The Capstone Experience

Dr. Wayne Dyksen
Department of Computer Science and Engineering
Michigan State University
Fall 2012
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, 1145 Engineering Building
• Presentations By
  ▪ Professor
  ▪ Teams
    o Status Reports
    o Formal Presentations
      ➢ Project Plan
      ➢ Alpha
      ➢ Beta
    o Project Videos
  ▪ Guest Speakers
All-Hands Meetings

08/29: Capstone Overview
09/03: (Labor Day, No Meeting)
09/05: Project Plan
09/10: Risks and Prototyping
09/12: Team Status Report Presentations
09/17: Team Project Plan Presentations
09/19: Team Project Plan Presentations
09/24: Team Project Plan Presentations
10/01: Resume Writing and Interviewing
10/03: Career Gallery
10/08: Schedule and Teamwork
10/10: Creating and Giving Presentations
10/15: Team Alpha Presentations
10/17: Team Alpha Presentations
10/22: Team Alpha Presentations
10/24: Team Alpha Presentations
10/29: Design Day and the Project Videos
10/31: Camtasia
11/05: Team Beta Presentations
11/07: Team Beta Presentations
11/12: Team Beta Presentations
11/14: Team Beta Presentations
11/19: Team Status Reports
11/21: Team Status Reports
11/26: Ethics and Professionalism
11/28: Intellectual Property and Copyright
12/03: Project Videos
12/05: Project Videos and All Deliverables
12/06: Design Day Setup
12/07: Design Day
12/11: Project Videos
The Capstone Experience

Team Auto-Owners

Department of Computer Science and Engineering
Michigan State University
Fall 2012
“Highest in customer satisfaction with the Auto Insurance Claims Experience, four years in a row.”

-- J.D. Power and Associates
Team Auto-Owners
Project Overview

Pig “E” Bank

• Functionalities
  ▪ Make Electronic Deposits Into Annuity Accounts
  ▪ By Annuity Policyholder, Family, and Friends
  ▪ Via Web Apps, Both Classic and Mobile
• Features
  ▪ Secure Account Management
  ▪ Deposits Based On Policyholder Name and DOB
    o By Policy Holder and Non-Policy Holders
    o Via Credit Cards, PayPal, and EFTs
  ▪ Special Events Gift Selection
    o Birthday, Graduation, Retirement, Etc.
    o Send Card with Deposit Amount to Annuity Policy Holder
  ▪ Support Various Mobile Devices
  ▪ Print and Email Confirmations for Customers and Agents
  ▪ Display Agent Contact Information
  ▪ Administrative Application for Report Generation
• Technologies
  ▪ Microsoft C#, ASP.NET 4.0
  ▪ Microsoft SQL Server 2012
  ▪ jQuery Mobile
  ▪ Ember.js
  ▪ QUnit
Team Auto-Owners
David Ward, Benjamin Szymczak, Nathan Srico
Screen Mockup: Website Interface
Team Auto-Owners
Project Plan Presentation

Screen Mockups
Team Auto-Owners  
Project Plan Presentation  
Architecture Diagram  

Key:  
- Physical Topology  
- Technology  
- Application  

### Mobile/Desktop  
- Browser  
  - jQuery  
  - Mobile  
  - Ember  

### Application  
- ASP.NET  
- Microsoft SQL Server  
- ADMIN  
- Desktop  

### User  
- Ember
Team Auto-Owners
Project Plan Presentation

Screen Mockups

Deposit Amount
1,000

Choose your gift:
Teddy Bear

Street Name

City

Enter Credit Card Number

Security Code

Expiration Date

Thank you for your order! A confirmation email will be sent to you shortly.
Welcome to Pig 'E' Bank

Please enter info below to find the policy holder you wish to:

Name:
Date of birth:
E-mail:

Continue
Team Auto-Owners
Alpha Presentation

Payment Page
Gift Selection
Pick how much you would like to deposit and select an option:

Deposit Amount:

Choose your gift:
- Teddy bear
- Address
- City

Zip Code:

Payment Type:
Team Auto-Owners

Alpha Presentation

Confirmation Page
Welcome to Pig "E" Bank
Enter the policy holder information below and press continue.

First Name

Last Name

Date of birth

E-mail

Agency Code

Continue
Team Auto-Owners
Beta Presentation

Gift Selection and Confirmation

The Capstone Experience
Team Auto-Owners
Beta Presentation
Administrator Website

Welcome to Pig "E" Bank Admin Site

Search for records by

<table>
<thead>
<tr>
<th>First Name</th>
<th>Last Name</th>
<th>Date of Birth</th>
<th>E-mail</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nathan</td>
<td>Srira</td>
<td>11/16/1989</td>
<td><a href="mailto:srironat@msu.edu">srironat@msu.edu</a></td>
<td>1717</td>
</tr>
<tr>
<td>David</td>
<td>Ward</td>
<td>11/4/1992</td>
<td><a href="mailto:warddavi@msu.edu">warddavi@msu.edu</a></td>
<td>1818</td>
</tr>
<tr>
<td>John</td>
<td>Smith</td>
<td>11/11/1971</td>
<td></td>
<td>2121</td>
</tr>
</tbody>
</table>
Team Auto-Owners Design Day
The Capstone Experience

Team Boeing

Department of Computer Science and Engineering
Michigan State University
Fall 2012
747-8 Intercontinental receives FAA Certification

747-8 Intercontinental on track for delivery in early 2012. More >>
Team Boeing
Project Overview

Design, Fly and Compete Sim Suite, V 2.0

• Functionalities
  - Flight Simulation Product Suite
  - Players Compete on Obstacle Courses
  - Five Modes of Play
  - State-of-the-Art Visualization and Networking
  - Accurate Aerodynamic Physics of Flight

