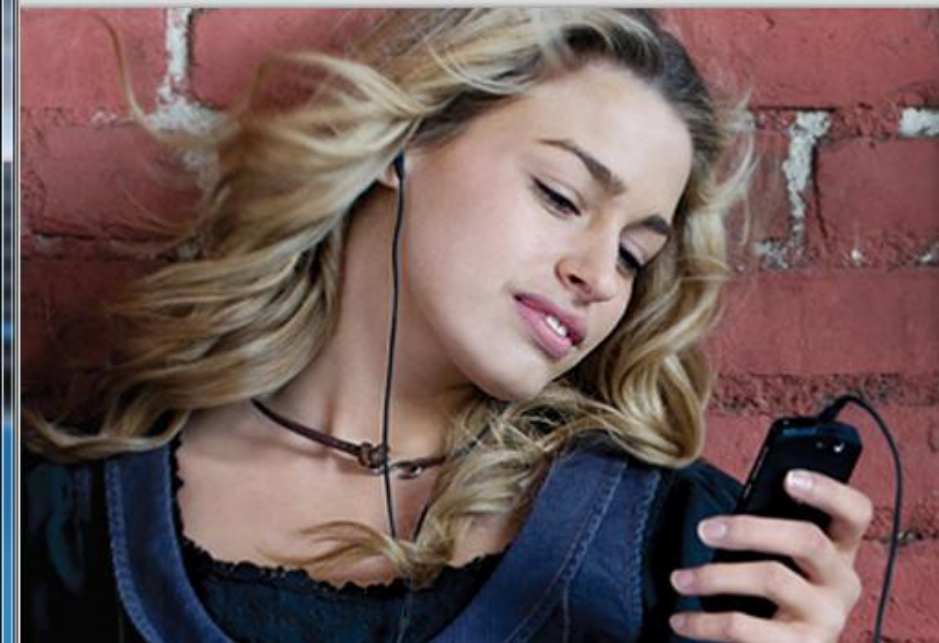
*From Students...
...to Professionals*



MOTOROLA



WELCOME TO **MOTOROLA**



FOR **CONSUMERS**



FOR **BUSINESS**

Team Motorola Mobility Project Overview

Enhance Programming Guide Authoring System

- [Enhanced Program Guides for Mobile Devices](#), Fall 2010
 - Provide Enhanced Information
 - Actor Biographies
 - Merchandise Seen on Show
 - Etc.
 - Pushed to Mobile Devices
 - While Consumer Watches Content
 - Non-Intrusive Manner
- Project Extensions
 - Life Cycle Management System
 - Network Operators (e.g., Comcast)
 - Content Providers (e.g., NBC Universal, Disney)
 - Secondary Metadata
 - Triggers
 - Synchronization
 - Display in Selectable Layers
 - Consumer Interactivity with Metadata
- Technologies
 - Java (Servlets, JEE, JSE)
 - Web Services (RESTful)
 - Web Development (XML, JSON, JavaScript, GWT)
 - iPhone, iPad Development (Objective-C)
 - Android Development (Java)



MOTOROLA

The Capstone Experience



A group photo of three men in an office setting. One man is seated in the foreground, while two others stand behind him. The background includes a white brick wall, a wooden door, and a glass-walled office area with a computer monitor visible.

Chris
Goad

Rory Hool

Haohan
Lin

Alex Boyd
Team Motorola Mobility
Team Photo

Team Motorola Mobility Screen Mockup

Main Page

Content Authoring Tool

MainContent ManagementAssociation Management

Logged in as: KabePreferencesLogout

Primary Content

Extreme Dinosaurs
Mass grave beds in Canada and Argentina support a theory about a...

Deep Sea Aliens
Unravel the intelligence of the octopus

Vampires from the Abyss
The mysteries of the vampire squid.

The Planets
The explosive birth of our solar system

How Do They Do It?
Mega hotels: lasers; desert golf.

How Do They Do IT?
Manufacturing drink cartons, prefabricated homes and mobile...

How Do They Do IT?

Content Information

Title: Extreme Dinosaurs

Description: Mass grave beds in Canada and Argentina support a theory about a flesh-eating dinosaur that hunted in packs.

Series Type: Documentary

Genres: Science, History, Paleontology

Running Time: 60 minutes

Show times:

New York, NY

Los Angeles, CA

Science Channel

Date	Time	Secondary Content	Rerun
Friday 02-04-2011	6:00PM PST	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Monday 02-07-2011	4:30PM PST	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Monday 02-07-2011	8:30PM PST	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Monday 02-14-2011	4:30PM PST	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

East Lansing MI

London, England

Secondary Content

General

Lineup Specific

Instance Specific

f

Title: Science Channel Facebook Page

Format: Facebook Page

Time: 1:30

📷

Title: City of LA PSA

Format: Image

Time: 2:45

📺

Title: Interview with Dr. Dinoman

Format: Video

Time: 4:00

📷

Title: Scale image of dinosaurs and

Format: Image

Time: 6:15

🔗

Title: Link to Science Channel Site -

Format: Hyperlink

Time: 7:45

📺

Title: Advert for following program

Format: Video

Time: 14:00

📺

Title: Advert for LA pizza

Format: Video

Time: 16:00

📷

Title: Advert for Olympics

Format: Image

Time: 20:00

📷

Title: 3D Render of Brontosaurus

Format: Image

Time: 22:00

The Capstone Experience

Screen Mockups

Main Page

The screenshot displays a web-based project management tool. On the left, a sidebar contains navigation links such as 'Home', 'Project Overview', 'Task Management', and 'Reporting'. The main area features a table with columns for 'Task Name', 'Start Date', 'End Date', and 'Status'. A list of tasks is visible, including 'Project Kick-off', 'Requirements Gathering', 'System Design', 'Development', 'Testing', and 'Deployment'. The right-hand panel provides a detailed view of a selected task, showing its description, assigned team members, and a timeline. The interface is clean and professional, typical of enterprise software.

Team Motorola Mobility
Project Plan Presentation

Team Motorola Mobility Screen Mockup

Association Management - Table View, Searching Secondary Content with filters

Content Authoring Tool

Main Content Management Association Management Logged in as: Kabe Preferences Logout

Currently Selected Primary Content:

Title: Extreme Dinosaurs - Episode 112 [change content]
Lineup Specific: Los Angeles, CA [change lineup] [remove lineup filter]
Specific Instance: Friday 02-04-2011, 6:00 PM PST [change instance] [remove instance filter]

Table View Timeline View

Associated Secondary Content

	General	Lineup Specific	Instance Specific
Title: Science Channel Facebook Page Format: Facebook Page Time: 1:30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Title: City of LA PSA Format: Image Time: 2:45	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Title: Interview with Dr. Dinoman Format: Video Time: 4:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Title: Scale image of dinosaurs and humans Format: Image Time: 6:15	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Title: Link to Science Channel Site - Dinosaur Format: Hyperlink Time: 7:45	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Title: Advert for following program Format: Video Time: 14:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Title: Advert for LA pizza Format: Video Time: 16:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Title: Advert for Olympics Format: Image Time: 20:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Title: 3D Render of Brontosaurus Format: Image Time: 22:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

On Hover

Waiting for URL from Science Channel web team [Remove note]

On Click

Secondary Content

Find Suggested Content

Filters:

Dinosaur

Tags

Content Format:

Video
Image
Hyperlink
Text
Facebook Page

Results

Title: Interview with Dr. Dinoman Format: Video Time: 4:00	<input checked="" type="checkbox"/>
Title: Jurassic Park TV Spot Format: Video Time: 8:45	<input type="checkbox"/>
Title: 3D Render of Brontosaurus Format: Video Time: 7:00	<input checked="" type="checkbox"/>
Title: Godzilla Advertisement Format: Video Time: 12:00	<input type="checkbox"/>
Title: Velociraptor Muscle Model	<input type="checkbox"/>

Remove associated content

Are you sure you want to remove this Generally Associated content? This will affect all showings. Consider disabling at Lineup or Instance level.

Remove Cancel

Tags

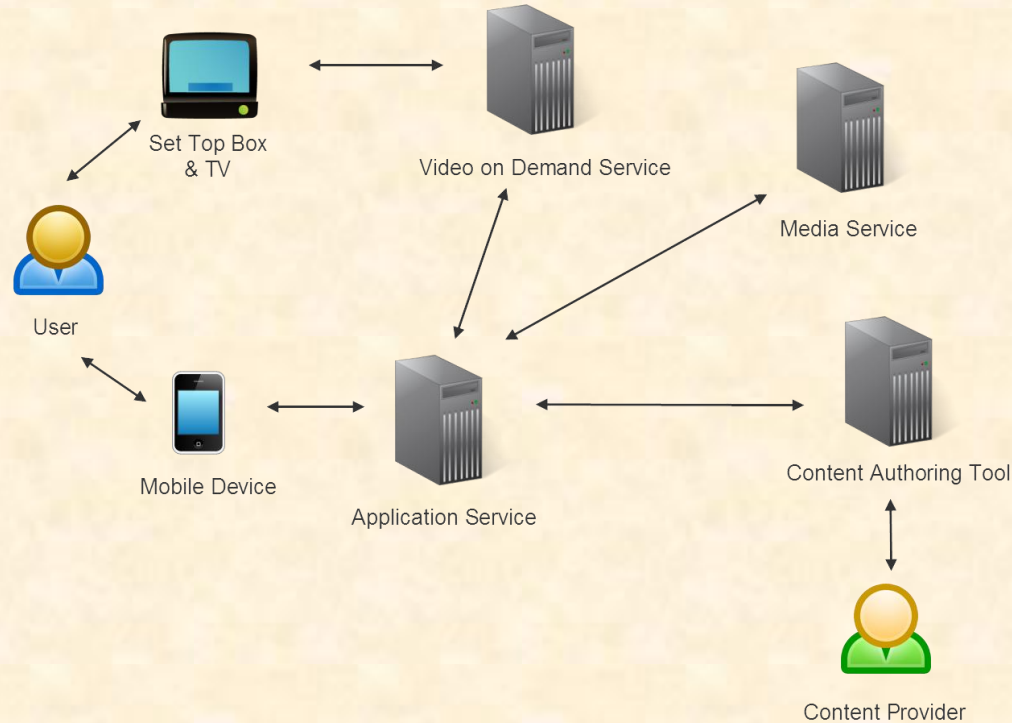
Title

Description

On Click

Refers to content already associated with primary content we are viewing, follows color coded standards

Team Motorola Mobility Architecture Diagram



System Architecture



Team Motorola Mobility
Project Plan Presentation

Team Motorola Mobility Alpha Presentation

View of Secondary Content

iPad 10:00 PM 82%

Select Episode Watching: "Mythbusters"

MythBusters IMDB Page

Adam Savage Wikipedia Article

Jamie Hyneman Wikipedia Article

MythBusters Wikipedia Article

MythBusters Interview - CBS News



WIKIPEDIA
The Free Encyclopedia

Main page
Contents
Featured content
Current events
Random article
Donate to Wikipedia

Interaction

- Help
- About Wikipedia
- Community portal
- Recent changes
- Contact Wikipedia

Toolbox

Print/export

Languages

- Български
- Català
- Dansk
- Deutsch
- Ελληνικά
- Español

Article Discussion Read Edit View history Search

Adam Savage

From Wikipedia, the free encyclopedia

Adam Whitney Savage (born July 15, 1967^[*citation needed*]) is an [American industrial design](#) and [special effects](#) designer/fabricator, actor, educator, and co-host of the [Discovery Channel](#) television series *MythBusters*.^[1]

Contents [hide]

- Early life and education
- Career
- MythBusters
- Personal life
- References
- External links

Early life and education [edit]

Born in [New York City](#), Savage was raised in [Sleepy Hollow](#) in [Westchester County](#).^[2] His father, W. Lee Savage, was a painter, filmmaker, and animator known for his work on *Sesame Street*. His mother is a [psychotherapist](#). His sister Kate Savage is also an artist.

Adam Savage began acting as a child, and has had five years of acting school.^[1] His early credits include voicing [animated characters](#) that his father produced for *Sesame Street*, *Mr. Whinnip*'s stock boy "limmy" in a *Charmin* commercial, a helper in

Adam Savage



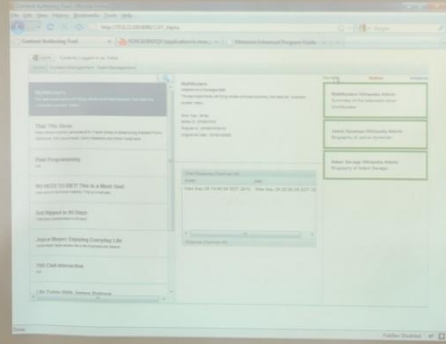
Born Adam Whitney
July 15, 1967
[New York City](#)

Occupation *MythBusters*
designer/fabricator
educator

Spouse Julia Savage

Website
<http://www.adamsavage.net>

Previous Show Next Show Reset Stop All



Team Motorola Mobility Alpha Presentation

Team Motorola Mobility Alpha Presentation

Association Management

[Logout](#) Currently Logged in as: null

[Home](#) [Content Management](#) [Asset Management](#)

Currently Selected Primary Content [Change Primary Content](#)

That '70s Show
Streaking
Kelso (Ashton Kutcher) persuades Eric (Topher Grace) to streak during President Ford's visit to town. With Laura Prepon, Danny Masterson and Wilmer Valderrama.
Show Type : Series Series ID : EP00277598 Program ID : EP002775980003 Original Air Date : 904953600000

[Table View](#) [Timeline View](#)

Title: Hugh Laurie - Wikipedia Article [Delete](#)
Format: Wikipedia Article
Time: 1

Title: Will Ferrell - Wikipedia Article [Delete](#)
Format: Wikipedia Article
Time: 1543

Title: Will Ferrell Interview [Delete](#)
Format: Youtube Video
Time: 387

Title: MythBusters - Crash and Burn Video [Delete](#)
Format: Youtube Video
Time: 344

Secondary Content
[Search Content](#)

Hugh Laurie - Wikipedia Article

Will Ferrell - Wikipedia Article

Will Ferrell Interview

Red Wings Statistics

Flyers Statistics





Team Motorola Mobility
Alpha Presentation



Team Motorola Mobility Alpha Presentation

Team Motorola Mobility Beta Presentation

“CompleteTV” Mobile App





Team Motorola Mobility
Beta Presentation

Team Motorola Mobility Beta Presentation

Content Authoring Tool

The screenshot displays the Motorola Mobility Content Authoring Tool interface. At the top, the Motorola logo and 'MOTOROLA MOBILITY' text are on the left, and a 'Logout' button and 'Currently Logged in as: null' status are on the right. Below the header is a navigation bar with 'Home', 'Content Management', and 'Asset Management' tabs. The main content area is divided into three sections:

- TV Programs:** A list of programs including 'Clean House', 'ESPNEWS', 'Miss Spider's Sunny Patch Friends', 'MythBusters', 'Olivia', and 'Olivia Paints a Mural; Olivia's Day at the Office'.
- Clean House The Fleming Family:** A detailed view of a selected program, showing its description, show type, series ID, program ID, and original air date.
- Broadcasting Station(s):** A section for selecting a broadcasting station, currently showing 'Science Channel HD'.

On the right side, there is a 'CompleteTV Content' section displaying a list of content items with icons, titles, and status indicators (blue and red X marks).

Icon	Content Item	Status
Red Wings	Red Wings Statistics	✗
IMDB	MythBusters IMDB Page	✗
Red Wings	Red Wings Statistics	✗
Red Wings	Red Wings Statistics	✗
Wikipedia	Jamie Hyneman Wikipedia Article	✗
Red Wings	Red Wings Statistics	✗
YouTube	MythBusters - Crash and Burn Video	✗
IMDB	MythBusters IMDB Page	✗
YouTube	MythBusters - Crash and Burn Video	✗
Wikipedia	Adam Savage Wikipedia Article	✗
YouTube	MythBusters Interview - CBS News	✗
Wikipedia	MythBusters Wikipedia Article	✗
IMDB	IMDB IMDB2	✗



Team Motorola Mobility Beta Presentation



Team Motorola Mobility
Design Day

The Capstone Experience

Team Raytheon

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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

Raytheon



http://www.raytheon.com/

Raytheon Company: Custome...



