The Capstone Experience

Dr. Wayne Dyksen
Department of Computer Science and Engineering
Michigan State University
Fall 2017
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, 3:00-4:20 p.m., 1279 Anthony Hall
• Presentations By
  ▪ Professor
  ▪ Teams
    o Status Reports
    o Formal Presentations
      ➢ Project Plan
      ➢ Alpha
      ➢ Beta
    o Project Videos
  ▪ Guest Speakers
All-Hands Meetings

- 08/30: Capstone Overview
- 09/04: (Labor Day, No Meeting)
- 09/06: Project Plan
- 09/11: Risks and Prototypes
- 09/13: Team Status Report Presentations
- 09/18: Team Project Plan Presentations
- 09/20: Team Project Plan Presentations
- 09/25: Team Project Plan Presentations
- 09/27: Team Project Plan Presentations
- 10/02: Resume Writing and Interviewing
- 10/04: Career Gallery
- 10/09: Schedule and Teamwork
- 10/11: Creating and Giving Presentations
- 10/16: Team Alpha Presentations
- 10/18: Team Alpha Presentations
- 10/23: Team Alpha Presentations
- 10/25: Team Alpha Presentations
- 10/30: Design Day and the Project Videos
- 11/01: Camtasia Demo
- 11/06: Intellectual Property
- 11/08: Ethics and Professionalism
- 11/13: Team Beta Presentations
- 11/15: Team Beta Presentations
- 11/20: Team Beta Presentations
- 11/22: Team Status Reports
- 11/27: Team Beta Presentations
- 11/29: Team Status Reports
- 12/04: Project Videos
- 12/06: Project Videos and All Deliverables
- 12/07: Design Day Setup
- 12/08: Design Day
- 12/11: Project Videos
The Capstone Experience

Team Amazon

Department of Computer Science and Engineering
Michigan State University
Fall 2017
amazon
PLAY ALL OF YOUR MUSIC. JUST ASK.

Prime music  Spotify  PANDORA  tunein

echo  $179.99
Team Amazon
Project Overview

Faia: Fashion Artificial Intelligence Assistant

• Functionalities
  ▪ Create Innovative Fashion Shopping Experience
  ▪ With Virtual Personal Stylist

• Features
  ▪ Create and Manage Shopper Profile
  ▪ Interact with Faia via Texting
  ▪ Give Personalized Fashion Recommendations
  ▪ Leverage AI to Learn and Adapt to Shopper Preferences
  ▪ Provide “Save for Later” and “Add to Cart”
  ▪ Integrate with Prime Wardrobe

• Technologies
  ▪ Amazon Web Services (AWS)
    ▪ Compute Services
    ▪ Database Services
    ▪ Machine Learning
  ▪ Amazon Lex
  ▪ Amazon Product Advertising API
  ▪ Amazon Simple Notification Services (SNS)
  ▪ Twilio APIs
Team Amazon
Zizhen Wang, Nikhil Ramu, David He, Dominic Zottolo, Danielle Schugars
Team Amazon
Project Plan Presentation
Team Amazon
Project Plan Presentation

Architecture Diagram

- **SMS**: User Request → Twilio → Query text → Amazon Lex → Parsed User Input → Recommendations and Responses → AWS Lambda → Clothing Request → Faia Core → Add to cart → Amazon Product API
- **Amazon EC2**: php
- **Cloudwatch**: Monitors for new users
- **User Preference**: Selections
- **RDS**: Store User Data
- **MySQL**: Additional Style Data
- **Amazon Machine Learning**
- **Amazon Authentication**
- **Login**
- **Web Form**
- **Twilio**: Send initial recommendation to user
- **Response Text**: Response to User
Team Amazon
Project Plan Presentation
Team Amazon
Project Plan Presentation

Screen Mockup

Hi I'm Faia, your own personal fashion assistant! I can help you find clothes that match or compliment styles that you already like.

Here something you might like.

What do you think of this item? 😊 or 😞

It's ugly

Oh... Ok, thanks for the feedback. I'll make a better suggestion next time!

Let me know if there's anything else I can do for you or anything in particular you're looking for.

faia show me a cool hat

yea thanks

Would you like something like this?