• Features
  - Enhancements of Design, Fly and Compete Simulator
    o DIS (Distributed Interactive Simulation)
    o HLA (High Level Architecture) Networking
    o JSON (JavaScript Object Notation)
  - Web Version of Design, Fly and Compete Simulator
    o Compatible with All Modern Browsers
    o Implemented in HTML5, JavaScript, JSON and WebGL

• Technologies
  - HTML5
  - JavaScript and JSON (JavaScript Object Notation)
  - Blender (3D Modeling)
  - OpenGL and WebGL
  - DIS (Distributed Interactive Simulation) and WebSockets
  - Design, Fly and Compete Simulator, Spring 2012
Team Boeing
Dan Sosnowski, Kevin Liening, Max Ellison, Jake Newsted
Team Boeing
Project Plan Presentation
Screen Mockups
Team Boeing
Project Plan Presentation  Architecture Diagram

Standalone application

Send/Receive DIS and HLA packets

Send/Receive JSON packets

Web application

Back end server*

Send/Receive JSON packets

iPhone/Android Application

* The back end server processes all incoming and outgoing messages using a "publish/subscribe" method.
Team Boeing
Project Plan Presentation

Screen Mockup

Design, Fly, Compete V2.0

Spectate Mode

<table>
<thead>
<tr>
<th>Player Name</th>
<th>Ping</th>
<th>Observers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kevin</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Dan</td>
<td>57</td>
<td>4</td>
</tr>
</tbody>
</table>

Options

Exit

Standalone

Spectate

Player Information

Name: Dan
IP Address: 69.23.17.112
Play Time: 2h 32m 125
Game Time: 03:45
Observers: 4
Rings Remaining: 4
Team Boeing
Alpha Presentation

Using HLA

Sim10.000000
Sim20.000000
Sim29.000000

Temp6.000000
Temp15.000000
Temp25.000000
Team Boeing

Alpha Presentation

DIS Packet Contents
Team Boeing
Beta Presentation
Multiplayer
Team Boeing
Beta Presentation

Web Application
The Capstone Experience

Team Ford

Department of Computer Science and Engineering
Michigan State University
Fall 2012
Technology for you.
MPG for all.

2013 FOCUS
up to 40 MPG hwy*

All-new 2013 ESCAPE
up to 33 MPG hwy*
MyKey Report Card

• Functionalities
  ▪ Existing Ford MyKey® Technology
    o Customized Car Key
    o Controls and Monitors Vehicle Operation
      ➢ Maximum Speed
      ➢ Maximum Audio Volume
      ➢ Etc.
  ▪ MyKey Report Card
    o Evaluation of Driver’s Driving Habits
    o Four Usage Scenarios
    o Real Time Notifications In Case of Emergency

• Features
  ▪ Report Card Templates
  ▪ Methods for Emergency Notifications
  ▪ Set Cadence of Reports
  ▪ Four Usage Scenarios
    o Remote Parental Supervision
    o Monitoring Employee Driving Habits
    o Insurance Company Collaboration
    o Theft Reporting

• Technologies
  ▪ CSS, HTML5, JavaScript, AJAX
  ▪ Android SDK
  ▪ J2EE (Java 2 Platform Enterprise Edition)
  ▪ OpenXC Platform
  ▪ CAN (Controller Area Network) Bus
  ▪ Microsoft SQL Server

Dearborn, Michigan
Team Ford
Kevin Klemmer, Andrew Crouch, Brandon D'Orazio, Alex Conklin
Team Ford
Project Plan Presentation
Team Ford
Project Plan Presentation

Screen Mockup
Team Ford
Project Plan Presentation  Architecture Diagram

CAN

CAN Bus Translator → OpenXC

Android App

Server

SQL Server 2008

HTML

Java

CAN

EMAIL

SMS
Team Ford
Project Plan Presentation

Screen Mockup
Team Ford
Alpha Presentation
Dashboard Main View

Dashboard showing:
- Fuel Level
- RPM
- Speed 28 MPH
- Total Mileage 29
- Fuel Economy 32 MPG
Please login to view trip data.
Team Ford
Alpha Presentation
Team Ford
Beta Presentation
Dashboard Main View

The Capstone Experience
Team Ford
Beta Presentation

Report Card Statistics

MyKey Report Card

Average Speed (Mph) | Average RPMs (x1000) | Average MPG
---|---|---
37.0 | 2.3 | 18.61

Odometer Start: 22471.0, Odometer Finish: 22592.0, Total Mileage: 121.0

Top Speed (Mph) | Fuel Consumed | Top RPM's (x1000)
---|---|---
77.0 | 6.5 | 5.3

Acceleration Graph
Team Ford
Beta Presentation  Real-Time Virtual Dashboard
Team Ford Design Day
The Capstone Experience

Team GE Aviation

Department of Computer Science and Engineering
Michigan State University
Fall 2012
GE Aviation

GE Aviation Web Site

home  our engines  our services  our systems  our company  press center  worldwide

-->

GEnx-Powered Delivery

Congratulations to Boeing on its first delivery of the GEnx-powered 747-8F to Cargolux
Team GE Aviation
Project Overview

Mobile Avionics Satellite Imagery

• Functionalities
  ▪ Display and Manipulate Satellite Imagery
    o Geo-Referenced
    o Ultra-High Resolution
  ▪ Via iPhone and iPad Apps

• Features
  ▪ Intuitive, Easy-to-Use Interface
  ▪ Interactions
    o Translation, Scaling and Rotation
    o Geo-Located Touch Sensitivity
  ▪ Fast and Efficient Image Processing
    o Manipulation Algorithms
    o Data Caching