Raytheon

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Raytheon

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Raytheon Company Announces Agreement to Acquire Applied Signal Technology, Inc.



Raytheon's Support of the Armed Services



Raytheon Wins 2010 Safety Excellence Award From AIA

Newsroom »

Raytheon BBN Technologies Awarded Defense Funding to Advance Optical Communications and Imaging
Posted: Tue, 21 Dec 2010 09:00:00 -0500

Raytheon Company Announces Agreement to Acquire Applied Signal Technology, Inc.
Posted: Mon, 20 Dec 2010 07:00:00 -0500

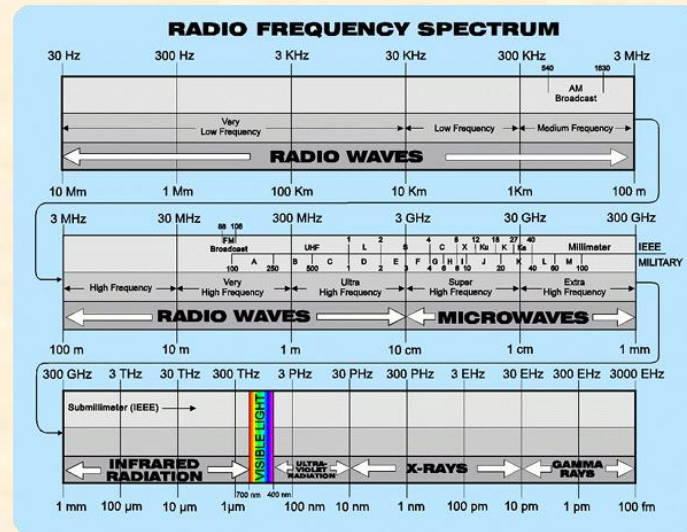
Raytheon Intelligence-Sharing System Begins Operations at Ramstein Air Base, Germany

Team Raytheon

Project Overview

Radio Spectrum Analyzer for Mobile Platforms

- Optimize Use of Radio Frequency Spectrum
 - Identify and Analyze Used Frequency Ranges
 - Recommend Frequency Range to Use
 - To Maximize Bandwidth and Minimize Noise
 - For Tuning and Controlling Military Radios
 - Based on Spectrum Allocation Policies
- Design Features
 - User Interface
 - Manage Spectrum Allocation Policies
 - Display Frequency Usage and Assignments
 - Platform Independent
 - Embedded Platforms (e.g., Radios)
 - Android Smartphones
 - Laptops and iPad-Like Devices
 - Web Service to Manage Spectrum
 - Usage and Assignments
 - Allocation Policies
 - Interoperable with C
- Technologies
 - C, C++
 - Web Application Programming
 - Web Services
 - Raytheon TacLink® EZConnect™



Raytheon

The Capstone Experience



A group photo of four men, two standing and two seated at a wooden table. Behind them is a whiteboard with handwritten diagrams. The standing man on the left is wearing a striped shirt and glasses. The standing man on the right is wearing a purple shirt. The seated man on the left has a beard and is wearing a grey polo shirt. The seated man on the right is wearing a green and white striped sweater. The whiteboard contains diagrams for 'Platform', 'Aircraft', 'Marker', 'Weather', and 'Receiver' with various attributes and relationships.

Will
Bonner

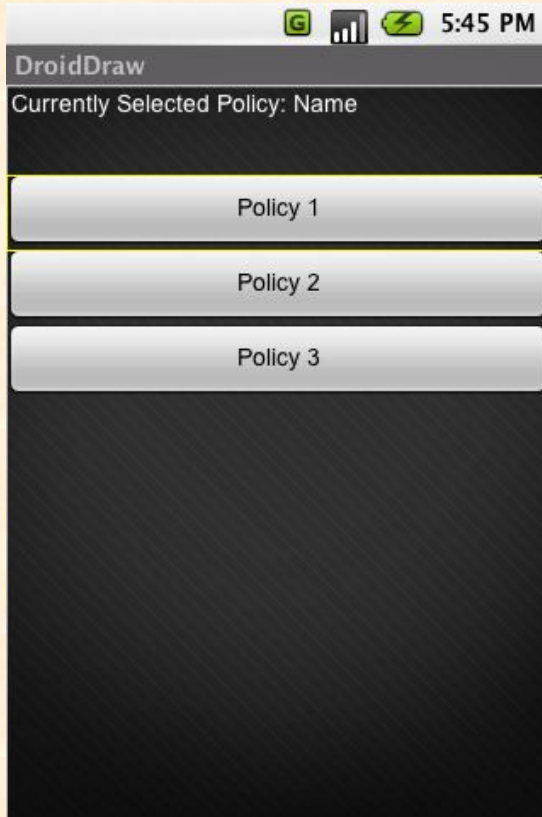
Matt
Bowser

Jimmy
Voss

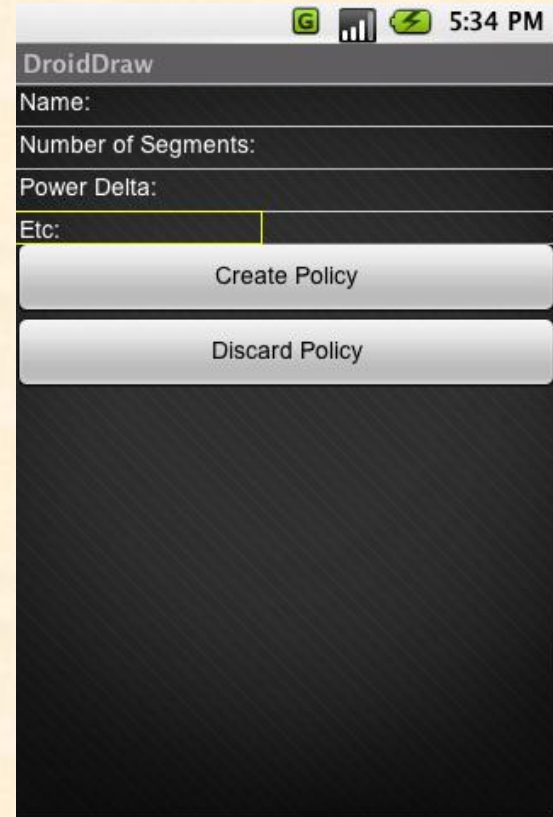
Team Raytheon
Team Photo

Srinivasa
Settaluri

Team Raytheon Screen Mockup



A screenshot of a mobile application interface titled "DroidDraw". The status bar at the top shows a green 'G' icon, signal strength bars, a battery icon, and the time "5:45 PM". Below the title bar, the text "Currently Selected Policy: Name" is displayed. A list of three items is shown, each in a light gray button-like box with a dark shadow: "Policy 1", "Policy 2", and "Policy 3". The bottom half of the screen is a solid dark gray area.



A screenshot of the same mobile application interface titled "DroidDraw". The status bar at the top shows a green 'G' icon, signal strength bars, a battery icon, and the time "5:34 PM". Below the title bar, there are four input fields: "Name:", "Number of Segments:", "Power Delta:", and "Etc:". Each field has a light gray box with a dark shadow. Below these fields are two large buttons: "Create Policy" and "Discard Policy", both in light gray boxes with dark shadows. The bottom half of the screen is a solid dark gray area.



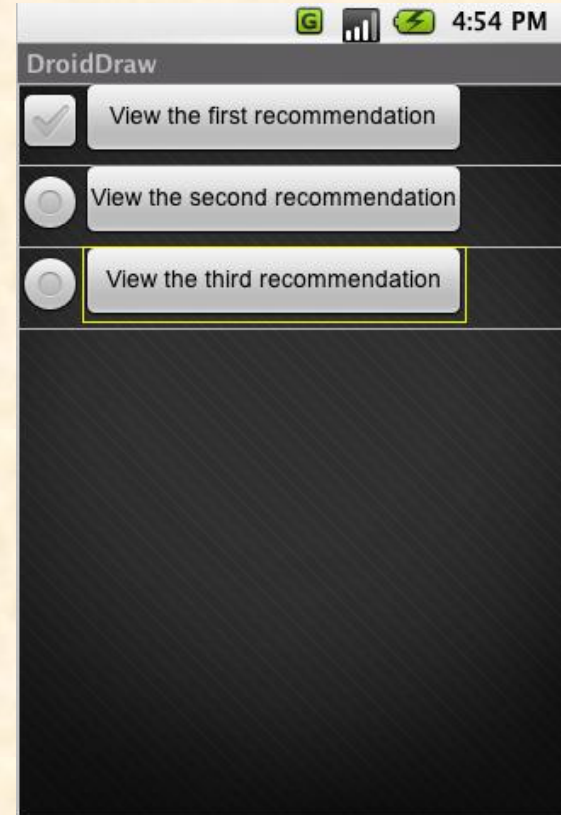
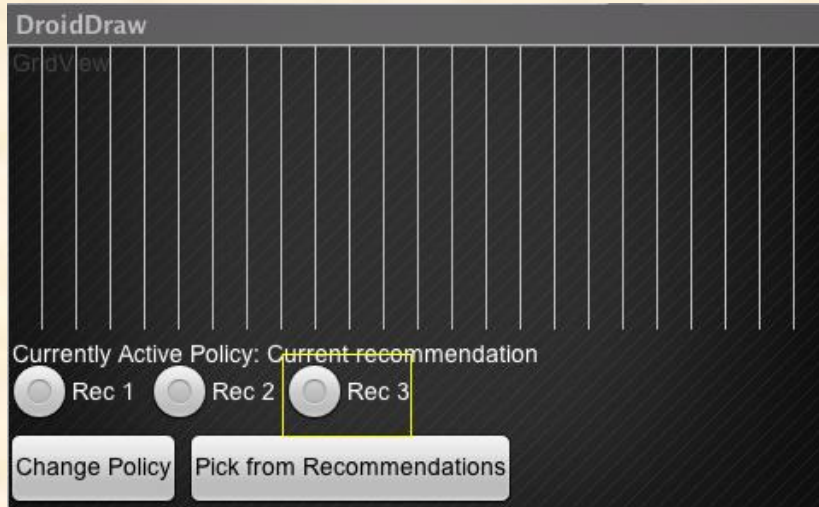


Screen Mockups

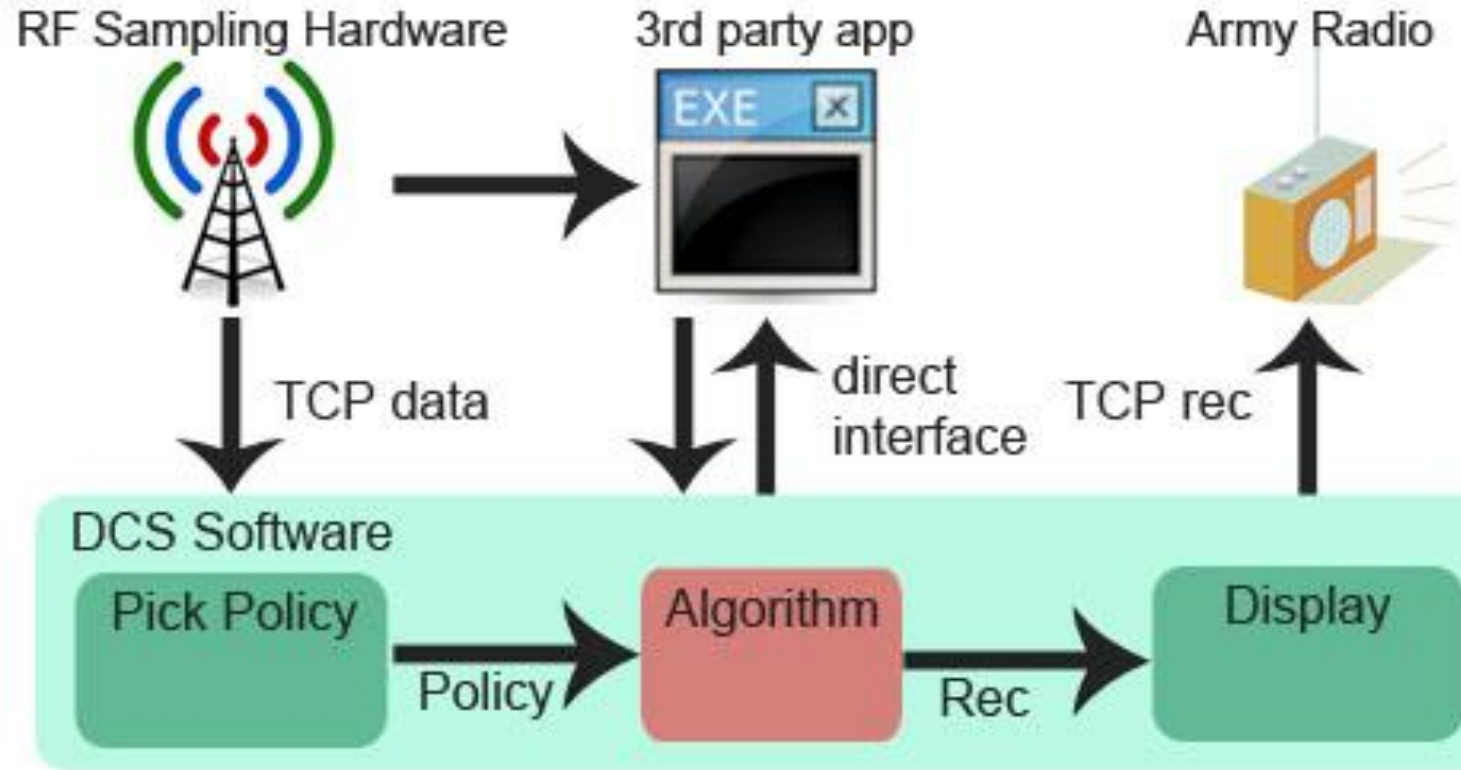


Team Raytheon
Project Plan Presentation

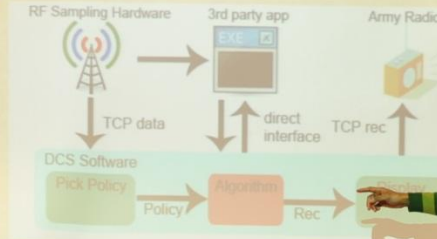
Team Raytheon Screen Mockup



Team Raytheon Architecture Diagram



System Architecture



Team Raytheon
Project Plan Presentation

Policy Selection



© 2014 Cambridge Engineering
Team Raytheon Alpha Presentation

Team Raytheon
Alpha Presentation

Team Raytheon Alpha Presentation

Policy Create/Edit

Radio Spectrum Analyzer

Creating a new Policy

Policy Name:

New Policy

Minimum Sampling Frequency (500 - 3000 MHz):

1750

Maximum Sampling Frequency (500 - 3000 MHz):

1850

Tuning Bandwidth (10 - 100 MHz):

20

Number of Segments (1 - 12):

3

Radio Spectrum Analyzer

20

Segment Bandwidth (0.5-5.0):

1.2

Power Delta (0.01-0.99):

.2

Base Power (-100.0-40):

13

Segment Spacing (0.1-1.5):

0.3

Create/Update Policy

Discard Policy



Policy Create/Edit

Radio Spectrum Analyzer

Policy Name

New Policy

Minimum Sampling Frequency (Hz)

1750

Maximum Sampling Frequency (Hz)

1850

Signal Bandwidth (Hz)

20

Number of Segments

5

Radio Spectrum Analyzer

20

Signal Bandwidth (Hz)

17.2

Minimum Sampling Frequency (Hz)

2

Maximum Sampling Frequency (Hz)