Great! Here's where you would find it and items like it - Adidas Hat
Team Amazon
Alpha Presentation
Web Form: Questionnaire (Men)
Team Amazon
Alpha Presentation

Texting Interaction
The Capstone Experience

Team Auto-Owners

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Team Auto-Owners
Project Overview

House of Hazards

• Functionalities
  ▪ Teach Homeowners About Home Safety
  ▪ With a Virtual Reality Game
  ▪ Using an Oculus Rift

• Features
  ▪ Design and Build Time-Based Virtual Reality Game
  ▪ Build Virtual Model of Single-Family Home
  ▪ Display Various Scenarios Inside and Outside
    o Hazardous
    o Safe
    o Innocuous
  ▪ Support Various Levels of Difficulty
  ▪ Provide Limited Hints
  ▪ Use Randomization for Varied Experiences
  ▪ Show Review Panel At Game End

• Technologies
  ▪ Unity Game Engine
  ▪ Oculus Rift
  ▪ Oculus Rift Touch Controllers
  ▪ Oculus Rift Sensor
Team Auto-Owners
Fred Lee, Matt Drazin, Kenneth Stewart, Kevin Nickolai, Brian Wong
Team Auto-Owners
Project Plan Presentation

Screen Mockup

Auto-Owners
INSURANCE

Easy
Medium
Hard
Team Auto-Owners
Project Plan Presentation
Team Auto-Owners
Project Plan Presentation

Architecture Diagram

Oculus Rift Headset

Senses Motions

Oculus Sensors

Renders Game

Oculus Rift Touch Controller

Transfer data

Senses Motions/
Controller input

unity
Team Auto-Owners
Project Plan Presentation
Team Auto-Owners
Project Plan Presentation

Score: 200

Time Remaining: 1:23

Hints: 3
The Capstone Experience

Team Avata

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Advance Your Tomorrow with Data-Driven AI

Avata Intelligence's solutions show organizations exactly when, where, and how to minimize risk, allocate...
Team Avata
Project Overview

Security Analytics Suite: Configuration Setup Tool

• Functionalities
  ▪ Transform and Ingest Various Data Formats
  ▪ Into Ava for Public Safety Solution
  ▪ To Reduce Customer Acquisition Cost and Time

• Features
  ▪ Design and Build Interactive User Interface
  ▪ Provide Way to Map User’s Taxonomy to Avata’s Taxonomy
  ▪ Use ReactJS for Mapping User Interface
    ▪ Draw on Map
    ▪ Capture Date and Time Ranges
    ▪ Create Hierarchical Ontologies
  ▪ Support JSON, SQL and MySQL Configurations

• Technologies
  ▪ React JS
  ▪ Java 8
  ▪ Spring Boot framework
  ▪ Hibernate Framework
  ▪ JSON, SQL and MySQL
  ▪ ArcGIS Mapping Tools
  ▪ RESTful Web Services
Team Avata
Zack Lumley, Ashley Gagnon, Chantz Johnson, Meenu Sundararaju, Sean Edwards
Team Avata
Project Plan Presentation

Screen Mockup

Client Configuration Tool

- [ ] Client Name

User Roles
- [ ] Role 1
- [ ] Role 2

Modules
- [ ] Module 1
- [ ] Module 2

Shifts
- User Display
  - Shift Name
  - Start Time
  - End Time
- + Add Shift

Reports
- + Add Shift
- Use same as above

Deployments
- + Add Shift
- Use same as above

- [ ] MySQL
- [ ] MySQL

- Export User Roles
- Export ACL
- Export Shifts
Team Avata
Project Plan Presentation

Architecture Diagram

RES T

JSO N

DB Queries
Team Avata
Project Plan Presentation
Team Avata
Project Plan Presentation

Screen Mockup
Ford F-Series
39 Years
America's Best Selling Trucks
Built Tough
Ford Smart Parking

- **Functionalities**
  - Notify Drivers of Nearby Available Parking Spaces
  - That Fit Their Model Vehicle
  - Using Ford’s Sync 3
- **Features**
  - Create and Manage User Profiles
  - Enable User Flagging of Open Parking Spaces
    - Dimensions
    - GPS Location
    - Timestamp
  - Integrate with Google Tango
  - Send Notifications to Sync 3
    - Receives Notifications of Available Spaces
    - Notifies Remote Server When Space Taken
  - Design and Build Sync 3 App
- **Technologies**
  - Lenovo Phab 2 Pro
  - Google Android Tablets and Phones / Java
  - Google Tango
  - Java 2 Platform Enterprise Edition (J2EE)
  - Sync 3 Emulator and AppLink
  - Microsoft SQL Server 2016

Dearborn, Michigan
Team Ford
Rahul Patel, Doug Kantor, Helena Narowski, Eric Wu, Cheng Jin
Team Ford
Project Plan Presentation

Screen Mockup

Team Ford
Project Plan Presentation

Screen Mockup
Team Ford
Project Plan Presentation

Screen Mockup
Team Ford
Alpha Presentation
Team Ford
Alpha Presentation

Main Menu
What is the status of the spot?
- Occupied
- Available

What is the size of the parking spot?
- Regular
- Compact

If you are in a parking garage, what is the max height? (If not, enter 0)

Feet

Inches

SUBMIT
The Capstone Experience

Team GM

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Unlocking the future.