• Technologies
  ▪ C, Objective-C
  ▪ Apple iOS iPhone/iPad SDK
  ▪ ESRI Geo-Tiff Image Specification
  ▪ Ultra-High-Resolution Image Manipulation
Team GE Aviation
Andy Matteson, Zack Pepin, Mateus Braga
Team GE Aviation
Project Plan Presentation
Team GE Aviation
Project Plan Presentation

Screen Mockup
Team GE Aviation
Project Plan Presentation Architecture Diagram

GeoTIFF image → Image Tiler → iPad
- ESRI GeoTIFF specification
- Image manipulation
- Image tile
- Geo-reference data
- ESRI GeoTIFF specification
- iOS Platform
- GeoTIFF Viewer
Team GE Aviation
Project Plan Presentation

Screen Mockup

iOS Simulator - iPad / iOS 5.1 (98176)

Detroit
New York
San Francisco
Team GE Aviation
Alpha Presentation

Displaying Coordinates
What’s left to do?

- Provide a method for selecting displayed image
- Experiment with increasing performance
- Refine user experience
Team GE Aviation
Beta Presentation

Random Location
Team GE Aviation
Design Day
The Capstone Experience

Team Google

Department of Computer Science and Engineering
Michigan State University
Fall 2012
Google’s mission is to organize the world’s information and make it universally accessible and useful.

Our company has packed a lot into a relatively young life. Since Google was founded in 1998, we’ve grown to serve hundreds of thousands of users and customers around the world.

Founders Larry Page and Sergey Brin met at Stanford University in 1995. By 1996, they had built a search engine (initially called BackRub) that used links to determine the importance of a individual webpages.
Indexing System Mobile Dashboard

- **Functionalities**
  - Existing Indexing System Dashboard
    - Displays State of Google’s Indexing System
    - Used to Identify, Debug and Solve Problems
    - Limited to Desktops and Laptops
  - Indexing System Mobile Dashboard
    - Mobile Version of the Indexing System Dashboard
    - Android-Based, Version ≥ 4.0
    - Both Phones and Tablets

- **Features**
  - Google App Engine Back End
    - Stores Indexing Data
    - Pushes Indexing Data to Mobile Devices
  - Tool to Update Back End Indexing Data
  - Mobile Dashboards
    - Pulls Data from the Back End
    - Displays Indexing System Performance Graphs

- **Technologies**
  - Java
  - Android SDK
  - Google App Engine
  - Google Chart Tools
  - Google Protocol Buffers
Team Google
Mike Platt, Jason Harris, Anthony Talerico, Karthik Balasubramanian
Team Google
Project Plan Presentation
Indexing System Dashboard
Team Google
Project Plan Presentation

Screen Mockups

Mobile Indexing Dashboard

Index 1
Index 2
Index 3
Add Variable

Load View   Save View

Graph

Username
Password
Log in
Mobile Indexing Dashboard

- Select Graph
- Select Begin Date
- Select Begin Time
- Select End Date
- Select End Time
- Graph
Team Google
Alpha Presentation

Mobile Chart
Team Google
Alpha Presentation

Graph Views

(ListViewActivity)

Graph1

Graph2
Team Google
Beta Presentation

Graph Display

Mobile Indexing Dashboard

Zoom In  Zoom Out  LPan  RPan  74663.0 Hrs.
Team Google
Beta Presentation

Graph Menu

Mobile Indexing Dashboard

Highlight Variable
Set Begin
Set End

Zoom In  Zoom Out  LPan  RPan  74663.0 Hrs.
Team Google
Beta Presentation

Highlight Variable

Mobile Indexing Dashboard

Mar 13, 2011
May 13, 2014

74663.0 Hrs.
The Capstone Experience

Team Meijer

Department of Computer Science and Engineering
Michigan State University
Fall 2012
meijer®
Team Meijer
Project Overview

IT ePager System

• Functionalities
  ▪ Page IT Team Members
  ▪ Via Web App
  ▪ To Address Computer System Issues

• Features
  ▪ Intuitive, Easy-to-Use User Interface
    o Role-Based/Password-Protected Access
    o Page Individuals or Groups
    o Create and Edit Paging Groups
  ▪ Broad Paging Support
    o Devices
      ➢ Pagers
      ➢ Smart Phones
    o Service Providers
  ▪ Back End Tools
    o Administrative
    o Reporting

• Technologies
  ▪ C#
  ▪ Microsoft .NET, ASP.NET
  ▪ JavaScript, jQuery, jQuery UI
  ▪ Visual Studio 2010
  ▪ Microsoft SQL Server 2008
Team Meijer
Mike Sanburn, David Oeffner, Mark Schwerzler, Nick Ovenhouse
Team Meijer
Project Plan Presentation
Team Meijer
Project Plan Presentation

Architecture Diagram
Team Meijer
Alpha Presentation

Template
Power Outage - On Generator

Individuals
David
Mark
Mike
Nick

Group
A-Team
Team 1
Team 2

123456 T# 7890123 ST 456789
Running on generator. POS is Offline. Affecting single stores.

Additional Comments:

Send
Home
Team Meijer
Alpha Presentation

Template Creation

The Capstone Experience
### Reporting History

<table>
<thead>
<tr>
<th>Date</th>
<th>Sender</th>
<th>Time</th>
<th>Subject</th>
<th>Message</th>
</tr>
</thead>
</table>
Team Meijer
Beta Presentation

General Reporting Page

The Capstone Experience
Team Meijer
Beta Presentation

Group Reporting Page
Team Meijer
Beta Presentation

Edit Template Page

[Image of a web page with a template for a power outage response plan, labeled "Team 1" and "Team 2" on the left side, and fields for "Template Name" "Power Outage - On Generator", "Default Groups", and "Add Text Box" at the bottom.]
The Capstone Experience

Team Mozilla
Department of Computer Science and Engineering
Michigan State University
Fall 2012
Firefox for Android
Fast. Smart. Safe.