13

Number of Segments

0.3

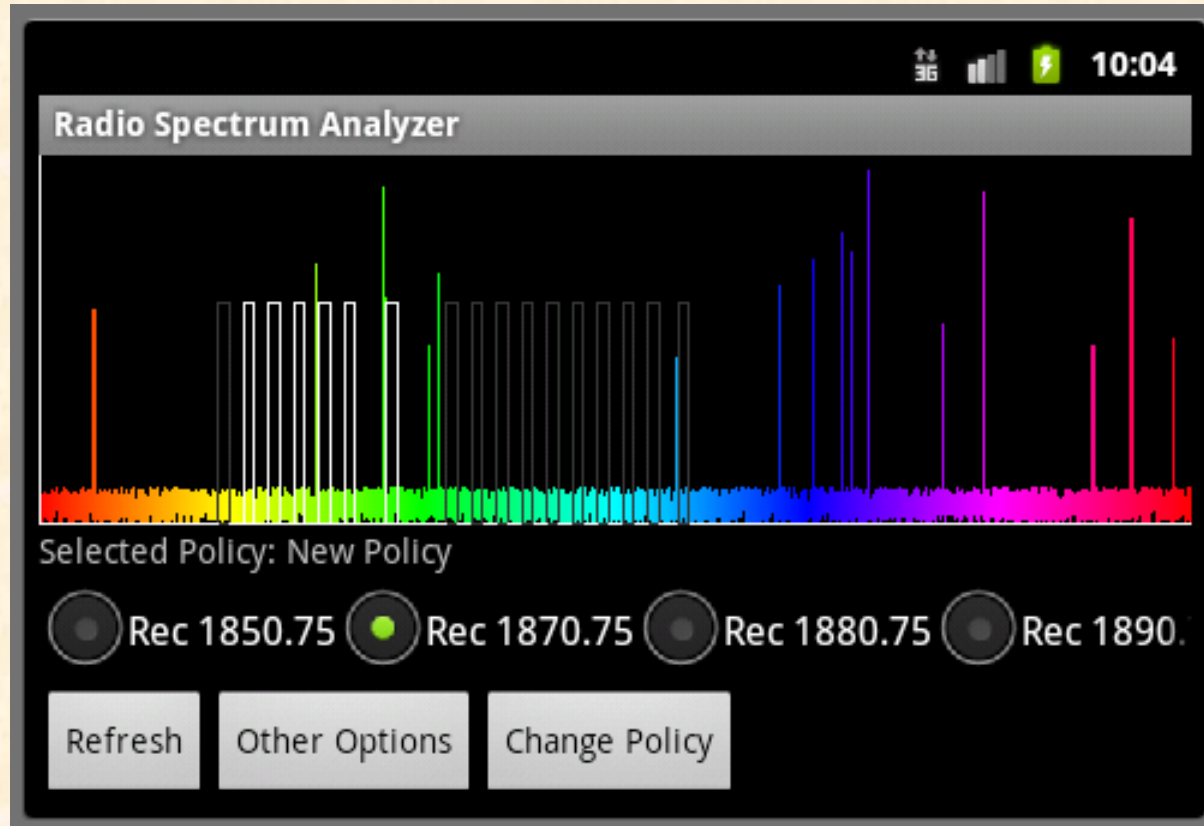
Create/Update Policy

Discard Policy

Team Raytheon
Alpha Presentation

Team Raytheon Alpha Presentation

Spectrum View



Team Raytheon Beta Presentation

Edit and Create Radio Policies

Radio Spectrum Analyzer

Updating Policy: MIPS radio

Policy Name:

MIPS radio

Minimum Sampling Frequency (500 - 3000 MHz):

1750

Maximum Sampling Frequency (500 - 3000 MHz):

1850

Tuning Bandwidth (10 - 100 MHz):

20

Create/Update Policy

Discard Policy

Radio Spectrum Analyzer

Updating Policy: MIPS radio

Number of Segments (1 - 12):

6

Power Level (1 - 50 dbm):

20

Segment Bandwidth (0.5-5.0):

1.2

Power Delta (0.01-0.99):

0.2

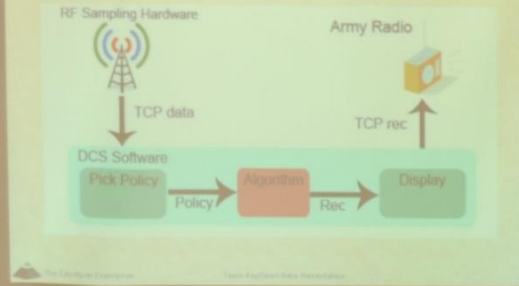
Base Power (-100.0-40):

Create/Update Policy

Discard Policy



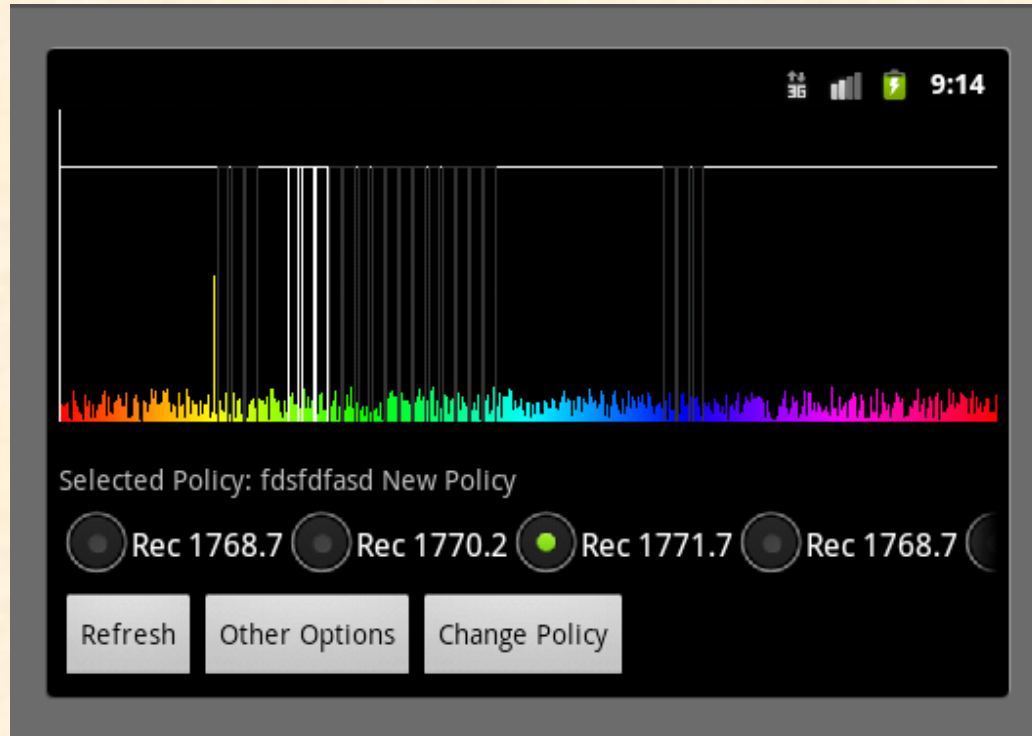
System Architecture

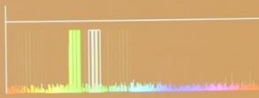


Team Raytheon
Beta Presentation

Team Raytheon Beta Presentation

View Radio Recommendation





Selected Policy: New Policy

Rec 1776.5	Rec 1781.3	Rec 1782.8	Rec 1784.3
Policy	Policy	Policy	Policy

Team Raytheon
Beta Presentation



Raytheon Dynamic Spectrum Access for Network Radios

When authorized regions, relative radio communication is critical for coordinating resources between military units. As more radios are used, the radio spectrum becomes crowded with competing signals. Currently, radio broadcast frequencies have to be manually configured. We have created a program which automates and optimizes this process. This will allow other communication in otherwise crowded environments. Our program runs on an Android smart phone which can be connected to a military radio, allowing the user access to be accessed on portable devices.

Our software pulls radio spectra from a military radio. With this data, a decision is made as to what radio frequencies are suitable for transmission. Friendly transmissions which are already in place on the air are detected, allowing the operator to tune into an existing radio network. If the radio operator wants to set up a new transmission on unused channels, our program recommends a set of radio frequencies even which is broadcast, conforming to some minimal requirements established by the user. The user can scroll through all available broadcasting recommendations and select one of these recommended frequencies to which to broadcast. Once the new broadcast is set up, other friendly radio operators can identify and tune to this same set of frequencies.

The algorithm used to generate broadcasting recommendations was coded expressly from the Android user interface. Raytheon can easily reuse the algorithm's code, allowing for future development of new Android dependent versions.



Raytheon



Team Raytheon

Team Member	Role
John Doe	Team Lead
Jane Smith	Software Engineer
Mike Johnson	Hardware Engineer
Alice Brown	Systems Engineer
Bob White	Project Manager
Charlie Black	Quality Assurance
Diana Green	Documentation
Frank Blue	Marketing
Grace Yellow	Finance
Henry Purple	Operations
Ivy Pink	Human Resources
Jack Orange	Legal
Jill Red	Public Relations
John Brown	IT Support
Jane Green	Facilities
Mike Blue	Security
Alice Yellow	Compliance
Bob Purple	Training
Charlie Pink	Research
Diana Orange	Development
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Bob Orange	Deployment
Charlie Red	Support

The Capstone Experience

Team Sparrow

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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



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Team Sparrow

Project Overview

iSupport Center

- Medical Informatics at Sparrow
 - 400+ Applications and Systems
 - Patient Medical Information
 - Schedules (Doctors, Patients, Operating Rooms)
 - Etc.
 - Delivery Critical (Matter of Life and Death)
 - Accurately, Timely, and Securely
 - Anytime and Anywhere
- iSupport Center
 - Manage IT Systems and Services
 - Improve Reliability and Response Time
 - Features
 - Catalogue
 - Maintain Licensing and Updates
 - Report, Assign, Track, and Resolve Problems
 - Etc.
- Technologies
 - Microsoft .NET
 - Microsoft SharePoint
 - Microsoft SQL Server
 - Symantec Altris Management Suites
 - Under Construction



Sparrow

The Capstone Experience



A group photo of four team members standing in front of a whiteboard. From left to right: a man in a light blue striped shirt, a woman in a purple shirt, a man in a black suit, and a man in a blue button-down shirt. The whiteboard behind them contains handwritten notes and drawings, including a cat, an Android robot, and diagrams labeled 'Step 2' and 'Step 3'.

Brett
McMillen

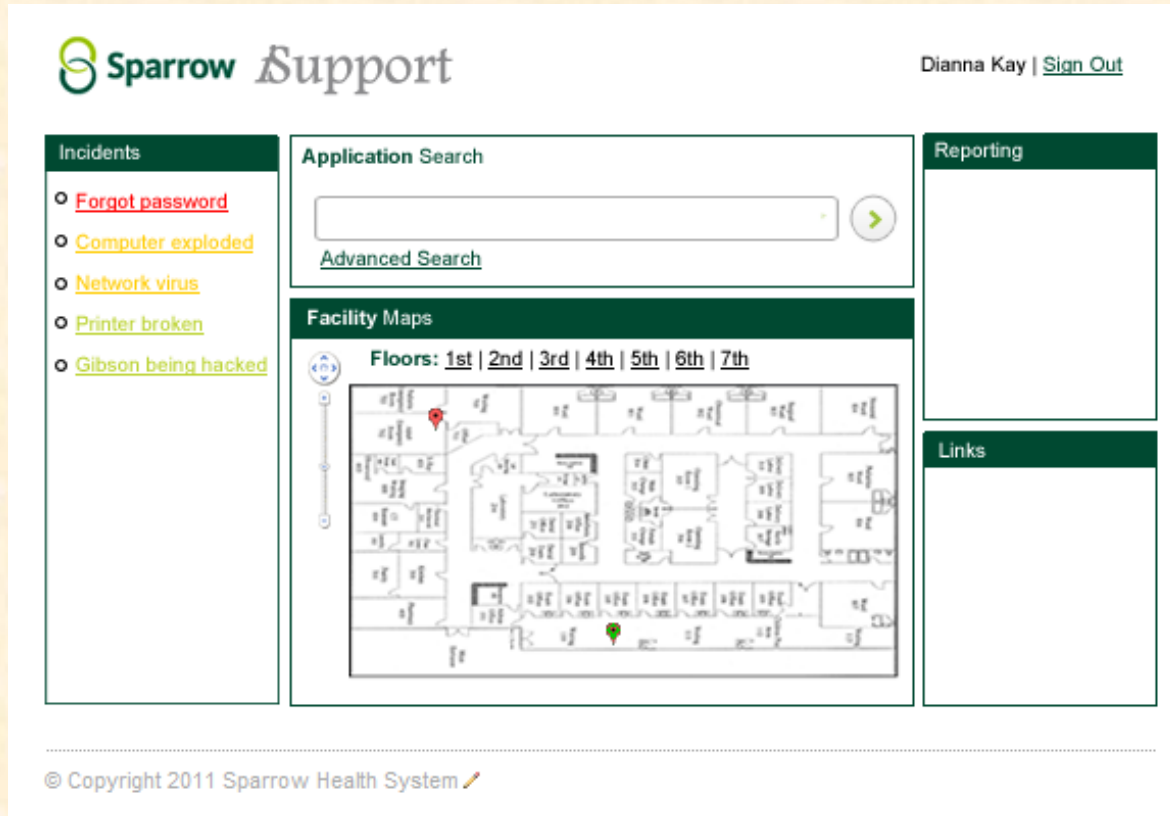
Dianna
Kay

Maurice
Wong

Ryan
Hewitt

Team Sparrow
Team Photo

Team Sparrow Screen Mockup



Functional Specifications

- Application Search
 - Problem
 - Information overload
 - Solution
 - Simple user interface
 - jQuery auto complete
 - Extended search
 - Alternate search suggestions

The Capstone Experience

Team Sparrow Project Plan

Team Sparrow
Project Plan Presentation

Team Sparrow Screen Mockup



Dianna Kay | [Sign Out](#)

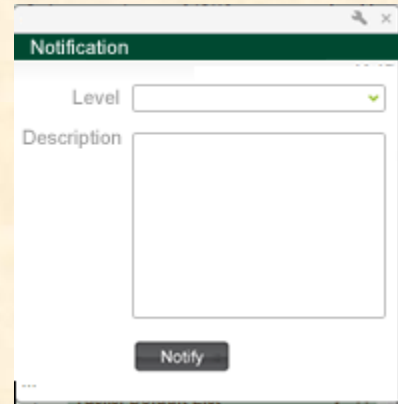
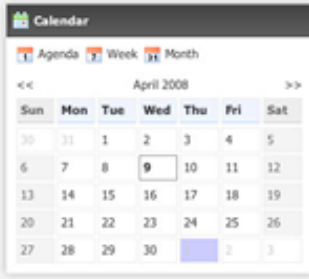
Microsoft Office

Original author(s) Microsoft
Developer(s) Microsoft
Initial release 2010
Stable release 2010 (14.0.5128.5000) / October 26, 2010; 2 months ago
Written in C++
Operating system Microsoft Windows
Available in Over 35 languages
Type Office suite
License Proprietary
Website office.microsoft.com

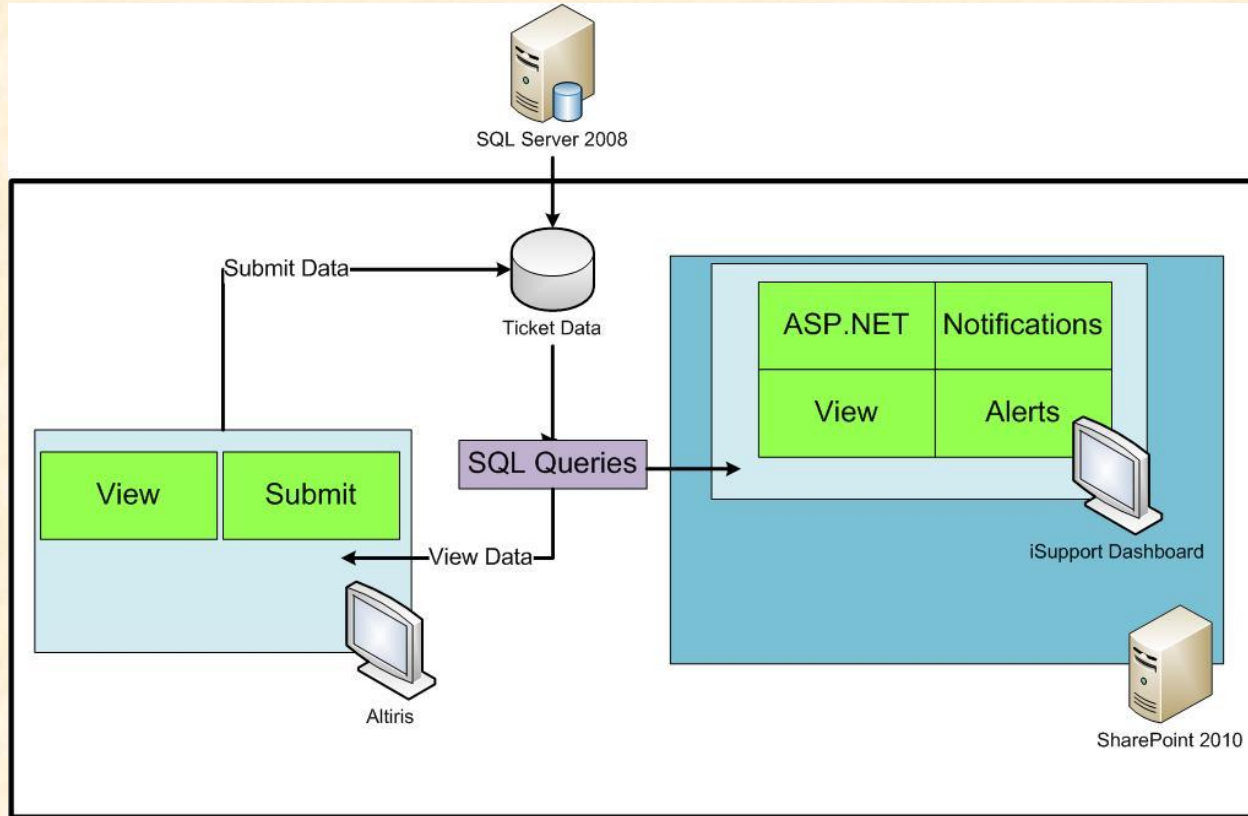


Oncall: Matt Smith
Until: 10:00pm

Notify



Team Sparrow Architecture Diagram




Team Sparrow Project Plan Presentation

Team Sparrow Alpha Presentation

iSupport Dashboard

iSupport Center

Welcome CAPSTONEMSU\sparrow

 iSupport Center

Search this site...