General Motors continues to reinvent and redefine the possibilities of connected vehicle technology.

READ MORE
Team GM  
Project Overview

Automated Video Workplace Safety System

• Functionalities
  ▪ Alert Employees of Safety Issues and Situations
  ▪ Using Computer Analysis of Real-Time Camera Feeds

• Features
  ▪ Design and Build Web and Mobile Apps
  ▪ Utilize Camera to Watch Area of Concern
  ▪ Leverage Image Recognition and Machine Learning (ML)
  ▪ Identify People and Personal Protective Equipment (PPE)
    o Helmet
    o Eye Protection
    o Hearing Protection
    o Vest
  ▪ Determine Safety Alerts
    o Send to Mobile App
    o Record in Centralized Database
  ▪ Produce Summary Reports for Management

• Technologies
  ▪ CSS / HTML / JavaScript / PHP
  ▪ Google Android Tablets and Phones / Java
  ▪ nVidia Deep Learning SDK
  ▪ nVidia DGX-1 Deep Learning Hardware
  ▪ Image Recognition
  ▪ Machine Learning (ML)
  ▪ Mobile Push Notifications
Team GM
Michael Peng, Marc Bellemare, Steve Levesque, Ike Uchendu, Damien Hong
### Recent Notifications

<table>
<thead>
<tr>
<th>Camera</th>
<th>Area</th>
<th>Time</th>
<th>Date</th>
<th>Manager</th>
<th>PPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>D</td>
<td>10:41AM</td>
<td>9/25/17</td>
<td>Bob Smith</td>
<td>Eye Protection</td>
</tr>
<tr>
<td>8</td>
<td>A</td>
<td>12:11PM</td>
<td>9/25/17</td>
<td>Bob Smith</td>
<td>Headwear</td>
</tr>
<tr>
<td>5</td>
<td>C</td>
<td>1:23PM</td>
<td>9/25/17</td>
<td>Bob Smith</td>
<td>Gloves</td>
</tr>
<tr>
<td>14</td>
<td>E</td>
<td>3:35PM</td>
<td>9/25/17</td>
<td>Jay Jones</td>
<td>Headwear</td>
</tr>
<tr>
<td>7</td>
<td>B</td>
<td>4:03PM</td>
<td>9/25/17</td>
<td>Jay Jones</td>
<td>Eye Protection</td>
</tr>
<tr>
<td>1</td>
<td>F</td>
<td>5:57PM</td>
<td>9/25/17</td>
<td>Jay Jones</td>
<td>Gloves</td>
</tr>
</tbody>
</table>
Team GM
Project Plan Presentation
Team GM
Project Plan Presentation

Architecture Diagram

- NVIDIA DIGITS
- AWS
- NVIDIA JETSON
Team GM
Project Plan Presentation
Team GM
Alpha Presentation

Pedestrian Object Detection
## GENERAL MOTORS

### Web Portal

<table>
<thead>
<tr>
<th>Camera</th>
<th>Area</th>
<th>Time</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>D</td>
<td>10:41 AM</td>
<td>9/25/2017</td>
</tr>
<tr>
<td>3</td>
<td>D</td>
<td>10:41 AM</td>
<td>9/25/2017</td>
</tr>
</tbody>
</table>

© 2017 General Motors
Team GM
Alpha Presentation
Team GM
Alpha Presentation

Texting View
The Capstone Experience

Team Humana

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Humana
Now is the time to enroll in a 2017 Medicare plan

Shop now
Team Humana
Project Overview

MyHumanaBot

• Functionalities
  - Provide Instant Information to Customers
  - About Plans, Claims, Etc.
  - Via a Chatbot

• Features
  - Build and Design Two Web Apps
    - MyHumanaBot App
    - Humana Administrative App
  - Supports
    - Customer or Non-Customer
    - Logged In or Not Logged In
  - Handles Variety of Scenarios
    - Information About Plans
    - Claims Status
    - Humana Pharmacy Status
    - Finding a Doctor
    - Etc.
  - Incorporate Context
  - Maintain Conversation History
  - Account for Security