Get Firefox for Android
Free from the Google Play Store

Find out if your device is supported »
Team Mozilla
Project Overview

Reader Mode for Desktop Firefox

• Functionalities
  ▪ Firefox Viewing Mode
  ▪ Designed for the Reading Experience
  ▪ Optimized for Long Reading Sessions

• Features
  ▪ Decluttered View
  ▪ Dimmed or Removed Irrelevant Content
  ▪ Styled Reading Content

• Technologies
  ▪ CSS, HTML5
  ▪ XML/XUL (XML User Interface Language)
  ▪ JavaScript
  ▪ Mercurial
  ▪ Bugzilla
Team Mozilla
Michael Anderson, Matt Vorce, Chelsea Carr, Kevin Woodward
Zuckerberg: No Facebook phone in the works, but new products coming - CNN.com

(CNN) -- Facebook has been quiet for the past six months, but only because it's been working on new products. No, one of them is not a Facebook Phone.

"The phone just doesn't make any sense," said a smiling but adamant Facebook CEO Mark Zuckerberg when asked whether he was working on the mythical Facebook smartphone. The rumor that the social network is working on a physical phone has been bouncing around for years. As recently as July, Bloomberg reported Facebook was working with HTC on a smartphone for 2013, citing sources with knowledge of the matter. Zuckerberg insisted that the number of users the company could reach with a hardware offering "doesn't move the needle for us."

Zuckerberg made the comments during a rare press appearance on Tuesday at the TechCrunch Disrupt conference in San Francisco. He was interviewed on stage by Silicon Valley blogger and investor Michael Arrington in front of a fully packed auditorium. The Facebook founder and chief executive has stayed out of the spotlight for the past four months since his company went public. In that time, Facebook's stock has plummeted from its opening day price of $38 a share to around half...
Team Mozilla
Project Plan Presentation  Architecture Diagram

Desktop

Request List

Return List

Mobile

Update List

Server

Reading List

Web Server

URL

Reader Mode Enabled Bit

jQuery Window

URL

Readability API

Web Article Content

The Capstone Experience
Team Mozilla
Project Plan Presentation

Screen Mockup
The Capstone Experience

Team Mozilla

Alpha Presentation

Caching Article Content
During the 2005-06 season, Lakers superstar Kobe Bryant averaged a career-best 35.4 points per game, an astounding number only slightly pumped up by his former 81-point outburst midway through that very potent season. Though the Lakers were downed in the first round, the campaign should have served at the very least as a personal highlight for Kobe, especially as he was back in working with coach Phil Jackson after the head coach was sidelined from the team during the 2004-05 campaign.

Instead, Kobe still felt a little uneasy about the Lakers that surrounded him during that 45-win season. Up to and including calling former wanting point guard Smush Parker "the worst." Just before Wednesday night’s exhibition loss to the Portland Trail Blazers, even Millsap of the Orange County Register.

"I almost was an MVP with Smush Parker and Kwame Brown on my team," Bryant said before Wednesday’s 95-75 exhibition loss to Portland. "I was shooting 45 times a game. What was I supposed to do? Pass it to Chris Mihm or Kwame Brown?"

Bryant was referring to 2005-06 when the Lakers’ roster included Brian Cook, Sasha Vujacic, Kwame George and Parker, Mihm and Brown.

Bryant continued, taking aim at his favorite whipping boy, Parker, calling him "the worst. He shouldn’t have been in the NBA but we were too cheap to pay for a better guard. So we let him walk on."

Dennis, dude, Donovan. Great players don’t usually mind making indirect references to when their lives were tougher while working amongst less-humble teammates — "we’ve come a long way" sort of nonsense. But in any case you are players go on record with names like Kobe just did.

(Revealed: Lebron James ‘agent being investigated by NCAA)"

About the newest surrounding him, or having to shoot 45 times (22.2% accuracy) a game, Kobe is spot on. Though Jackson was back in employing the triangle offense, the restructured parts acquired to run an isolation heavy attack during Jackson’s one year away made it so Bryant had to break away from the offense continually just to keep the Lakers in games. They may have featured the best player in the world that year, though eventual champ Dwyane Wade might disagree, but 45 wins isn’t that bad, well, a lot. Bryant was masterful as he led that team back to the postseason.

Calling the guys out, though? Parker, we can understand it? He’s been talking about Kobe for years, now, and any sort of connections back and forth between the two is entirely Parker’s fault. Players like LaMarcus Aldridge and Kwame George may have contributed less and hating young Kobe’s efforts more than Parker in that season, but when you combine Kobe’s presence towards Kobe, lack of professionalism, and play he truly doesn’t come off as "the worst."

Kwame? His effort was lacking, pure and simple, and he turned the ball over nearly 17 percent of the possessions he used up. Could have played better; had he cared more, as it’s probably fine for Kobe to call him out. Especially when a still-active Brown, now a Philadelphia 76er, can lay a hard foul on Bryant the next time the Lakers come through Pennsylvania.

(Though he really wasn’t.)