Home

Site Actions

iSupport Center > iSupport-Dashboard

iSupport Dashboard

Development site for iSupport

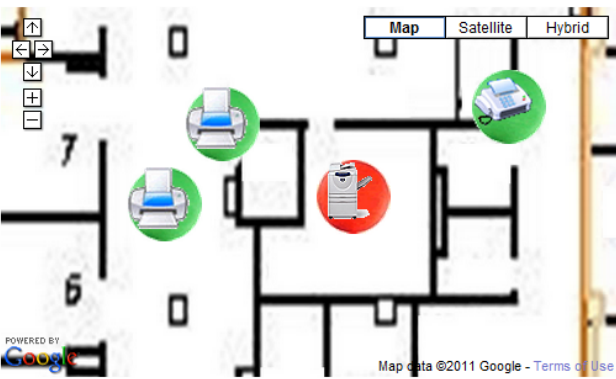
Incidents

Donnys says the backup generators are failing and we are losing power to the hospital!
The SPARROWdata.net system is infected with wormblaster32 trojan
The phone is down on the terrace floor, fix it asap
Help with putting Windows XP sp3 on my dekstop workstation computer.
Help me with my password, this machine is broken. Computers are so confusing!
Need two extra sticks of PC3-5200 8-8-8-4 timed ram!

Application Search

Facility Map

Floors: Search (by ipAddress):



Map Satellite Hybrid

Map data ©2011 Google - Terms of Use

Calendar

February 2011						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	1	2	3	4	5
6	7	8	9	10	11	12

View Calendar

Help Desk Reports

Number of Tickets/Level Reported

Level 1: 3
Level 2: 23
Level 3: 4

Time Since...

Last Ticket: 0 days 11 hours 7 minutes and 1
Last Level 1 Ticket: 0 days 11 hours 9 minutes and 12



Team Sparrow Alpha Presentation

Team Sparrow Alpha Presentation

Incident List

iSupport Dashboard

Development site for iSupport

Incidents

Donnys says the backup generators are failing and we are losing power to the hospital!

The SPARROWdata.net system is infected with wormblaster32 trojan

The phone is down on the terrace floor, fix it asap

Help with putting Windows XP sp3 on my dekstop workstation computer.

Help me with my password, this machine is broken. Computers are so confusing!

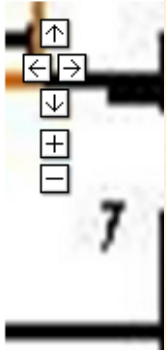
Need two extra sticks of PC3-5200 8-8-8-4 timed ram!

Application S

Ne

Network

Internet



Calendar

editIncidents

iSupport Center

Welcome System Account

iSupport Center

Search this site...

Home

Site Actions

iSupport Center > editIncidents

Incident Information

Development site for iSupport

Incident

ID: 1337

Source: unicenter

Category: Break-Fix

Assigned To Worker ID: 1337

Created By Worker ID: 1337

Modified By Worker ID: 1337

Created On: 2/20/2011 11:34:12 AM

Minutes Spent: 1

Action: Edit

Title: Donnys says the backup generators are failing and we are losing power to the hospital!

Comment: Terribly important, need to be addressed immediately. People need our services!

Owned By Worker ID: 1337

Impact Lookup ID: 100

[View Ticket Log](#)

Team Sparrow Alpha Presentation

On-Call Calendar

Calendar

< February 2011 >

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	1	2	3	4	5
6	7	8	9	10	11	12

[View Calendar](#)

Help Desk Reports

Number of Tickets/Level Reported

New Actions Settings View: Calendar

February, 2011 Expand All Collapse All Day Week Month

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	31	1	2	3	4	5
6	7	8	9	10	11	12 7:00 PM CAPSTONEMSU\danni
13	14	15	16	17	18	19
20 8:00 PM Maurice B. Wong	21	22	23 7:00 PM Maurice B. Wong	24	25	26 7:00 PM CAPSTONEMSU\ryan
27	28	1	2	3	4	5 8:00 PM CAPSTONEMSU\ryan



Team Sparrow Alpha Presentation

Team Sparrow Beta Presentation

iSupport Dashboard

[Home](#)

Search this site...?

My Incidents

[55556] | The SPAROWdata.net system is infected with wormblaster32 trojan

[60000] | Ebola virus escaped our quarantine facilities, head for evacuation chambers.

[56123] | The phone is down on the terrace floor, fix it asap

[87087] | Breakout of the flu, need all personnel machine desanitized on floors 3 and 4.

[95959] | Zone31100bldg3fIPFS-EC2000/CA: This is just a test to see how long i can ...

[Previous](#) | [Next](#) ->
View Group Members' Incidents
Last Updated: Sun Apr 3 21:24:34 PDT 2011

Links

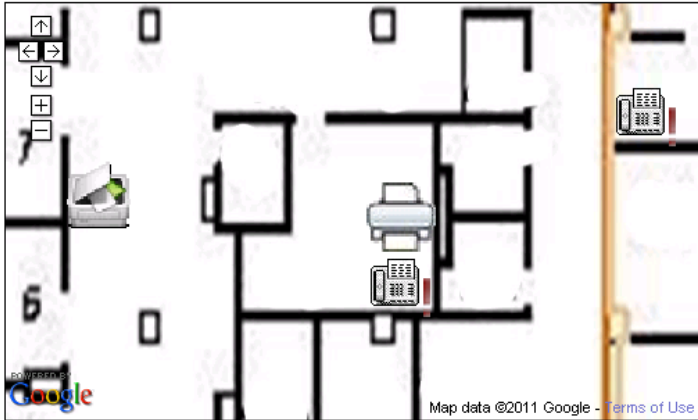
- [FAQ's Page](#)
- [Reports](#)

Application Locator

Search: ?

Facility Map

Floors: Cardio Wing Search: ?



Map data ©2011 Google - [Terms of Use](#)

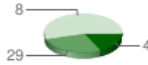
On-Call Calendar

April, 2011

S	M	T	W	T	F	S
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Help Desk Reports

Number of Tickets Today



Level	Count
Level 1	4
Level 2	29
Level 3	8



Team Sparrow Beta Presentation

Team Sparrow Beta Presentation

My Incidents

[55556] | The SPARROWdata.net system is infected with wormblaster32 trojan

[60000] | Ebola virus escaped our quarantine facilities, head for evacuation chambers.

[56123] | The phone is down on the terrace floor, fix it asap

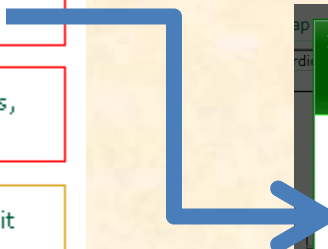
[87087] | Breakout of the flu, need all personnel machine desanitized on floors 3 and 4.

[95959] | Zone31100bldg3fIPFS-EC2000/CA: This is just a test to see how long i can ...

[Previous](#) | [Next](#) ->

View Group Members' Incidents

Last Updated: Sun Apr 3 21:24:34 PDT 2011



Incident

Page

Edit Expanded Incidents

Created On:	2/20/2011 8:41:13 AM
Title:	The SPARROWdata.net system is infected with wormblaster32 trojan
Comment:	Get ready for the FBI forensics data recovery specialists to come over and check out the issue
Impact Level:	1
Assigned To Worker ID:	Brett T. McMillen
Created By Worker ID:	Brett T. McMillen
Modified By Worker ID:	Brett T. McMillen
ID:	55556
Source:	altiris
Category:	Break-Fix
Minutes Spent:	1
Action:	Edit

[View Ticket Log](#)

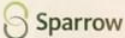


Team Sparrow Beta Presentation



Sparrow Health System iSupport Center

There are few places in the world where you can get a better understanding of the Sparrow Health System's support services. Sparrow is a premier health care provider, serving the people of Michigan's growing healthcare community. Sparrow is a premier health care provider, serving the people of Michigan's growing healthcare community. Sparrow is a premier health care provider, serving the people of Michigan's growing healthcare community.



Team Sparrow
Design Day

MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Team TechSmith

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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



TechSmith®

TechSmith

Language:

English

Deutsch

Français

한국어

日本語

SEARCH

Products

Downloads

Support

Community

Company

Purchase

TechSmith

Snagit

Jing

Camtasia Studio

Camtasia for Mac

Camtasia Relay

Screencast.com

Morae

Snagit

Jing

Camtasia Studio

Camtasia:mac

Camtasia Relay

Screencast.com

Morae



We create recording, communication, presentation, usability and conduct market research.

For over 20 years, we've helped people communicate visually and look great doing it.

Online Store

Volume Discounts

Education Pricing

Gov/Non-Profit Pricing

Contact Sales

Resellers

Free Resources



[Training](#) - Work smarter, faster with our free online tutorials in the Learning Center.

Free Trials

[Snagit](#)

[Jing](#)

Learning & Support

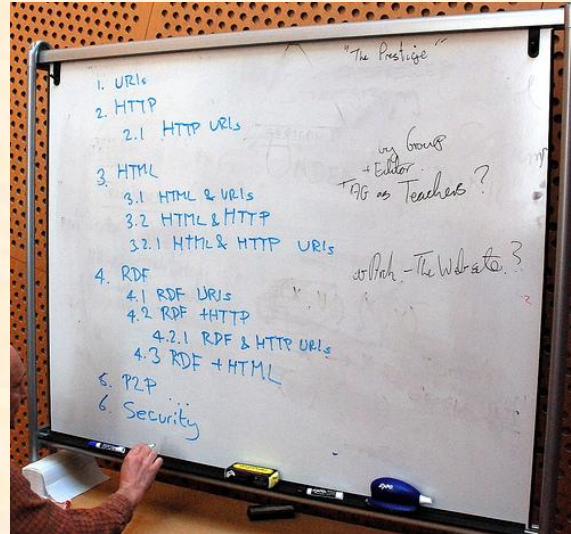
[Tutorials](#)

[Documentation](#)

Team TechSmith Project Overview

WhiteCaps: Mobile Whiteboard Capture Solution

- TechSmith Screen Capture Solutions
 - Jing
 - Snagit
 - Camtasia
- Whiteboard Capture Solution
 - Capture, Annotate and Share
 - Via Mobile Phone and the Cloud
- Features
 - User Accounts
 - Upload, Share, Annotate, and View
 - Contextual Metadata
 - Location, Date, and Time
 - QR (Quick Response) Codes
 - Content History and Notifications
 - Photo Deskewing and Stitching
- Technologies
 - Apple iOS iPhone SDK, C, Objective-C
 - Google Android SDK, Java
 - Microsoft .NET, C#, WPF
 - Microsoft Azure Cloud Computing and Web Services



A group photo of four people standing in front of a large screen displaying the TechSmith logo. From left to right: a man in a light green shirt, a man in a dark red shirt and tie, a woman in a dark patterned top, and a man in a dark blue shirt. The background is a light-colored wall with a large window.

Dillon
Walls

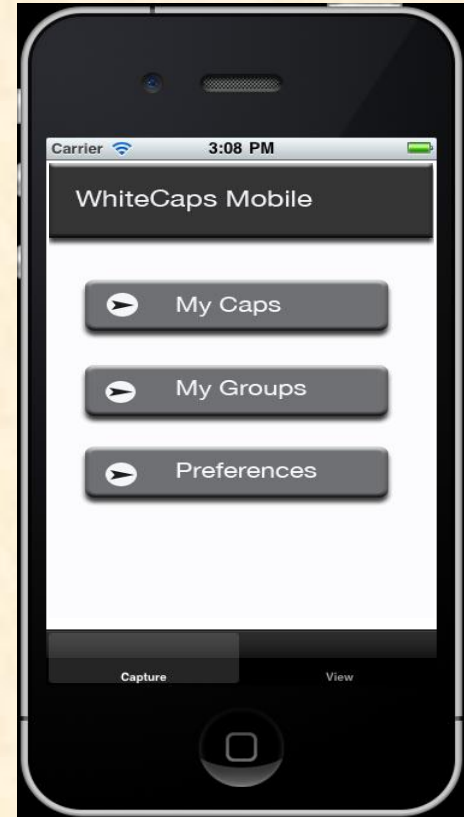
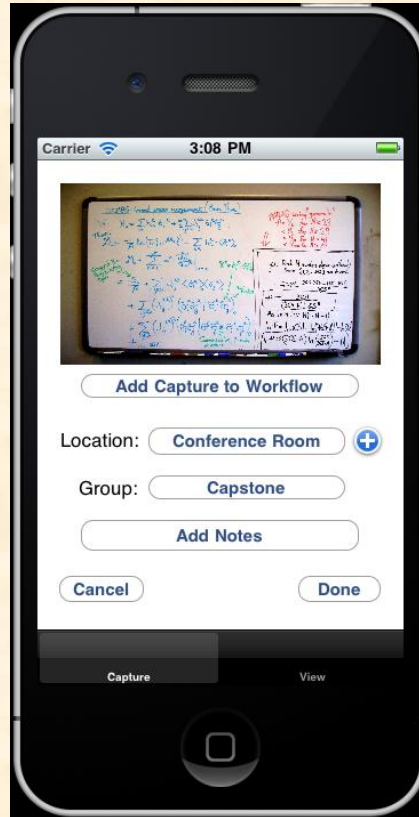
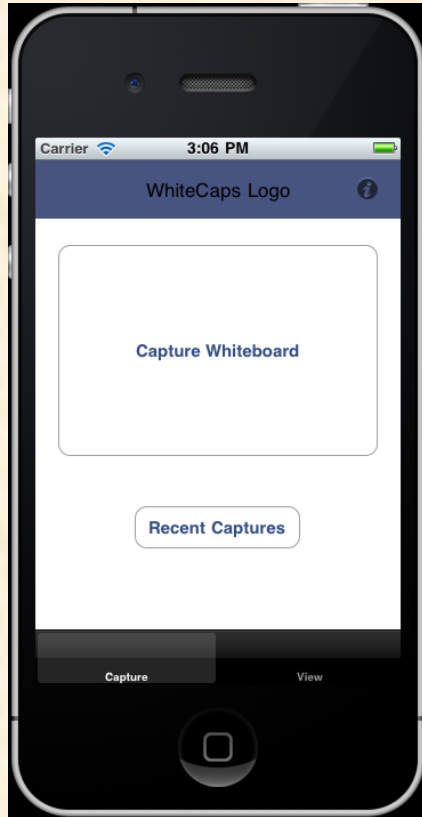
Rob
Allie