• Technologies
  - Microsoft C# / .NET
  - SQL / MySQL / Mongo Database
  - RESTful Web Services
Team Humana

Tony Dionise, Madeline Levinson, Jason Thompson, Sharon Shi, Tynan Ford
Team Humana
Project Plan Presentation

Screen Mockup
Team Humana
Project Plan Presentation

Architecture Diagram

- .NET Bot Framework
- C#
- Microsoft Azure
- SQL
- sql server 2016
- Dialogflow
- .NET Core
- Admin Web App
- Customer
- MyHumanaBot
- Humana Employee
- Humana
MyHumanaBot Chat Log

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>User ID</th>
<th>Conversation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep. 19, 2017 23:23</td>
<td>guest</td>
<td>download</td>
</tr>
<tr>
<td>Sep. 19, 2017 20:27</td>
<td>hpotter7</td>
<td>download</td>
</tr>
<tr>
<td>Sep. 19, 2017 14:33</td>
<td>guest</td>
<td>download</td>
</tr>
<tr>
<td>Sep. 19, 2017 09:17</td>
<td>tford01</td>
<td>download</td>
</tr>
<tr>
<td>Sep. 19, 2017 07:30</td>
<td>guest</td>
<td>download</td>
</tr>
<tr>
<td>Sep. 18, 2017 22:00</td>
<td>sharonshi1</td>
<td>download</td>
</tr>
<tr>
<td>Sep. 18, 2017 15:45</td>
<td>ad/onise</td>
<td>download</td>
</tr>
<tr>
<td>Sep. 18, 2017 10:57</td>
<td>guest</td>
<td>download</td>
</tr>
<tr>
<td>Sep. 18, 2017 01:32</td>
<td>thorn1078</td>
<td>download</td>
</tr>
<tr>
<td>Sep. 17, 2017 19:02</td>
<td>mlevinson</td>
<td>download</td>
</tr>
<tr>
<td>Sep. 17, 2017 11:15</td>
<td>guest</td>
<td>download</td>
</tr>
<tr>
<td>Sep. 17, 2017 09:37</td>
<td>johnsmith1</td>
<td>download</td>
</tr>
</tbody>
</table>
The Capstone Experience

Team Meijer

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Rewards

Get rewarded for the way you shop at Meijer, plus earn extra savings with Pharmacy and mCard Rewards. Rewards apply when you enter your mPerks ID and PIN at checkout.
Team Meijer
Project Overview

Meijer Fresh-ipes

- Functionalities
  - Streamline and Simplify Shopping
  - By Providing Meal and Menu Planning
  - Intelligently and Interactively

- Features
  - Track Customer Shopping History
  - Determine Likely Existing Household Ingredients
  - Recommend Range of Recipes
    - Ingredient Availability
    - Food Preferences
  - Create Shopping List for Missing Ingredients
  - Integrate with mPerks

- Technologies
  - Amazon Echo Show
  - Microsoft .NET Framework, C#, ASP.NET
  - Microsoft Azure Mobile Services
  - Microsoft Visual Studio Team Server
  - Xamarin
  - Meijer Web Services
  - Application Insights
  - Hockey App
  - SQL Server

Grand Rapids, Michigan
Team Meijer
Charles Heil, Dan Radler, Olive Miller, Justin Pearson, James Murray
Team Meijer
Project Plan Presentation

Screen Mockup

Username
My Pantry
Shopping List
Planned Meals
Recipe Box
Suggestions
Favorites
Search

Try "Alexa, show me more."
Team Meijer
Project Plan Presentation
Team Meijer
Project Plan Presentation

Architecture Diagram

User
- iOS / Android

Data
- nutritionix Ingredient API
- Yummly Recipe API
- MS SQL Server

Testing
- POSTMAN
- Hockey App
- Insights for Analytics

Team Meijer
Project Plan Presentation

Architecture Diagram

User
- iOS / Android

Data
- nutritionix Ingredient API
- Yummly Recipe API
- MS SQL Server

Testing
- POSTMAN
- Hockey App
- Insights for Analytics
# Team Meijer

**Project Plan Presentation**

## Screen Mockup

### My List

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butter</td>
<td></td>
</tr>
<tr>
<td>Milk</td>
<td></td>
</tr>
<tr>
<td>Eggs</td>
<td></td>
</tr>
<tr>
<td>New Item</td>
<td></td>
</tr>
</tbody>
</table>