Chris Mihm: We’re not feeling that as much.
Kobe Bryant calls ex-teammate Smush Parker the worst, jokingly choke the Lakers for letting him walk on! Ball Don’t Lie
During the 2005-06 season, Lakers superstar Kobe Bryant averaged a career best 35.4 points per game, an astounding number only slightly pumped up by his famous 81-point outburst midway through that very potent season. Though the Lakers were downed in the first round, the campaign should have served at the very least as a personal highlight for Kobe, especially as he was back to working with coach Phil Jackson after the head man was exiled from the team during the 2004-05 campaign.

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Team Mozilla
Beta Presentation
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The Capstone Experience

Team Quicken Loans

Department of Computer Science and Engineering
Michigan State University
Fall 2012
15 or 30 Years?
Who Made That Rule!?

Find Out More!
Team Quicken Loans
Project Overview

Secure Note Taking and Collaboration Tools

• Functionalities
  ▪ Mobile Note Taking Tool
  ▪ Apple iOS and Google Android Devices
  ▪ Collaborative
  ▪ Internal and Secure

• Features
  ▪ Multimedia Notes
  ▪ Four Primary Inputs
    o On-Screen Keyboard
    o Free Form Drawing
    o Photo and/or Camera
    o Audio
  ▪ Incorporate Metadata

• Technologies
  ▪ CSS, HTML5, JavaScript
  ▪ Apple iOS
  ▪ Google Android
  ▪ Microsoft SQL Server
  ▪ C#, ASP.Net
  ▪ Microsoft Active Directory
  ▪ Encryption Based on QL Standards
Team Quicken Loans
Richard Hofmeister, Nic Speeter, Justin Mrkva, Reed Fielstra
Team Quicken Loans
Project Plan Presentation

Login Screen

Dashboard

Quicken Notes Main Menu
Type Note  Free Draw Note  View Personal Notes  Search Note Tags
Team Quicken Loans
Project Plan Presentation  Architecture Diagram

Desktop
iOS
Android

User Device

PHP

HTML 5
Javascript
CSS

Web App

Windows Server 2012

Microsoft SQL Server 2012

Active Directory
Team Quicken Loans
Project Plan Presentation

Screen Mockups
Team Quicken Loans
Alpha Presentation

Main Dashboard
Team Quicken Loans
Alpha Presentation

Free Draw Screen

Quicken Notes Free Draw

Load From Server/Save To Server

Choose a file to upload:
Choose file
No file chosen
Upload file

Note Title:
Loan Number:
Other Tags:
Share with:
Save Note
Clear

Return to Dashboard
Team Quicken Loans
Beta Presentation

Mobile Login and Dashboard
The Capstone Experience

Team Quicken Loans

Beta Presentation

Group Screen
Team Quicken Loans
Beta Presentation

Drawing Over Images
The Capstone Experience

Team Spectrum Health

Department of Computer Science and Engineering
Michigan State University
Fall 2012
Medication Shortages Dashboard

• Functionalities
  ▪ Manage Shortages of Key Medications
  ▪ Chose Best Course of Action
    o Weather the Shortage
    o Seek Additional Stock from the Grey Market
    o Swap the Medication for an Alternative

• Features
  ▪ Create Comprehensive View of Industry Shortages
    o XML/RSS Feeds
      ➢ American Society of Hospital Pharmacists
      ➢ FDA (Food and Drug Administration)
    o Formulary Information from PharmNET
    o Inventory Levels of Lawson, the Pyxis and Talyst Machines
    o Spectrum Pharmacies and Store Rooms
  ▪ Identify and Handle Specific Shortages
    o Record, Monitor and Track
    o Log Comments, Plans of Action and Status
  ▪ Integrate into Spectrum’s InSite System

• Technologies
  ▪ CSS, HTML5
  ▪ JavaScript
  ▪ Web Services
  ▪ RSS (Rich Site Summary) Feeds
  ▪ XML (eXtensible Markup Language)
  ▪ Data Warehousing/Aggregation
Team Spectrum Health
Grayson Wright, Eric Dostie, Aaron Cosentino, Ramata Koumare
Screen Mockup: Dashboard View
Team Spectrum Health
Project Plan Presentation

Screen Mockup
Team Spectrum Health
Project Plan Presentation

Screen Mockup
Team Spectrum Health
Alpha Presentation

Single Drug
### Search Bar

calium chl

- calcium chloride 1 Gm/10 mL Syringe
- calcium chloride 1 Gm/10 mL Vial
- calcium chloride 13.6 mL/10 mL Vial
- calcium chloride additive 100 mg/mL, additive calcium chloride in NaCl 20 mg/mL in NaCl 0.45% calcium chloride in NaCl 30 mg/mL in NaCl 0.9% (PEG6P/Phenestin only)