Cassi
Miller

Matt
Dobson

Team TechSmith
Team Photo

Team TechSmith Screen Mockups

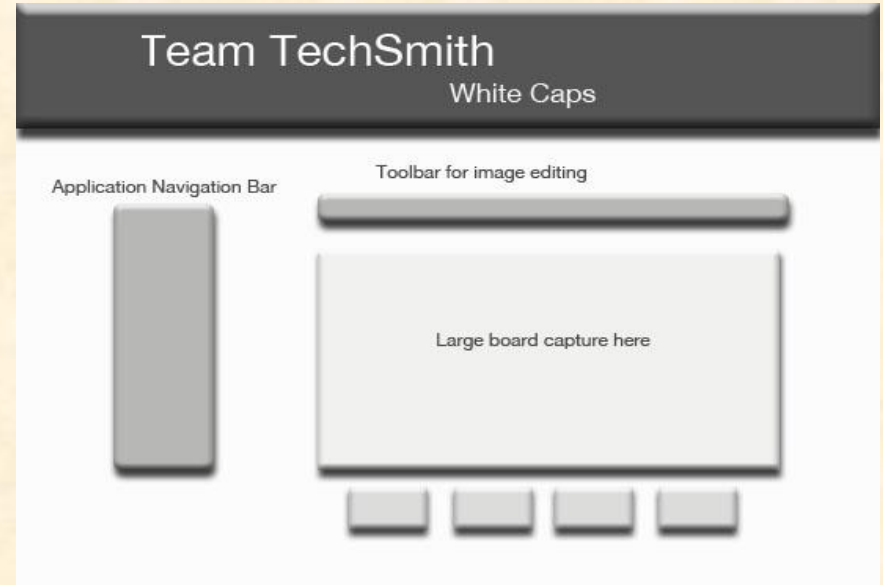
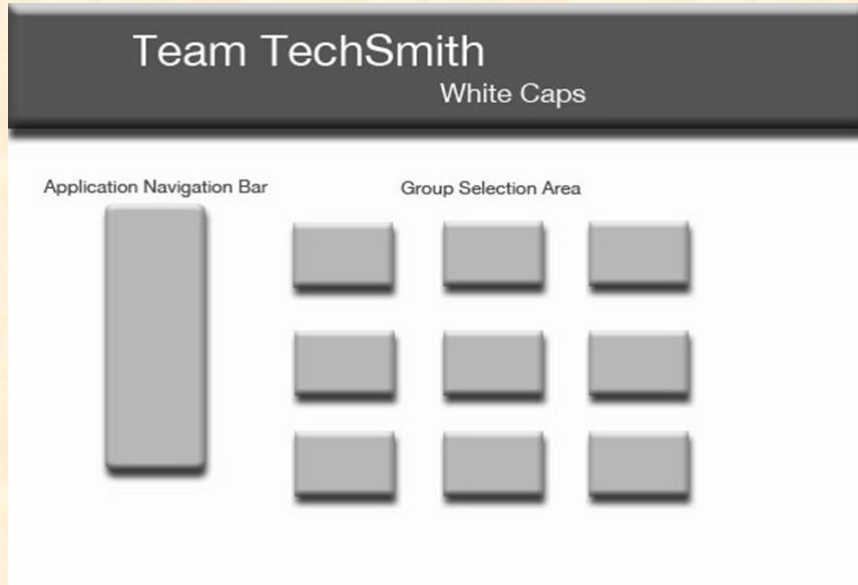


Screen Mockups

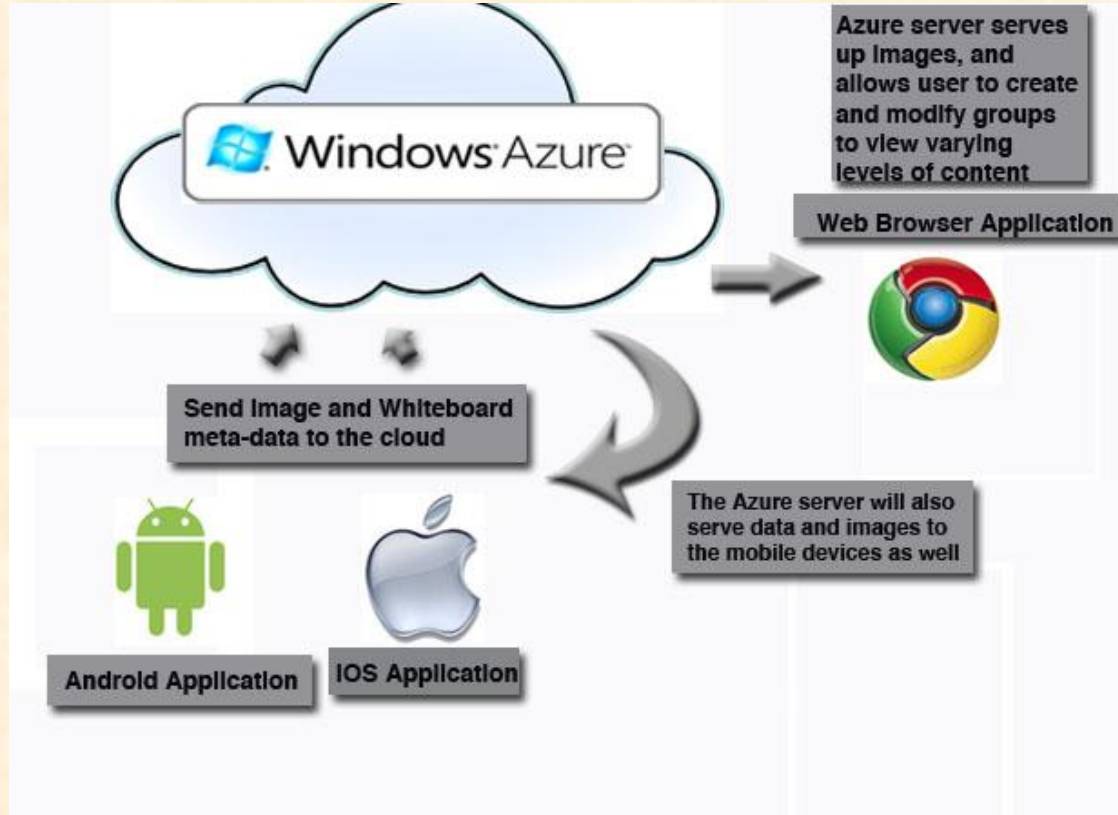


Team TechSmith
Project Plan Presentation

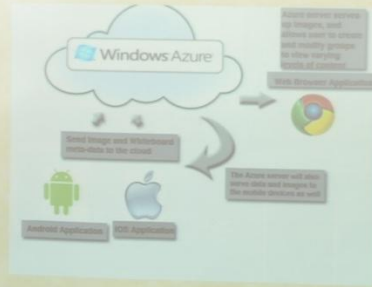
Team TechSmith Screen Mockups



Team TechSmith Architecture Diagram



System Architecture



The Customer Experience

Team TechSmith Project Plan

Team TechSmith
Project Plan Presentation

Project Overview

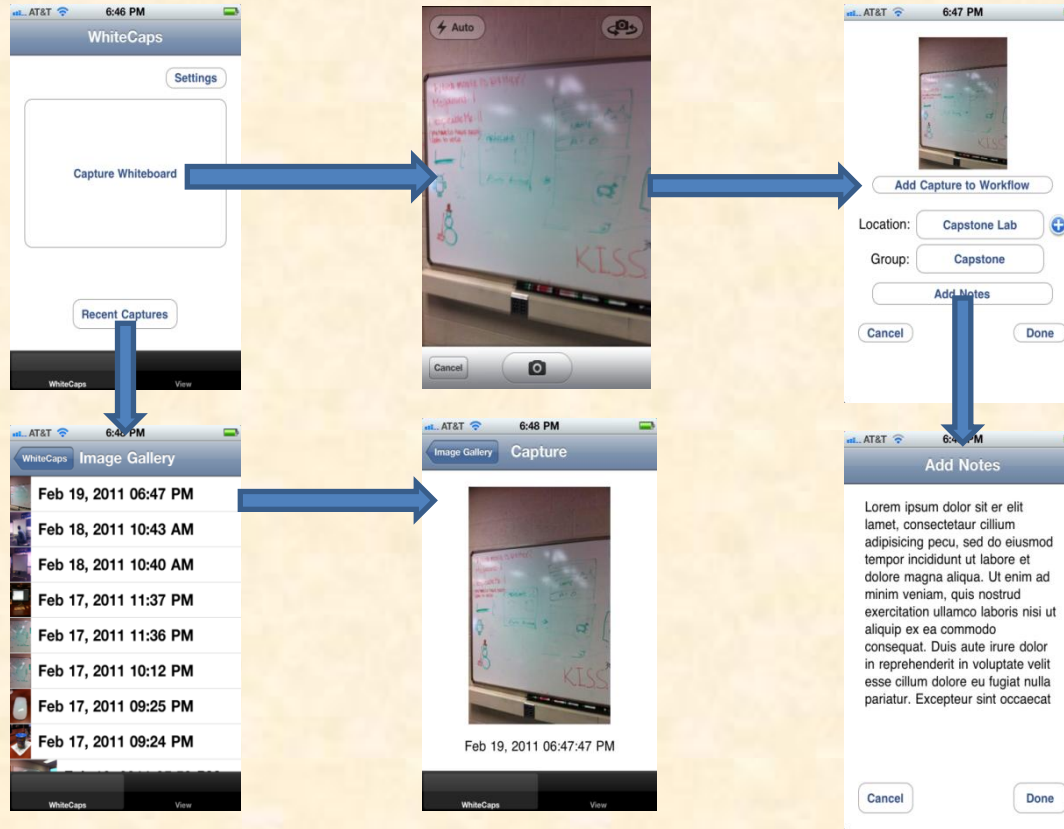
- WhiteCaps
- Mobile devices that capture whiteboards and other information
- Cloud to hold whiteboard images and metadata
- Web client to manage user profiles and whiteboard captures across the cloud

© TechSmith Experience

Team TechSmith
Alpha Presentation

Team TechSmith Alpha Presentation

WhiteCaps Use Case





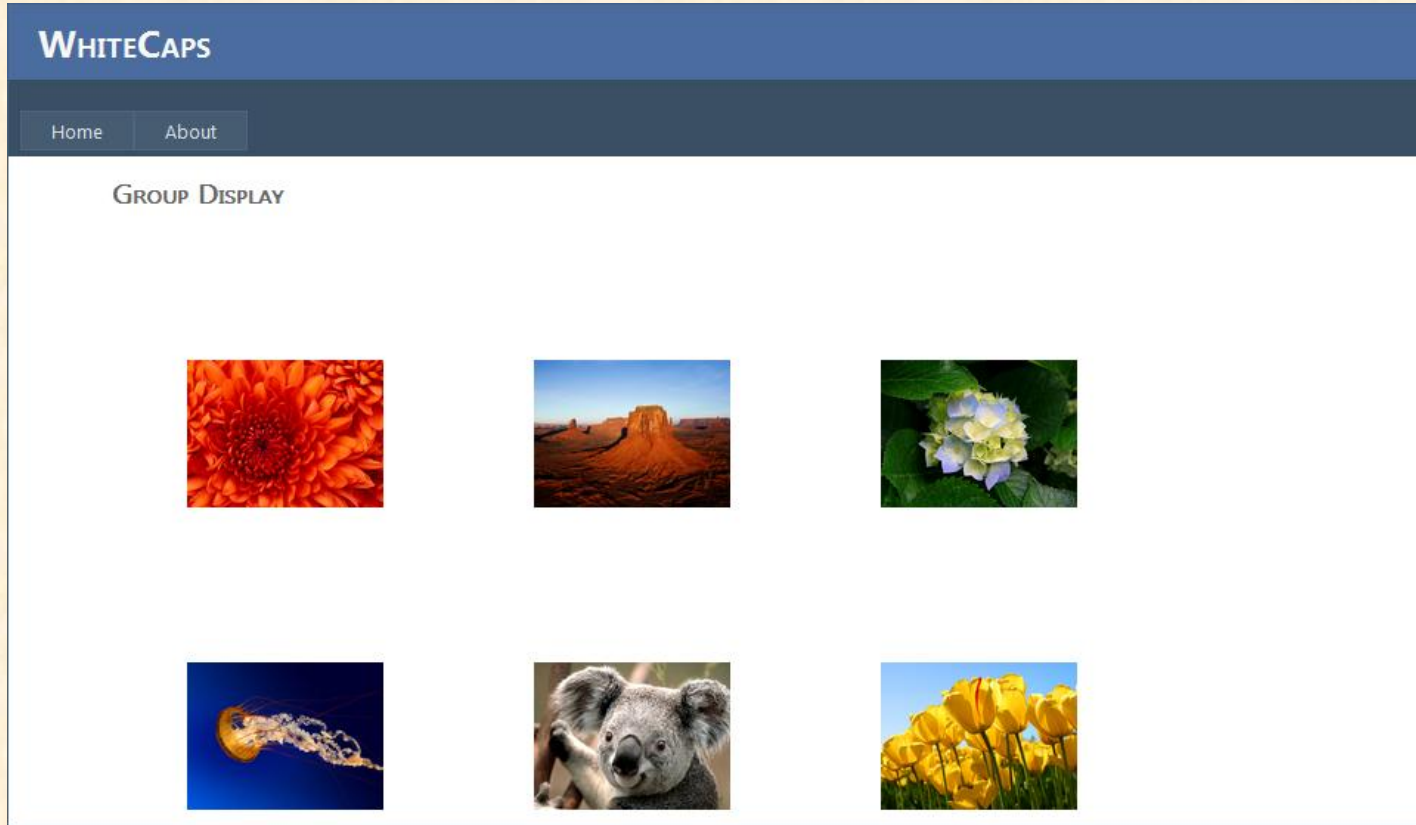
Team TechSmith
Alpha Presentation



Team TechSmith Alpha Presentation

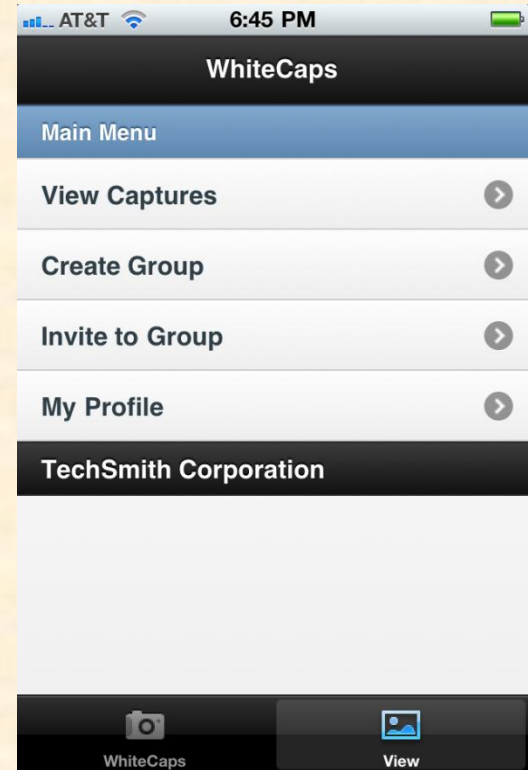
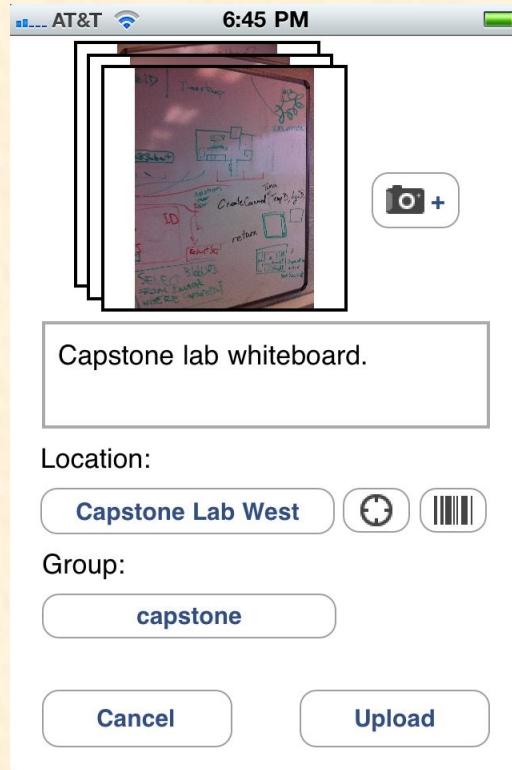
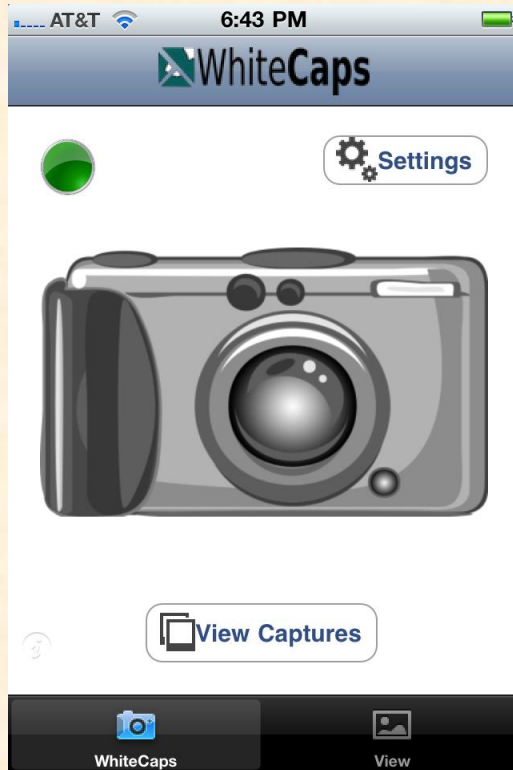
Team TechSmith Alpha Presentation