### My Pantry

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk (Vitamin D)</td>
<td>+</td>
</tr>
<tr>
<td>Beef</td>
<td>+</td>
</tr>
</tbody>
</table>

### Recommended

- Kiwi
- Butternut Squash
- Star Fruit

### My Account

- My Pantry
- Recipes
- My Favorites
- My List
The Capstone Experience

Team Michigan State University

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Michigan State University

2016 Year in Review

VIEW VIDEO
SEA: Spartan Experience App

- **Functionalities**
  - Enhance Student Experience
  - By Providing Information to Students
  - With Easy-to-Use Mobile App

- **Features**
  - Support Android and iPhone Natively
  - Utilize Amazon Web Services (AWS)
  - Any and All Of...
    - Provide Directions to Parking and Buildings
    - Show Cafeteria Menus
    - Display Campus Activities and Events
    - Show Emergency Phone Numbers
    - Provide News Feed and Twitter Feed
    - Create and Manage a Student Planner
    - Handle Course Search and Schedule Planner
    - Implement a Degree Navigator
  - Incorporate Existing CATA Bus Tracker

- **Technologies**
  - Apple iPads and iPhones (iOS) / Swift
  - Google Android Tablets and Phones / Java
  - RSS News Feeds
Team Michigan State University
Scott Swarthout, Ryan Johnson, Nayana Kodur, Patrick Pale, Roy Perryman
Team Michigan State University
Project Plan Presentation

Screen Mockup
Screen Mockups: Social & Campus Tabs

Social Tab:
- MSU Twitter Feed

Campus Tab:
- Buildings
- Parking lots
- Dining halls
- Sparty’s
Team Michigan State University
Project Plan Presentation

Architecture Diagram

External Data Feeds
- Maps/Places API
- Web Scraping
- JSON
  - MSU Campus Events
  - MSU News
- iCal File

Buildings
- Parking Lots
- Schedules
- Classes
- Cafeteria Menus

Back End
- PostgreSQL
- Python

Front End
- Amazon AWS
- REST API
- API Gateway

The Capstone Experience
Team Michigan State University
Project Plan Presentation
Team Michigan State University
Project Plan Presentation

Screen Mockup
Team Michigan State University
Alpha Presentation

Home View: Nearby Information
Team Michigan State University
Alpha Presentation

Navigation Menu
Team Michigan State University
Alpha Presentation
Team Michigan State University

Alpha Presentation

Buildings View
The Capstone Experience

Team Microsoft

Department of Computer Science and Engineering
Michigan State University
Fall 2017
The new Surface family
To do great things, you need powerful devices.

LEARN MORE >  SHOP NOW >
Team Microsoft
Project Overview

Enhanced Company Portal with Graph

• Functionalities
  ▪ Enhance Android Company App
  ▪ By Leveraging Microsoft Graph API
  ▪ Making Customers More Productive

• Features
  ▪ Use Only Microsoft Graph
    o For All Data
    o To Add Functionality Beyond Device Management
  ▪ Provide Social Interaction
    o Organize Team Documents
    o Create Team Channels
    o Track Recently Used Files
  ▪ Increase Usefulness Beyond Existing Portal
  ▪ Refresh User Interface

• Technologies
  ▪ Microsoft Intune
  ▪ Microsoft Graph
  ▪ Microsoft Windows / C#
  ▪ Google Android Tablets and Phones / Java
  ▪ Apple iPads and iPhones (iOS) / Swift
  ▪ RESTful Web Services
Team Microsoft
Jordan Green, Jason Yin, Matt Pasco, Mike Xiao, Mo Wang
Team Microsoft
Project Plan Presentation

Screen Mockup
Microsoft Azure
Microsoft Graph API
Microsoft Teams
Authenticated Action

COMPANY PORTAL
Team Microsoft
Project Plan Presentation
Team Microsoft
Project Plan Presentation

Screen Mockup

- Internal Workflow Tool
- Billing Analyst Triage Team
- Issue Resolution Team

Devices

- John’s iPhone 7
  - Last Login: May 15, 2017 at 11:28 am
- John’s Google Nexus 7
  - Last Login: May 15, 2017 at 11:28 am
- John’s Mom’s iPhone 6S
  - Last Login: Jun 24, 2017 at 9:30 am
- Alex’s iPad Pro
  - Last Login: Jun 25, 2017 at 2:34 pm

Device Details

- Policy In Compliance
  - Last Checked: 08/29/2017 4:29PM
- Current Device

- John’s iPhone 7
  - Description
  - Apple iPhone 7
  - Device Model
  - iOS 10.3.3
  - Operating System
- JOHN_IPHONE_7_042916
  - Original Name
Team Microsoft Alpha Presentation
Login Page
Team Microsoft
Alpha Presentation
Team Microsoft
Alpha Presentation

Contact IT

Got Questions?
Talk to your IT professionals!