### Listing drugs

<table>
<thead>
<tr>
<th>Name</th>
<th>Dosage</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphetani</td>
<td>1mg/mg tablets 25mg Hxkot 6.5mg Supp</td>
<td>Show</td>
</tr>
<tr>
<td>ACCL</td>
<td>L0431 (sodium thiosulfate)</td>
<td>Show</td>
</tr>
<tr>
<td>ALPRAZolam</td>
<td>0.25 mg Tab</td>
<td>Show</td>
</tr>
<tr>
<td>ALPRAZolam</td>
<td>1 mg Tab</td>
<td>Show</td>
</tr>
<tr>
<td>AMATADINE</td>
<td>100 mg Cap</td>
<td>Show</td>
</tr>
<tr>
<td>AMATADINE</td>
<td>50 mg/5 mL Syrup UD (SCH)</td>
<td>Show</td>
</tr>
<tr>
<td>AMATADINE</td>
<td>10 mg/mL Syrup</td>
<td>Show</td>
</tr>
<tr>
<td>AMITOLylne</td>
<td>10 mg Tab</td>
<td>Show</td>
</tr>
<tr>
<td>AMITOLylne</td>
<td>25 mg Tab</td>
<td>Show</td>
</tr>
<tr>
<td>AMITOLylne</td>
<td>5 mg Tab</td>
<td>Show</td>
</tr>
<tr>
<td>AMITOLylne</td>
<td>10 mg Tab</td>
<td>Show</td>
</tr>
<tr>
<td>AMITOLylne</td>
<td>5 mg Tab</td>
<td>Show</td>
</tr>
<tr>
<td>AMITOLylne</td>
<td>75 mg Tab</td>
<td>Show</td>
</tr>
<tr>
<td>AMITOLylne</td>
<td>Oral Supp</td>
<td>Show</td>
</tr>
<tr>
<td>AMITOLylne</td>
<td>1 mg/mL Oral Supp</td>
<td>Show</td>
</tr>
<tr>
<td>AMITOLylne</td>
<td>1 mg/mL Oral Supp</td>
<td>Show</td>
</tr>
<tr>
<td>AMITOLylne</td>
<td>10 mg Tab</td>
<td>Show</td>
</tr>
<tr>
<td>AMITOLylne</td>
<td>15 mg Tab</td>
<td>Show</td>
</tr>
<tr>
<td>AMITOLylne</td>
<td>2 mg Tab</td>
<td>Show</td>
</tr>
<tr>
<td>AMITOLylne</td>
<td>5 mg Tab (CM)</td>
<td>Show</td>
</tr>
<tr>
<td>ATENoct</td>
<td>100 mg Tab</td>
<td>Show</td>
</tr>
<tr>
<td>ATENoct</td>
<td>25 mg Tab</td>
<td>Show</td>
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</table>
Team Spectrum Health Beta Presentation
### Prochlorperazine Edisylate Injection

<table>
<thead>
<tr>
<th>Drug</th>
<th>Source</th>
<th>URL</th>
<th>Retrieved Date</th>
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<tbody>
<tr>
<td>Prochlorperazine Edisylate</td>
<td>ASHP</td>
<td><a href="http://www.ashp.org/DrugSho">http://www.ashp.org/DrugSho</a>...</td>
<td>10/24/2012</td>
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<td>Dextrose Injection 50%</td>
<td>ASHP</td>
<td><a href="http://www.ashp.org/DrugSho">http://www.ashp.org/DrugSho</a>...</td>
<td>10/24/2012</td>
</tr>
<tr>
<td>Desamethasone Sodium Phosphate</td>
<td>ASHP</td>
<td><a href="http://www.ashp.org/DrugSho">http://www.ashp.org/DrugSho</a>...</td>
<td>10/24/2012</td>
</tr>
<tr>
<td>Norepinephrine Injection Lido</td>
<td>ASHP</td>
<td><a href="http://www.ashp.org/DrugSho">http://www.ashp.org/DrugSho</a>...</td>
<td>10/24/2012</td>
</tr>
<tr>
<td>Leuprolide Acetate 14-Day Kit</td>
<td>ASHP</td>
<td><a href="http://www.ashp.org/DrugSho">http://www.ashp.org/DrugSho</a>...</td>
<td>10/24/2012</td>
</tr>
<tr>
<td>Epoprostenol Injection</td>
<td>ASHP</td>
<td><a href="http://www.ashp.org/DrugSho">http://www.ashp.org/DrugSho</a>...</td>
<td>10/24/2012</td>
</tr>
<tr>
<td>Aprostal Products</td>
<td>ASHP</td>
<td><a href="http://www.ashp.org/DrugSho">http://www.ashp.org/DrugSho</a>...</td>
<td>10/24/2012</td>
</tr>
<tr>
<td>Eflornithine Hydrochloride Sodium Succinate</td>
<td>ASHP</td>
<td><a href="http://www.ashp.org/DrugSho">http://www.ashp.org/DrugSho</a>...</td>
<td>10/24/2012</td>
</tr>
<tr>
<td>Amikacin Injection</td>
<td>ASHP</td>
<td><a href="http://www.ashp.org/DrugSho">http://www.ashp.org/DrugSho</a>...</td>
<td>10/24/2012</td>
</tr>
<tr>
<td>Nystatin Vaginal Tablets</td>
<td>ASHP</td>
<td><a href="http://www.ashp.org/DrugSho">http://www.ashp.org/DrugSho</a>...</td>
<td>10/24/2012</td>
</tr>
<tr>
<td>Ascorbic Acid</td>
<td>ASHP</td>
<td><a href="http://www.ashp.org/DrugSho">http://www.ashp.org/DrugSho</a>...</td>
<td>10/24/2012</td>
</tr>
</tbody>
</table>
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Beta Presentation

Drug Watchlist

Search Bar
Type here to search
Show all drugs

Watchlist
- EPINEPHrine (1 mg/ml Amp)
- acetaminophen (120 mg Supp)
- prochlorperazine (10 mg/2 mL Vial)
- zafirlukast (20 mg Tab "NP")

News Feed
- acetaminophen
- ziprasidone
- naloxone
- ketoprofen

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Team TechSmith

Department of Computer Science and Engineering
Michigan State University
Fall 2012
Create Videos like a Pro

Camtasia for Mac 2 makes you look like a pro, even if you aren’t one. Whether you need to create an eye-catching training, presentation, or demo video, Camtasia for Mac screen recording software makes it easy.