Browse Single Group



Team TechSmith Beta Presentation

iPhone App





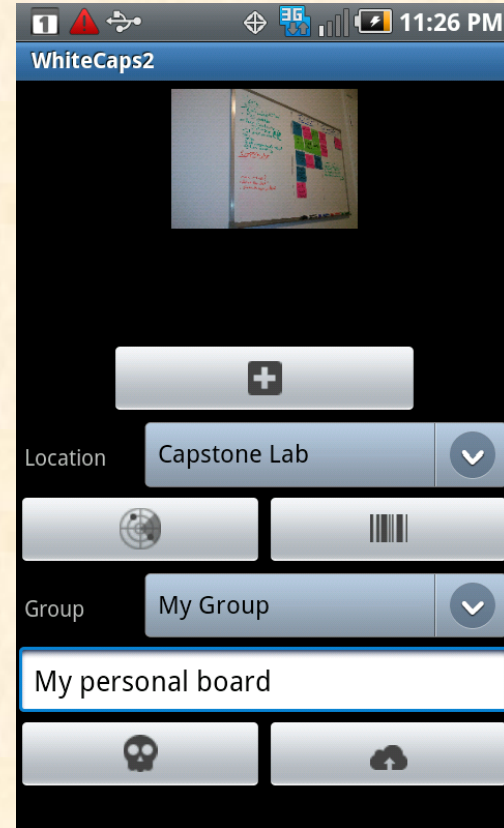
Team TechSmith Beta Presentation



Team TechSmith Beta Presentation

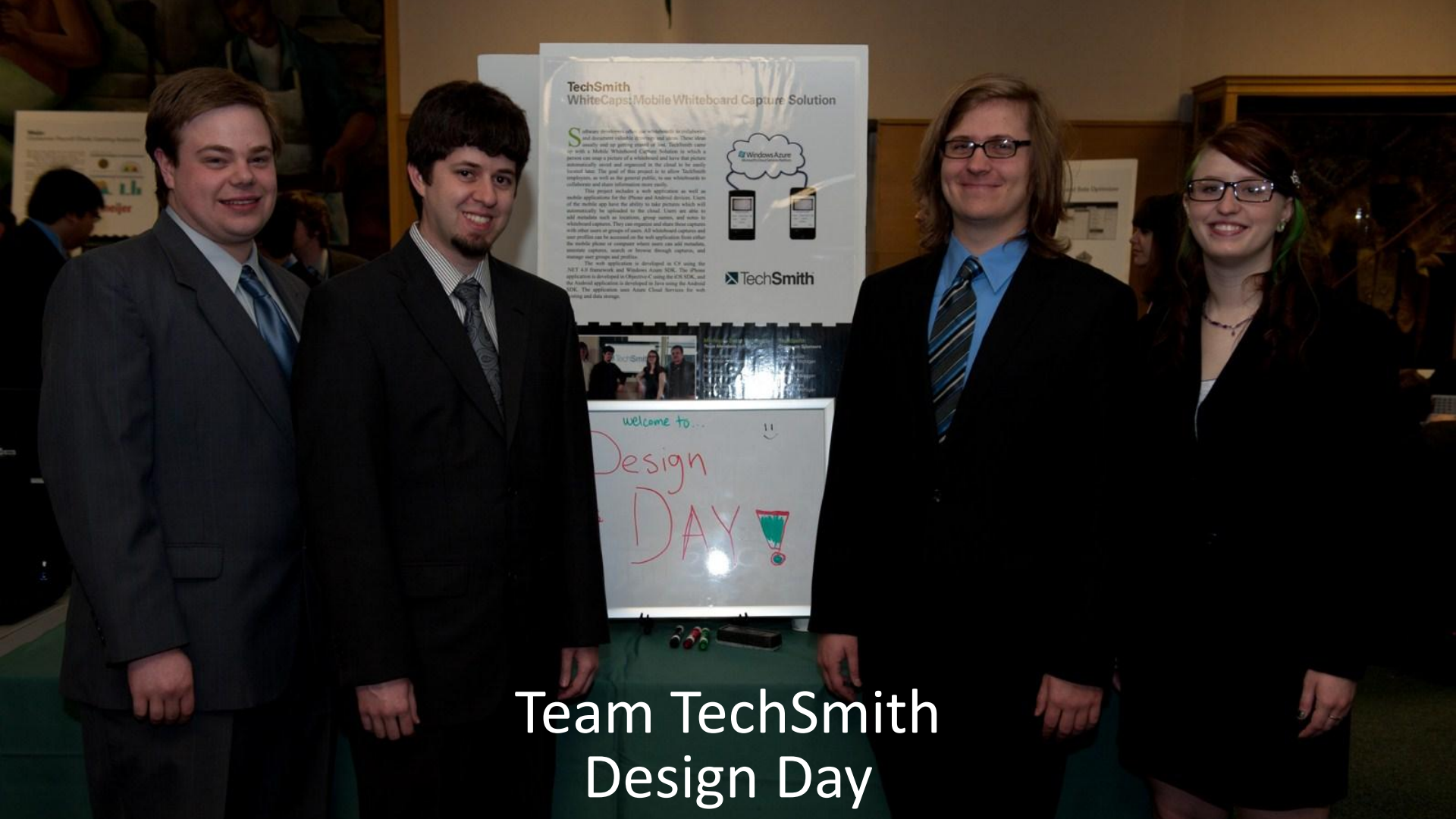
Team TechSmith Beta Presentation

Android App





Team TechSmith Beta Presentation



TechSmith WhiteCap Mobile Whiteboard Capture Solution

Software developers often use whiteboards to collaborate and document valuable insights and ideas. These ideas usually don't get captured or lost. TechSmith came up with a Mobile Whiteboard Capture Solution in which a person can snap a picture of a whiteboard and have that picture automatically saved and organized in the cloud to be easily located later. The goal of this project is to allow TechSmith employees, as well as the general public, to use whiteboards to collaborate and share information more easily.

This project includes a web application as well as mobile applications for the iPhone and Android devices. Users of the mobile apps have the ability to take pictures which will automatically be uploaded to the cloud. Users are able to add metadata such as locations, group names, and notes to whiteboard captures. They can request and share their captures with other users or groups of users. All whiteboard captures and user profiles can be accessed on the web application from either the mobile phone or computer where users can add metadata, monitor captures, search or browse through captures, and manage user groups and profiles.

The web application is developed in C# using the .NET 4.5 Framework and Windows Azure SQL. The iPhone application is developed in Objective-C using the iOS SDK, and the Android application is developed in Java using the Android SDK. The application uses Azure Cloud Services for web hosting and data storage.



TechSmith



Team TechSmith Design Day

The Capstone Experience

Team Urban Science

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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



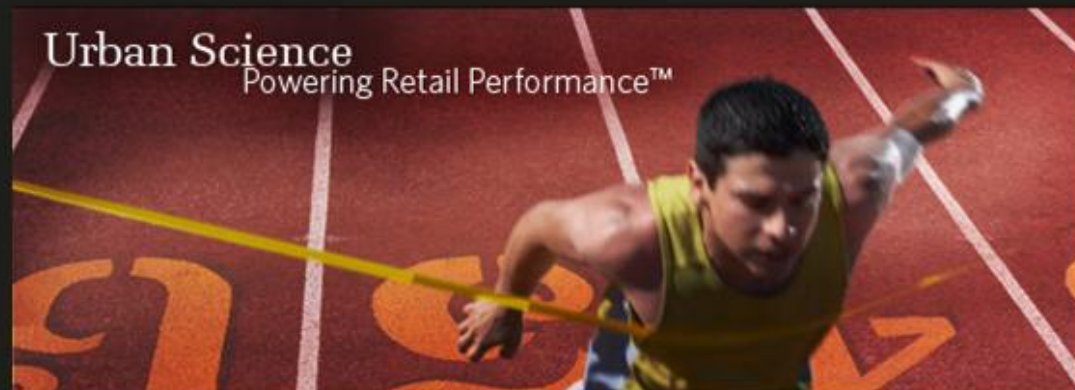
URBAN SCIENCE™



URBAN SCIENCE

[SOLUTIONS](#)[RESULTS](#)[NEWS & EVENTS](#)[ABOUT US](#)[CAREERS](#)

Search



To achieve extraordinary results, you need to look beyond the obvious. Urban Science can help.

At Urban Science we live and breathe the simple concept that [successful retail operations](#) are all about location, performance and satisfied customers. To bring this idea to life, we create and analyze market and consumer data like no one else.

Using a unique combination of analytics, proprietary software and [experience](#), we help our automotive and retail clients plan effectively, define and measure performance, and develop sales and marketing programs that deliver results.

[Solutions](#)[Results](#)

Latest News:

Urban Science tells 1to1 Weekly that orphaned customers can be a real opportunity... [Read more...](#)

Urban Science data featured in USA Today [Read more...](#)

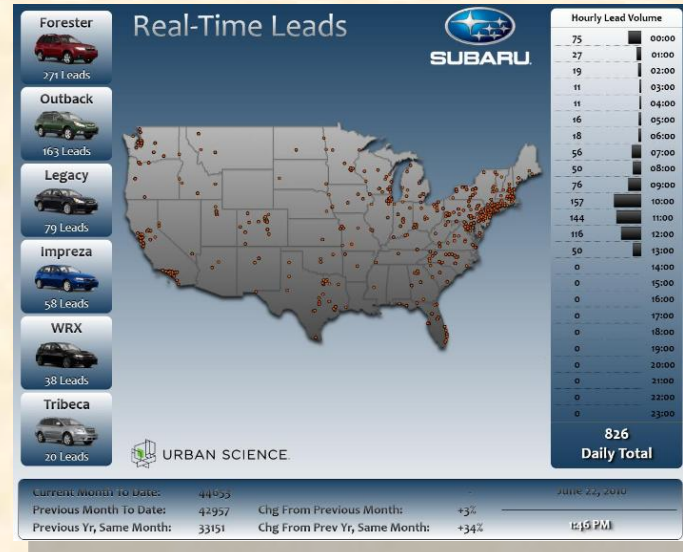
Contact Us

1.800.321.6900 [EMAIL](#)

Team TechSmith Project Overview

Bringing LeadVision to the Web

- LeadTV
 - Visualization of Automotive Sales Leads
 - “TV” Model
 - Client-Based Application
 - Displayed on Dedicated Monitor
 - Little or No Interaction
- Web LeadTV
 - Browser-Based
 - Enhanced Capabilities and Usability
- Features
 - Customize Leads Visualized
 - By Brands and/or Models
 - By Top 5
 - Etc.
 - Zoom and Pan
 - Time Shifting
 - Etc.
- Technologies
 - Web Application Programming
 - Java and/or Silverlight
 - SQL Databases



URBAN SCIENCE

The Capstone Experience

A group photo of four students standing in front of a whiteboard. The whiteboard contains handwritten diagrams and code snippets. On the left, a diagram shows a box labeled 'stations' with a wavy line below it. In the center, there is a graph with a dashed line labeled 'threshold' and a solid line labeled 'C(t)'. On the right, there is a UML class diagram with two classes: 'PlatformSection' and 'Marker'. 'PlatformSection' has a method 'hit: Boolean'. 'Marker' has a method 'type: int'. There is an inheritance arrow from 'PlatformSection' to 'Marker'. Above the 'Marker' class, there is a note: 'y: float, z: float, getCubeX, getCubeY, getCubeZ'.

Will
Cousins

Meredith
Schmidt

Paul
Virag

Justin
Catchens

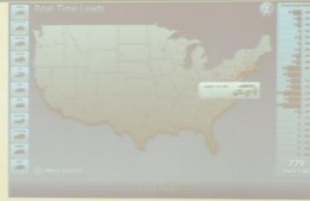
Team Urban Science
Team Photo

Team Urban Science Screen Mockup



Project Overview

- Creating an interactive version of LeadVision
- Audience: customers walking into a dealership/corporate office
- “Lead” – request sent by customer
- No user input needed
- Daily lead data shown