Call
(800)-120-5600

E-mail
it_fake@microsoft.com

Across the Great Wall we can reach every corner in the world.

Good words

Enter message
SEND
The Capstone Experience

Team Mozilla

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Team Mozilla
Project Overview

Taking Firefox Screenshots Testing Suite to 11

• Functionalities
  ▪ Improve Firefox Screenshots Testing Suit
  ▪ So Results Are More Readily Available
  ▪ For Firefox Development Community at Large

• Features
  ▪ Move Testing Suite from Tier 2 to Tier 3
  ▪ Support Cropping Rules
  ▪ Reduce Intermittent Failures and Difference Alerts
  ▪ Produce Easily Consumable and Interpretable Test Results
  ▪ Add New Testing States

• Technologies
  ▪ CSS
  ▪ JavaScript
  ▪ Python
  ▪ XUL / XBL
  ▪ Mercurial
  ▪ IRCCloud
  ▪ Bugzilla
  ▪ Review Board
  ▪ Windows
  ▪ OS X
  ▪ Linux

Mountain View, California
Team Mozilla
Mike Williams, Robin Miller, Chris Cho, Rand Mustafa
Team Mozilla
Project Plan Presentation
Team Mozilla
Project Plan Presentation

Architecture Diagram

Legacy Firefox Extension

Command line

Try server

Mochitest

Test Runner

Configurations

Compare Screenshots Locally

Crop Screenshots

Test Runner

Mochitest

Try server

Command line

Legacy Firefox Extension
System Architecture

Team Mozilla Project Plan Presentation
The Capstone Experience

Team MSUFCU

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Team MSUFCU
Project Overview

Digital Banking with Chatbots

• Functionalities
  ▪ Provide Virtual Banking Assistance
  ▪ Using a Chatbot

• Features
  ▪ Handles Same Services As Live Chat Service
  ▪ Leverage Natural Language Processing
    o Emulate Human-to-Human Interaction
    o Redirect Complex Requests to Customer Service Reps
  ▪ Support Short Message Service (SMS) and iMessage
  ▪ Integrate with Other MSUFCU Services
    o Website
    o Mobile App
    o Amazon’s Alexa
  ▪ Provide Web-Based Content Management System

• Technologies
  ▪ Amazon Echo
  ▪ Alexa Skills Kit
  ▪ CSS / HTML5 / PHP / JavaScript
  ▪ Google Android Tablets and Phones / Java
  ▪ Apple iPads and iPhones (iOS) / Swift or Objective-C
  ▪ MySQL
  ▪ Short Message Service (SMS) and Apple’s iMessage
  ▪ Encryption based on SQL standards
  ▪ Natural Language Processing (NLP)
Team MSUFCU
Chuanyun Xiao, Josh Benner, Gus Fernandes, Cori Tymoszek, Syed Naqvi
Team MSUFCU
Project Plan Presentation

Screen Mockup

Personal Virtual Assistant

Hello, I'm M, your personal assistant.
The closest location to you is 325 E. Grand River, East Lansing, Michigan. Anything else I can help you with?

Your account balance is $25.05

MSUFCU closes at 7pm.

You can talk to a representative at 517-295-0955.

What's on your mind?

Hi, I'm M, your personal assistant. You can reach me anytime!

You can ask things like:

- What's my account balance?
- What time does MSUFCU open?
- What's the nearest ATM?
System Architecture: App

Team MSUFCU
Project Plan Presentation
"Alexa, what's my account balance?"

"Alexa, what time does MSUFCU open today?"

"Alexa, I can't access my bank account."