Learn More

Top Downloads
- Snagit®
- Camtasia Studio®

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Project Overview

Snagit Power Tools

• Functionalities
  - Existing Snagit Software
    - Screen Capture
    - Customizable and Extensible
  - Snagit Power Tools
    - Suite of Snagit Apps
    - Demonstrate the Extensibility of Snagit

• Features
  - Easy and Fun to Use
  - Publishable Code
    - Well Designed and Commented
    - Easy to Understand
  - Possible Power Tools
    - Scheduled Image Capture
    - Screen Recording DVR
    - Social Network Image Stream
    - Map Maker

• Technologies
  - Windows COM (Component Object Model)
  - Snagit SDK, Snagit COM Server
  - COM Languages Like C#, .NET and WPF
  - Web Services
    - Google Maps
    - Google Docs
    - Facebook
    - Twitter/Twitpic
  - RESTful API
Team TechSmith
Benjamin Blaut, David Markachev, Kyle Gosen
Team TechSmith
Project Plan Presentation
Team TechSmith
Project Plan Presentation  Architecture Diagram

Key:
- Application
- Language
- External API
- External Data
- Software Interface
- User Interface
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Screen Mockups
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Alpha Presentation

Screen Recording DVR Tool

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Social Image Stream
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Social Image Stream Tool
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Macro Recorder Capture Tool
Team TechSmith
Design Day
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Team Urban Science

Department of Computer Science and Engineering
Michigan State University
Fall 2012
We are Urban Science

We are automotive retail performance experts - thought leaders and doers who increase market share and improve profitability for clients in more than 60 countries. There's no better partner on the road to success.

Learn More
Web-Based Geography Management

- Functionalities
  - Display and Edit Detailed Maps
  - Based on Census Tracks or Zip Codes
  - Via Any Modern Browser
- Features
  - Handle Very High Resolution Maps
    - Political Boundaries, Cities, Etc.
    - Water, Roads, Etc.
    - Census Tracks or Zip Codes
  - Edit Geographic Structures
    - Aggregate Into Regions or PMAs (Primary Market Areas)
    - Add, Remove, Edit, Combine, Split, Etc.
- Technologies
  - CSS, HTML5
  - Microsoft Bing Maps
  - ASP.net
  - JavaScript, AJAX (Asynchronous JavaScript and XML)
  - WMS (Web Map Service)
  - US Census Bureau TIGER (Topologically Integrated Geographic Encoding and Referencing)
  - Web-Based Geography Management, Spring 2009
Team Urban Science
Forrest Young, Domas Siaudvytis, Brandon Kienle, Jake Wesorick
Team Urban Science
Project Plan Presentation  Architecture Diagram

RESTful Web Service
Team Urban Science
Project Plan Presentation

Screen Mockups
Team Urban Science
Alpha Presentation
Editing Polygons and Right Tab
Team Urban Science
Alpha Presentation

Relevant Date and Left Tab
Search

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Alpha Presentation
Team Urban Science
Beta Presentation
PMAs of Michigan
Team Urban Science
Beta Presentation

Editing Census Tracts
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Beta Presentation

[Image of an iOS Simulator showing a list of markets and dealerships]
The Capstone Experience

Team Whirlpool

Department of Computer Science and Engineering
Michigan State University
Fall 2012
Team Whirlpool
Project Overview

Connected Appliances Analytics Dashboard

- Functionalities
  - Analytics Dashboard
    - “Connected Appliances” Information
    - Consumer Data
  - Used For
    - Predictive Analytics
    - Customer Service
    - Marketing and Sales

- Features
  - Cloud-Based Database Backend
    - Generated from Daily Log Files
    - Via JSON (JavaScript Object Notation)
  - Role-Based Security
  - Anonymized Customer Data
  - Report Generator

- Technologies
  - CSS, HTML
  - PHP or .NET
  - JavaScript, JSON
  - Java
  - Microsoft SQL Server
  - RESTful Web Services
Team Whirlpool
Zack Taylor, Joe Tuohey, Jim Solce, Derrick Neier
Team Whirlpool
Project Plan Presentation

Account Management

Account Name:
- Account Name: 
- Account Email: 
- Change Password: 
- Confirm New Password: 

Account Privileges:
- Admin
- Customer Service
- Data Analyst

Submit  Delete Account
Team Whirlpool
Project Plan Presentation Architecture Diagram

- Existing Backend
- Parser for Customer Data
- Configuration File
- Parser for Appliance Data
- Primary Database
- User Database
- Internet Front End
- Configuration File
Team Whirlpool
Project Plan Presentation

Screen Mockup

Connected Appliances Analytics Dashboard

Days Used / Days Idle
Washer Locations
Annual Washer & Dryer Sales
# Connected Appliances Analytics Dashboard

<table>
<thead>
<tr>
<th>ADMINISTRATOR</th>
<th>CUSTOMER SERVICE</th>
<th>DATA ANALYSTS</th>
<th>PROFILE</th>
<th>LOGOUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account Management</td>
<td>Account Lookup</td>
<td>Dashboards &amp; Custom Reporting</td>
<td>Edit Your Information</td>
<td></td>
</tr>
</tbody>
</table>

**< Back General Options**

- Model
- Serial
- In Service
- SAID
- Brand

### Washer Options
- Real Time Power Reading
- Cycle Name
- Cycle Name Code
- End of Cycle
- Estimated Time Remaining
- Odometer
- Percent Complete
- Cycle Energy Consumption
- Fan Fresh Status
- Remote Control Status

### Dryer Options:
- Real Time Power Reading
- Cycle Name
- Cycle Name Code
- End of Cycle
- Estimated Time Remaining
- Odometer
- Percent Complete
- Cycle Energy Consumption
- Wrinkle Shield
- Air Flow Status

### Fridge Options:
- Real Time Power Reading
- Current Temperature Setting Freezer
- Current Temperature Setting Refrigerator