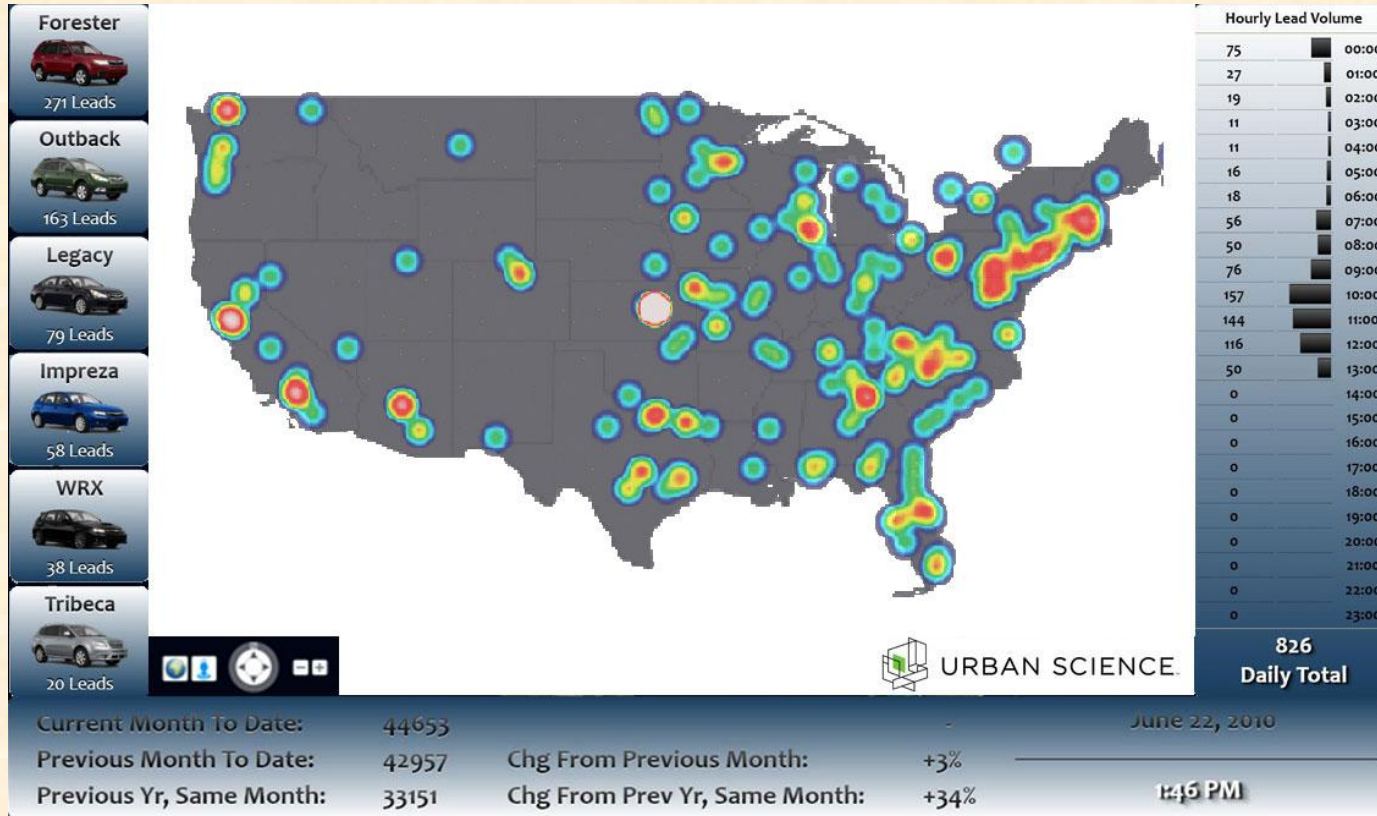


The Customer Experience

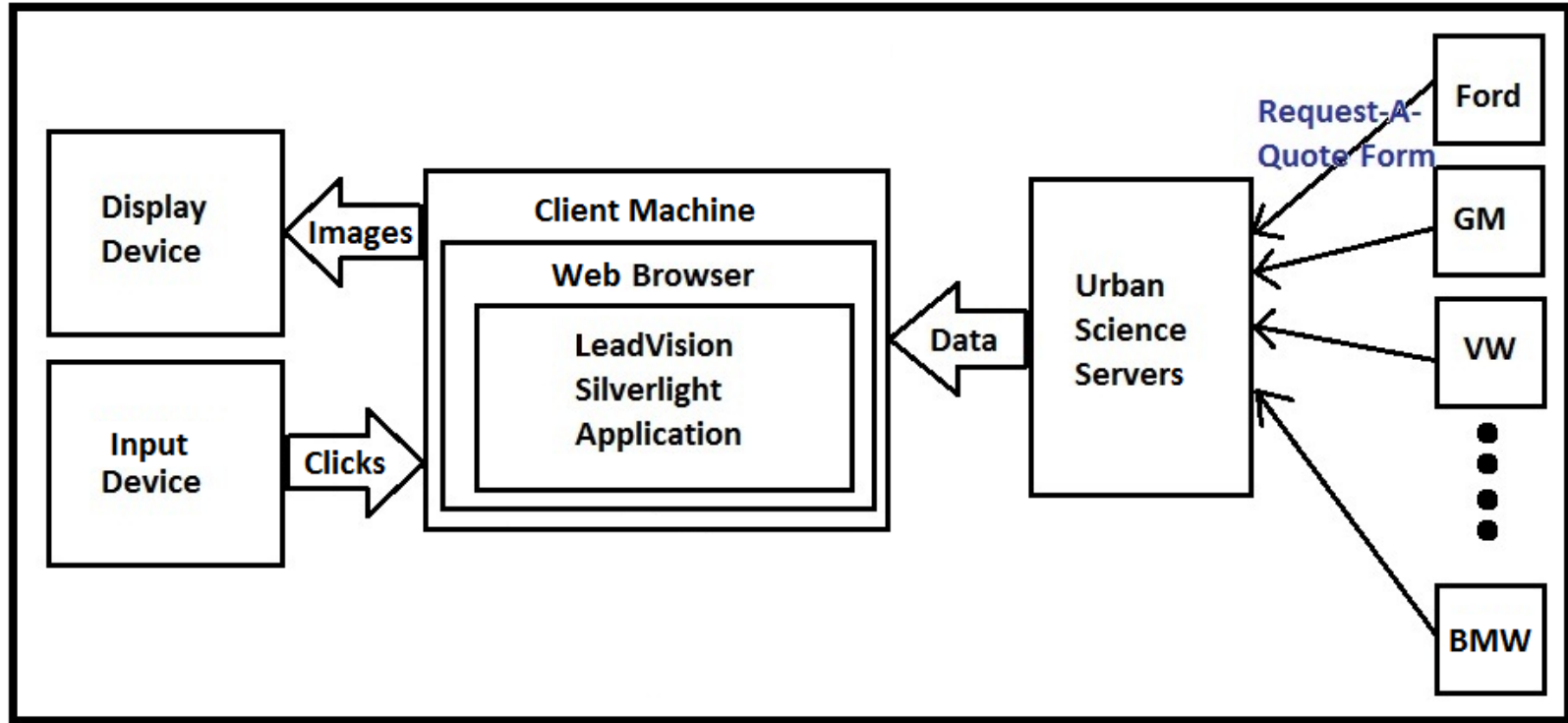
Team Urban Science Project Plan

Team Urban Science
Project Plan Presentation

Team Urban Science Screen Mockup



Team Urban Science Architecture Diagram



Risks

- Geographical Data
 - How do we get it? How can we make use of it?
 - Panning and zooming
- Learning Silverlight
 - Displaying map/showing data
- Ticker
 - What kinds of statistics/how to store & load them
- Flexibility/Testing
 - Making it work on different browsers

Team Urban Science
Project Plan Presentation

Team Urban Science Alpha Presentation

Car Buttons and Ticker



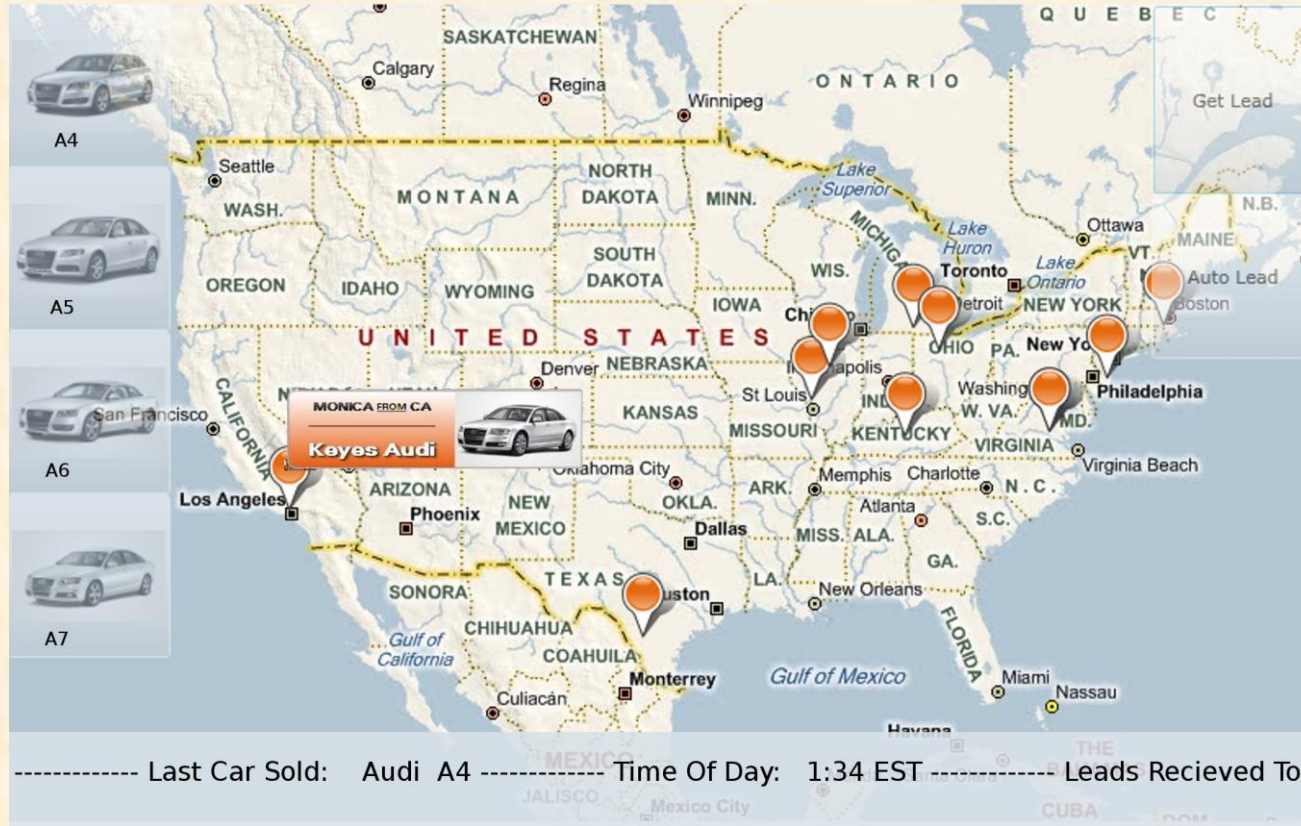
Map With Borders And Zoom In Feature



Team Urban Science
Alpha Presentation

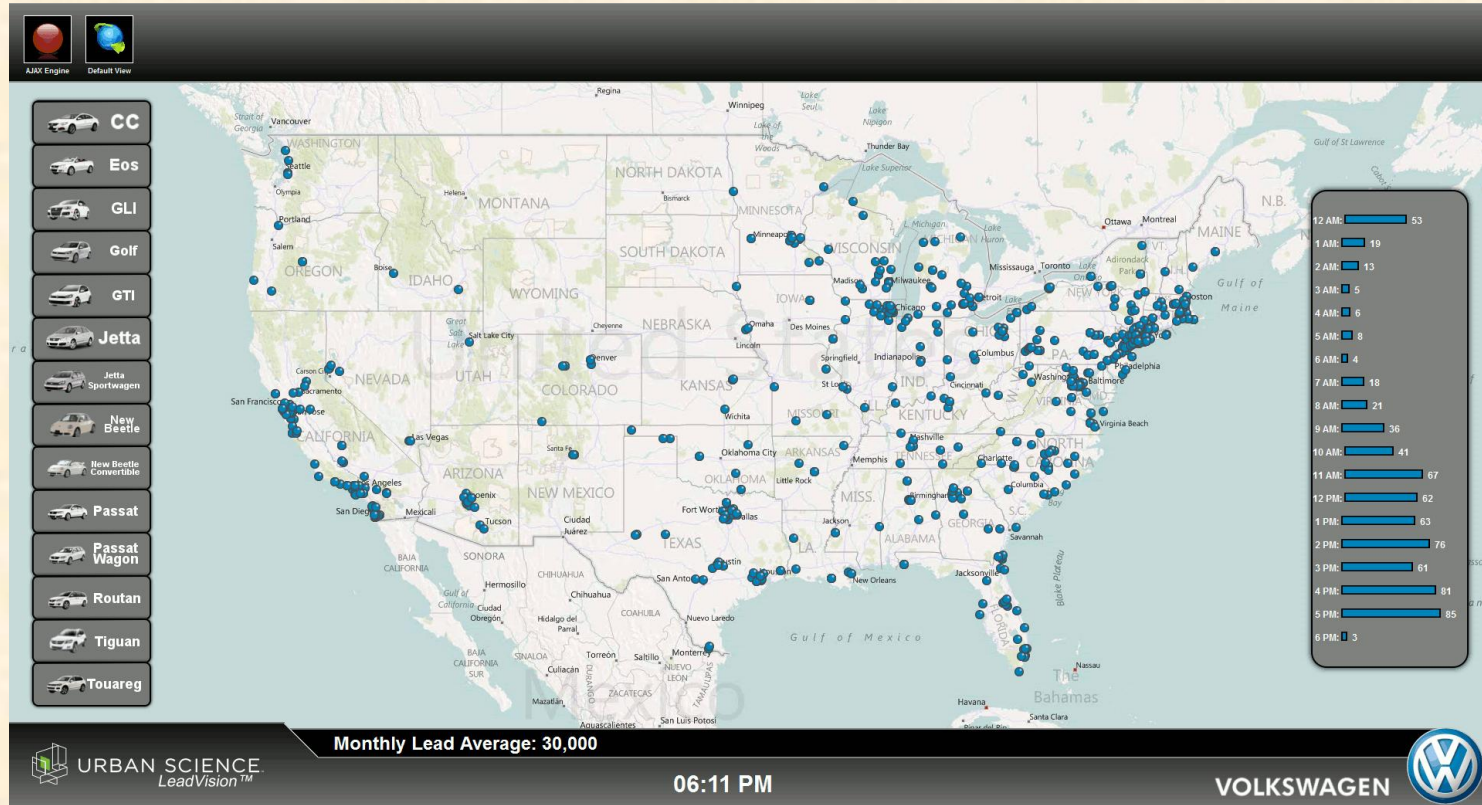
Team Urban Science Alpha Presentation

Audi Lead in L.A.