"Alexa, show me my last 5 transactions."
The Capstone Experience

Team Phoenix Group

Department of Computer Science and Engineering
Michigan State University
Fall 2017
OPEN v2.0: Smart Order Picking

Team Phoenix Group
Project Overview

- Functionalities
  - Enhance Warehouse Order Picking Process
  - Using Bluetooth Low-Energy Devices
- Features
  - Create Windows Tablet-Based Pick Ticket
  - Display Geolocation-Based Warehouse Map
  - Provide Bin Locations and Route Planning
  - Support Real-Time Shelf Counts
  - Handle Bar Codes
- Technologies
  - Microsoft Windows Presentation Foundation (WPF)
  - Microsoft .NET Framework
  - Microsoft C#
  - Microsoft Visual Studio 2015
  - Bluetooth Low Energy Devices
  - MySQL Server
  - Bar Code Scanning Technologies
Team Phoenix Group
Charlie Deneau, Evan Brazen, Bryce Corey, Austin Rix, Austin Littley
Team Phoenix Group
Project Plan Presentation
Screen Mockup
Team Phoenix Group
Project Plan Presentation
Team Phoenix Group
Project Plan Presentation

Architecture Diagram

- SQL
- DB Updater
- Bin Detailer
- Total Route
- Shortest Path
- Cloud
- Bluetooth
- Tablet
Team Phoenix Group
Project Plan Presentation

Screen Mockup
The Capstone Experience

Team Rook

Department of Computer Science and Engineering
Michigan State University
Fall 2017
UNIFIED INCIDENT MANAGEMENT
Team Rook
Project Overview

Cloud Security Event Processing and Alerting Platform

• Functionalities
  ▪ Analyze Cyber Security Events
  ▪ Using a Serverless Architecture
  ▪ That Scales to Millions of Events Per Day

• Features
  ▪ Design and Build a Web App
  ▪ Support Management of Correlation Rules
    o Edit Exiting Rules
    o Examine Performance of New Rules
  ▪ Detect and Notify When Alerts or Rules Triggered
  ▪ Accommodate Increasing Scale Using Amazon Cloud
  ▪ Integrate with Rook’s Force Platform

• Technologies
  ▪ Amazon Athena
  ▪ Amazon Simple Email Services (SES)
  ▪ Amazon Lambda
  ▪ Amazon S3
  ▪ Elasticsearch
  ▪ Ubuntu 16.04
  ▪ Python / Django
  ▪ CSS / HTML / JavaScript / JSON
  ▪ RESTful Web Services
Team Rook
Jake Fenton, Brian Jones, Alex Fall, Kaushik Sridasyam, Bradley Baker
Team Rook
Project Plan Presentation

Screen Mockup

Update Rule

Rule name: 

Architecture: Palo Alto

Occurrences until alert: 12px

Rule specification json

Submit Cancel
Team Rook
Project Plan Presentation
Team Rook

Project Plan Presentation

Architecture Diagram

Backend

- Django
- Children
- Master
- Rule Bucket
- ElasticSearch
- Filtering
- Archive
- Existing

Frontend

- Stretch Goal

Email alerts

The Internet

The Capstone Experience
Team Rook
Project Plan Presentation
Team Rook
Project Plan Presentation

Screen Mockup

Client Profile

Current Rules For Client

- Malicious Event  bobbyD@gmail.com  20:00 DEC 2016
- Bad Smelling Packet  support@rook.com  14:30 NOV 207
- Too many Requests  stani@therman.com  22:30 APR 22

Client Contacts
The Capstone Experience

Team Spectrum Health

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Team Spectrum Health
Project Overview

Spectrum Health Symptom Checker

- Functionalities
  - Recommend Spectrum Health Services to Patients
  - Based on Symptoms They Provide

- Features
  - Design and Build Web and Mobile Apps
  - Match Keywords with Symptoms
  - Recommend Health Service
    - eVisit
    - Urgent Care
    - Emergency Room
  - Enable Urgent Care Visit
    - Give Nearest Location
    - Reserve Place in Line
  - Leverage Machine Learning
  - Provide Administrative App

- Technologies
  - CSS / HTML / JavaScript / PHP
  - Apple iPads and iPhones (iOS) / Swift
  - Google Android Tablets and Phones / Java
  - Microsoft C# / .NET
  - Entity Framework Core
  - Microsoft SQL Server
Team Spectrum Health
Silas Brumwell, Jose Hernandez, Morgan Muyskens, Josh Miles, Chris McGrath
**Team Spectrum Health**

**Project Plan Presentation**

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**Spectrum Health**

- **Flu**
  - If you're experiencing a runny nose and a cough, you may have the flu. Tap to read more.

- **Flu (Influenza)**
  - Influenza, commonly known as "the flu", is an infectious disease caused by an influenza virus. Symptoms can be mild to severe. The most common symptoms include: a high fever, runny nose, sore throat, muscle pains, headache, coughing, and feeling tired. These symptoms typically begin two days after exposure to the virus and most last less than a week. The cough, however, may last for more than two weeks.