### Dishwasher Options:
- Real Time Power Reading
- Cycle Name
- Cycle Name Code
- End of Cycle
- Estimated Time Remaining
- Odometer
- Percent Complete
- Cycle Energy Consumption
- Control Lock

---

The Capstone Experience
# Customer Lookup

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name</td>
<td></td>
</tr>
<tr>
<td>Last Name</td>
<td></td>
</tr>
<tr>
<td>Phone Number</td>
<td></td>
</tr>
<tr>
<td>Email Address</td>
<td></td>
</tr>
<tr>
<td>Address Line 1</td>
<td></td>
</tr>
<tr>
<td>Address Line 2</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td></td>
</tr>
<tr>
<td>ZIP Code</td>
<td></td>
</tr>
<tr>
<td>Device ID</td>
<td></td>
</tr>
</tbody>
</table>

[Submit]
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Beta Presentation

General Dashboard

Dashboards

- Refrigerators
- Dishwashers
- Dryers
- Washers

General Statistics

- Total Number of Devices in the System: 43
- Total Number of Cycles Completed: 5315
- Number of Active Devices in the Past Day: 18
- Number of New Devices in the Past Day: 0
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Beta Presentation

Dashboard Items
### Query Results

**Start Over**

**Search Results**


<table>
<thead>
<tr>
<th>Model</th>
<th>Brand</th>
<th>Category</th>
<th>Odometer</th>
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<tbody>
<tr>
<td>WFL98HEBU</td>
<td>Whirlpool</td>
<td>Clothes Washer</td>
<td>130</td>
</tr>
<tr>
<td>WEL96HEBU</td>
<td>Whirlpool</td>
<td>Clothes Dryer</td>
<td>178</td>
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<td>Whirlpool</td>
<td>Clothes Dryer</td>
<td>133</td>
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<td>344</td>
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<td>325</td>
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<td>196</td>
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<td>417</td>
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<td></td>
<td>220</td>
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<tr>
<td>WDL785SAAM0</td>
<td>Whirlpool</td>
<td>Dishwasher</td>
<td>330</td>
</tr>
</tbody>
</table>
The Capstone Experience

Dr. Wayne Dyksen
Department of Computer Science and Engineering
Michigan State University
Fall 2012
Capstone Lab
View of Spartan Stadium
Capstone Lab
View of Spartan Stadium sans Smokestack
The Capstone Experience

Design Day Award Winners

December 7, 2012
Auto-Owners Exhibition Award
Team Mozilla, Fall 2012

Reader Mode for Desktop Firefox
Kevin Woodward, Michael Anderson, Matt Vorce, Chelsea Carr
Presented by Bob Buchanan and Scott Lake of Auto-Owners Insurance
Chrysler Praxis Award
Team Boeing, Fall 2012

Design, Fly and Compete Sim Suite V2.0

Jake Newsted, Kevin Liening, Dan Sosnowski, Max Ellison

Presented by Karen Wrobel of Chrysler
TechSmith Screencast Award
Team Ford, Fall 2012
MyKey Report Card
Alex Conklin, Kevin Klemmer, Andrew Crouch, Brandon D'Orazio
Presented by Dean Craven of TechSmith
Urban Science Sigma Award
Team Spectrum Health, Fall 2012
Medication Shortages Dashboard
Ramata Koumare, Aaron Cosentino, Grayson Wright, Eric Dostie
Presented by Greg Davidson and Matt Bejin of Urban Science
The Capstone Experience

Design Day Award Winners

April 27, 2012
Auto-Owners Exhibition Award

Team Mozilla, Spring 2012

In-Content Preferences for Firefox

Joe Chen, Jon Rietveld, Owen Carpenter, Devan Sayles

Presented by Scott Lake of Auto-Owners Insurance
Chrysler Praxis Award
Team Boeing, Spring 2012
Design, Fly and Compete Flight Simulator
Brandon Overall, Jon Moore, David Cornelius
Presented by Karen Wrobel of Chrysler
TechSmith Screencast Award
Team Plex Systems, Spring 2012

HTML5-Based WYSIWYG Label Designer

Matt Duffy, Michele Winsky, Andrew Melfi

Presented by Dean Craven of TechSmith
Urban Science Sigma Award
Team GE Aviation, Spring 2012
Mobile Avionics Weather
Mike Dunn, Eric Cook, Drew Space
Presented by Matt Bejin and Greg Davidson of Urban Science
The Capstone Experience

Design Day Award Winners

December 9, 2011
Auto-Owners Exhibition Award

Team Spectrum Health, Fall 2011

Log Monitoring Compliance

William D. Seeger, Wayne Stiles, Collin Lotus, Kathryn Bonnen

Presented by Jim Schumacher and Bob Buchanan of Auto-Owners Insurance
Chrysler Praxis Award
Team Motorola Mobility, Fall 2011
Synchronized Program Content Delivery
Paul J. Detkowski, Tareq Musleh, Timothy Belcher
Presented by Karen Wrobel of Chrysler
TechSmith Screencast Award
Team GE Aviation, Fall 2011
NextGen Aircraft Taxi Assistance
Johnathan Richter, Jacob Walker, Jason Cepela, Mitchell Thelen
Presented by Dean Craven of TechSmith
Urban Science Sigma Award
Team Ford, Fall 2011
Ford Qwikboard
William S. White Jr., Danh Tran, Jin Hou, Luke Davis
Presented by Greg Davidson and Matt Bejin of Urban Science
The Capstone Experience

Dr. Wayne Dyksen
Department of Computer Science and Engineering
Michigan State University
Spring 2012