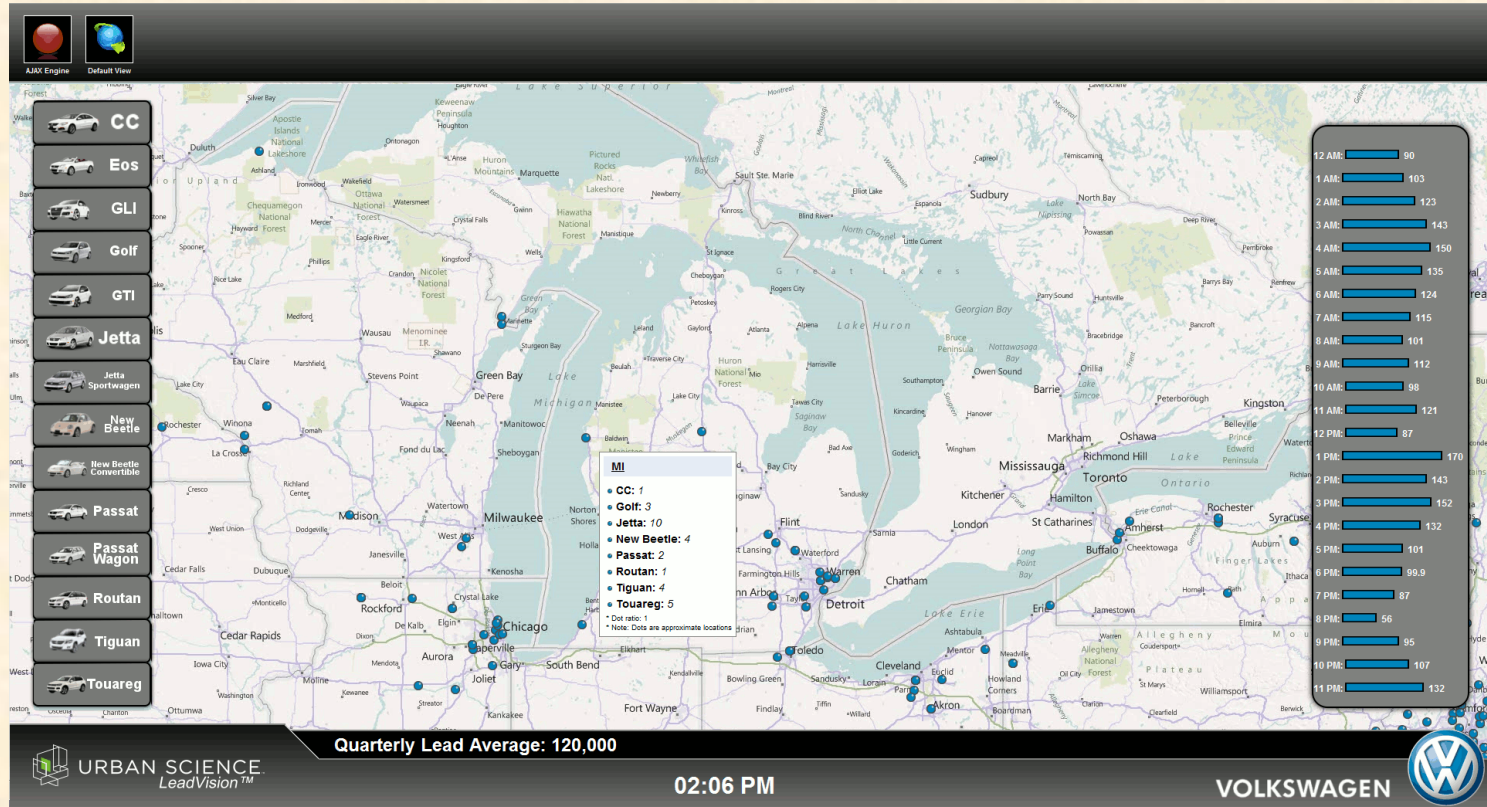
Team Urban Science Beta Presentation

LeadVision Default View

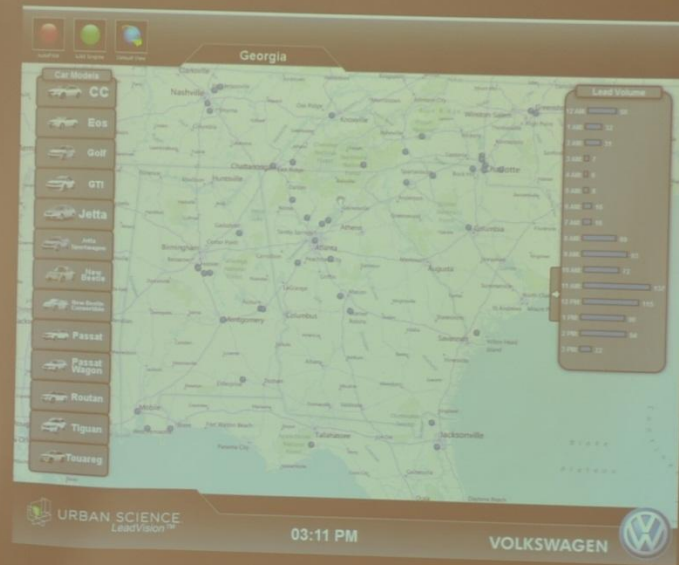


Team Urban Science Beta Presentation

LeadVision Mouse-Over



The Capstone Experience



Team Urban Science
Beta Presentation



Team Urban Science
Design Day

MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Dr. Wayne Dyksen

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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



Capstone Lab
View of Spartan Stadium



Capstone Lab
View of Spartan Stadium

MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Design Day Award Winners

April 30, 2010



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



Auto-Owners Exhibition Award

Team GE Aviation, Spring 2010

[Flight Deck Lateral Map Display](#)

Jason Ridgon, Jordan Clare, Cory Sites, Adam Dupler

Presented by Ron Simon of [Auto-Owners Insurance](#)





Chrysler Praxis Award

Team Boeing, Spring 2010

[XML Texture Composition](#)

Jeremiah Cunningham, Jessica Parks, Marc Coleman, Jonathan Harris

Presented by Rick Rose of [Chrysler](#)



TechSmith Screencast Award

Team Medtronic, Spring 2010

[Mobile Health Management System](#)

Michael Keesey, Kevin Chen, Karthik Chokkaram, Meghan McNeil

Presented by Dean Craven of [TechSmith](#)



Urban Science Sigma Award

Team Motorola, Spring 2010

[Mobile User Generated Video Service](#)

Kurt Seippel, Robert Gaul, Jonathan Szynkowski, Brandon Malicoat

Presented by Mark Colosimo and Randy Berlin of [Urban Science](#)

MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Design Day Award Winners

December 10, 2010



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



Auto-Owners Exhibition Award

Team Meijer, Fall 2010

[ITS Products and Services Request System](#)

Matt Packowski, Austin McCarty, Andrew Thielking

Presented by Scott Lake and Bob Buchanan of [Auto-Owners Insurance](#)



Chrysler Praxis Award

Team Motorola, Fall 2010

[Enhanced Program Guide for Mobile Devices](#)

Andrew Rossow, Drew Hanlon, Tim Aubel, Brian Cripe

Presented by Karen Wrobel of [Chrysler](#)



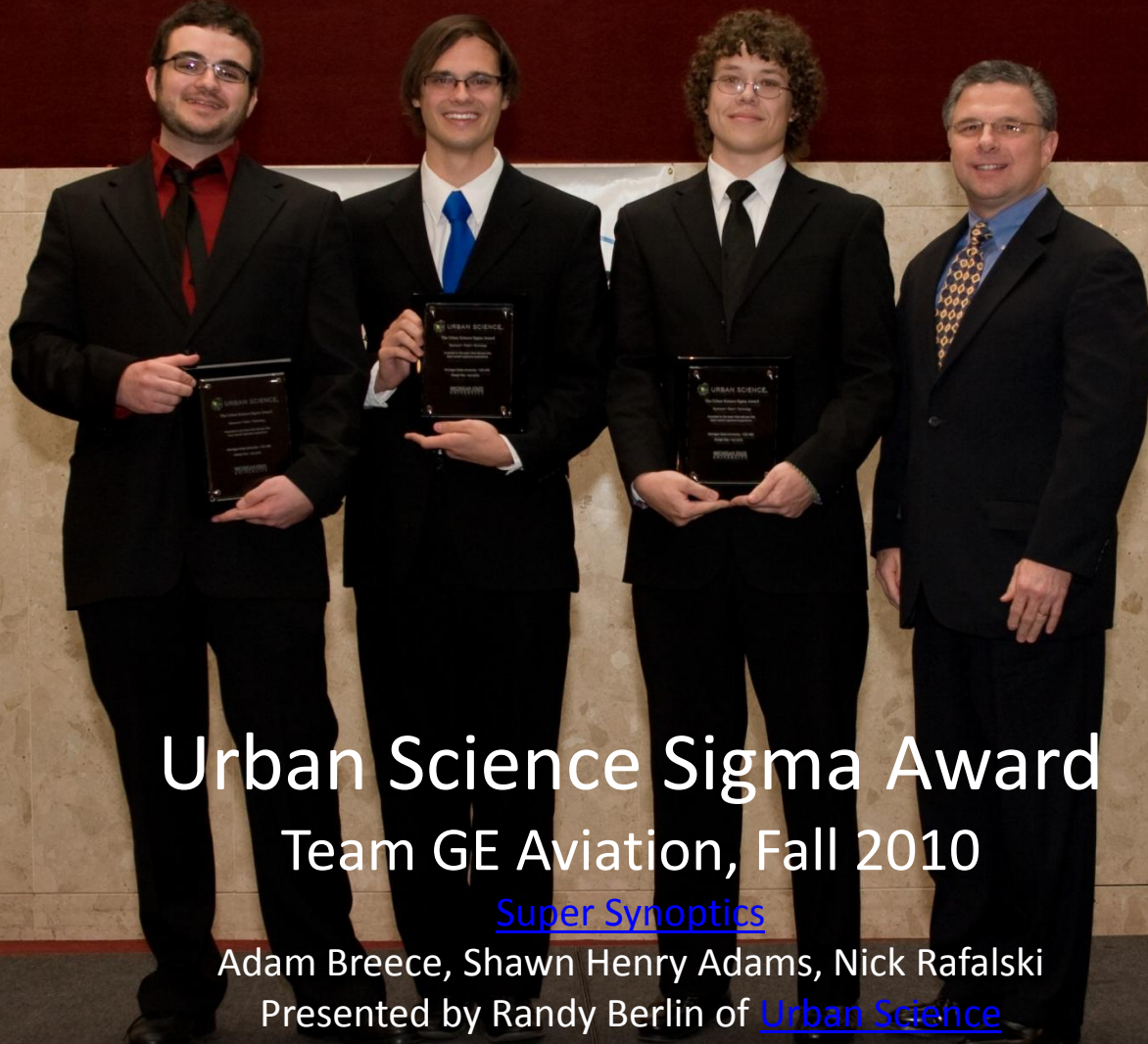
TechSmith Screencast Award

Team Medtronic, Fall 2010

[Medtronic Wellness Portal](#)

Zach Riggle, Joe Heldt, Chris Van Wiemeersch, Vu Bui

Presented by Dean Craven of [TechSmith](#)



Urban Science Sigma Award

Team GE Aviation, Fall 2010

[Super Synoptics](#)

Adam Breece, Shawn Henry Adams, Nick Rafalski

Presented by Randy Berlin of [Urban Science](#)

MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Design Day Award Winners

April 29, 2011



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



The image shows four men in a professional setting. Two are standing in the back row, and two are seated in the front row. Behind them is a whiteboard with several hand-drawn diagrams. The diagrams include a 'Platform' box with 'sections: list', a 'Game Unit' box with 'owner: int', 'x: float', 'y: float', 'z: float', and 'dist: float', and an 'Environment' box. There are also boxes for 'Aircraft' (with 'heading: float', 'pitch: float', 'speed: float', 'fuel: float'), 'Marker' (with 'type: int'), and 'Weather' (with 'type: int'). A 'Receiver' box is at the bottom. Arrows indicate relationships between these components.

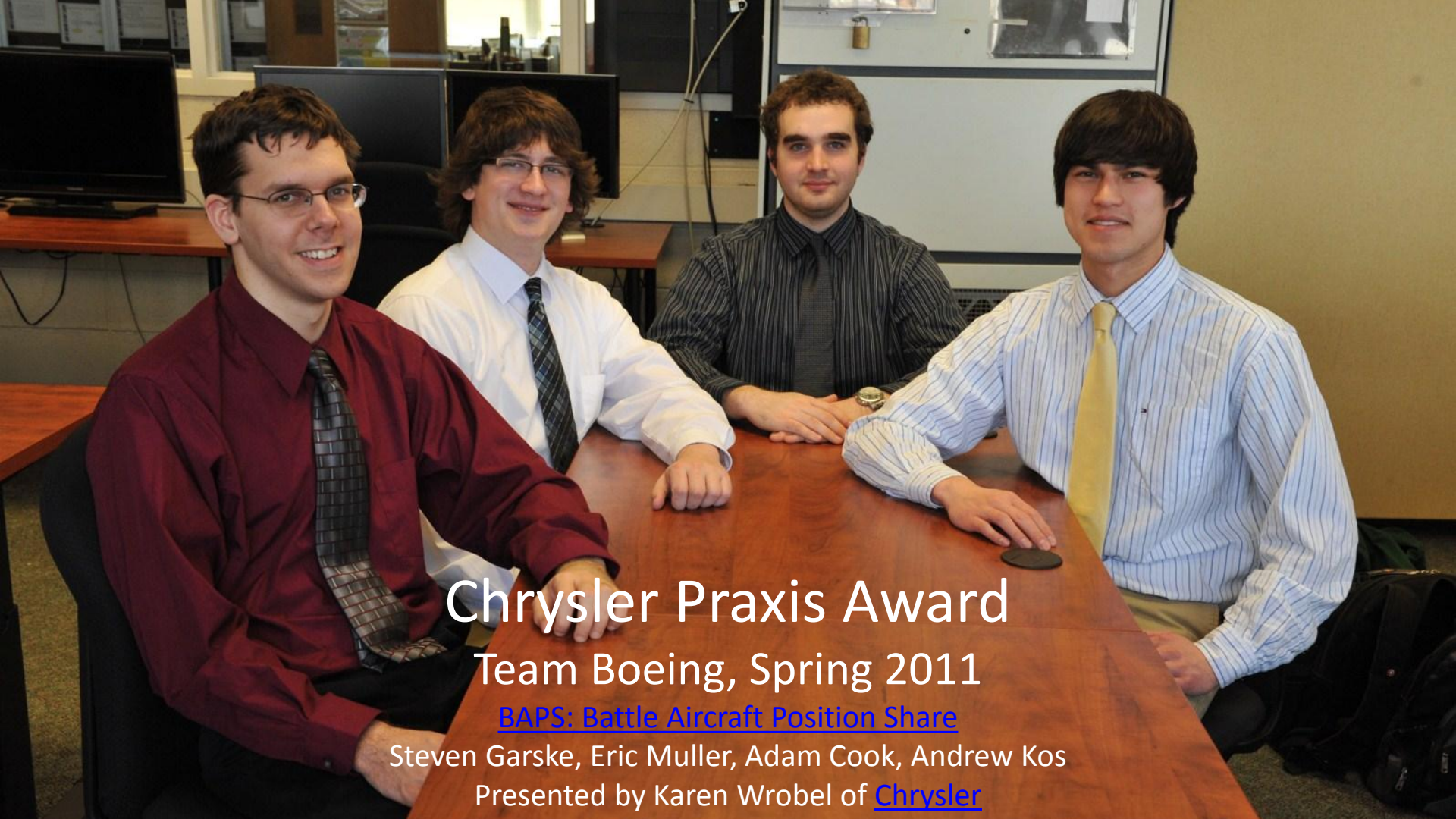
Auto-Owners Exhibition Award

Raytheon, Spring 2011

[Dynamic Spectrum Access for Network Radios](#)

James Voss, William Bonner, Matt Bowser, Srinivasa Settaluri

Presented by Scott Lake and Bob Buchanan of [Auto-Owners Insurance](#)



Chrysler Praxis Award

Team Boeing, Spring 2011

[BAPS: Battle Aircraft Position Share](#)

Steven Garske, Eric Muller, Adam Cook, Andrew Kos

Presented by Karen Wrobel of [Chrysler](#)

A group of four people (three men and one woman) are smiling in an office. A woman in a red sweater stands on the left. Two men are seated at a desk with two computer monitors; one man is in a grey shirt and tie, and the other is in a maroon shirt and tie. A third man in a striped shirt stands behind the seated man in the grey shirt. The background shows a window with a view of a city.


TechSmith Screencast Award

Team Medtronic, Spring 2011

[Cloud-Based Athletics Operations Center](#)

Caitlin Russ, Evan Francis, Michael Holp, Christopher Paterson

Presented by Dean Craven of [TechSmith](#)

A photograph of four young adults standing in front of a whiteboard. From left to right: a man in a light blue striped shirt, a woman in a maroon shirt, a man in a black suit, and a man in a blue button-down shirt. The whiteboard behind them contains handwritten notes and drawings. On the left is a drawing of a cat with 'z' for sleep. In the center, there are diagrams with labels like 'App Settings', 'Step 2', 'Contributions Vehicles', 'Step 3', 'Bundle Suggestions (IE even time)', 'Kevin', 'May do this on his own', 'Initial panel', and 'R2'. On the right is a large drawing of the Android robot head.

Urban Science Sigma Award

Team Sparrow, Spring 2011

[iSupport Center](#)

Brett McMillen, Dianna Kay, Maurice Wong, Ryan Hewitt

Presented by Randy Berlin of [Urban Science](#)

MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Dr. Wayne Dyksen

Department of Computer Science and Engineering
Michigan State University
Spring 2011



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

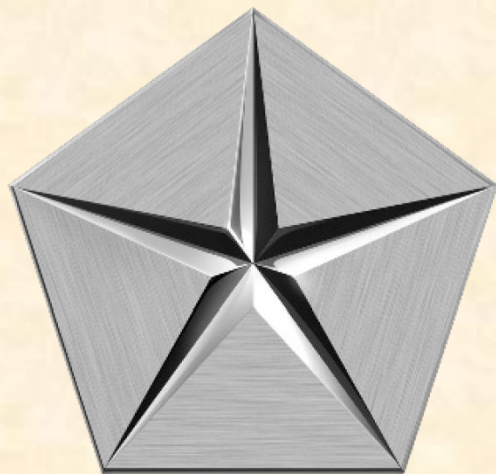


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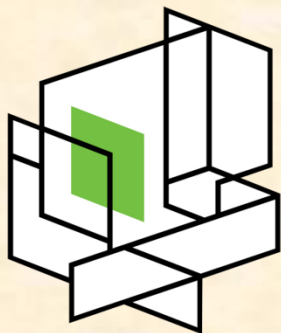
MOTOROLA

Raytheon



Sparrow





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