**E-visit**
- E-visits let you video chat now with a Spectrum Health doctor

**Schedule an Appointment**
- Want to see a doctor in person? Tap here to schedule an appointment

**MedNow**
- Fill out a simple questionnaire and a doctor will respond in less than 24 hours

---
Team Spectrum Health
Project Plan Presentation
Team Spectrum Health
Project Plan Presentation

Architecture Diagram

- .NET Core
- Microsoft Azure
- Microsoft SQL Server
- api.ai

Admin Portal

Project Plan Presentation

Team Spectrum Health
System Architecture

.NET Core
Microsoft Azure
SQL Server

Admin Portal

Team Spectrum Health Project Plan Presentation
Team Spectrum Health
Project Plan Presentation

Screen Mockup

Enter what symptoms you're experiencing:

- I have a cough and a runny nose

Based on your symptoms, we suggest:

- Visiting a nearby Spectrum Health Urgent Care facility.

Nearby Locations

Hold my place in line

Visiting a nearby Spectrum Health Urgent Care facility.

Nearby Locations

SHMG Urgent Care - Alpine.
5 min - .9 miles.

SHMG Urgent Care - Beltline Avenue.
14 min - 9.0 miles.

SHMG Orthopedic Urgent Care - Lake Drive.
13 min - 9.3 miles.

Hold my place in line
The Capstone Experience

Team Symantec

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Symantec gives you deep visibility and a single point of control for accessing data through a comprehensive solution that provides advanced information protection.

Passwordless Authentication
For network, online, or mobile apps

Extend Passwordless Authentication
To all cloud-based apps
Team Symantec
Project Overview

Secure Application Layer API Proxy

• Functionalities
  ▪ Provide RESTful API to Symantec’s Multi-Factor System VIP
  ▪ Via a Proxy Layer in Front of Native SOAP Layer
  ▪ So Any RESTful Framework Can Integrate with VIP

• Features
  ▪ Focus on User Centric Services
    ○ Management APIs
    ○ Authentication APIs
    ○ Query APIs
  ▪ Preserve Parity Between SOAP and REST APIs
  ▪ Implement a Versioning Scheme
  ▪ Include “Jurisdiction Hash” (JHASH) as Path Parameter
  ▪ Deliver Integration Tests

• Technologies
  ▪ Symantec VIP and VIP Access Manager.
  ▪ Simple Object Access Protocol (SOAP) Web Services
  ▪ Representational State Transfer (REST) Web Services
  ▪ StrongLoop / Node.js
Team Symantec
Steven Kneiser, Yili Luo, Jacob Carl, Lauren Allswede, TJ Kelly
Enter VIP Two-Factor Code

123456

Submit
Screen Mockup: Converting SOAP to REST

Team Symantec Project Plan Presentation
Team Symantec
Project Plan Presentation

Architecture Diagram

Client -> REST API Request -> Proxy (REST) -> REST API Response

Client -> SOAP API Request -> Proxy Certificate

Proxy Certificate -> SOAP API Request -> VIP (SOAP) -> SOAP API Response
System Architecture

REST API Request with access token
Proxy
REST API Response
VIP (SOAP)

SOAP API Request with client ID

Back End
Front End
Team Symantec
Project Plan Presentation

Screen Mockup

Returning SOAP Response

Returning REST Response
Alpha Presentation

Entering One-Time Password (OTP)

Security Code Verification

Please enter Security Code from your VIP credential.

Security Code: 645943

Cancel  Continue

Don’t have VIP two-factor authentication? Download the app.
Team Symantec
Alpha Presentation

Translation Process
Team Symantec
Alpha Presentation

Final JSON Body

```json
{
  "credentialIdField": "SYMZ86142563",
  "credentialTypeField": 0,
  "credentialTypeFieldSpecified": true,
  "transactionIdField": null,
  "pushDetailField": null,
  "authContextField": null,
  "requestIdField": "1234567890",
  "statusField": "AAA",
  "statusMessageField": "Success",
  "detailField": null,
  "detailMessageField": null
}
```
The Capstone Experience

Team TechSmith

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Camtasia takes you from screen recording to finished video

Camtasia lets you record a video of what’s on your computer screen. Use it to make lessons, tutorials, or product demos. Turn your screen recordings into compelling videos with Camtasia’s video editing tools, animations, and effects.
Team TechSmith
Project Overview

TechSmith Director

• Functionalities
  ▪ Explore Creating Video Scenes
  ▪ With a User Friendly Voice Input Interface
  ▪ Using Newer Cloud-Bases APIs

• Features
  ▪ Design and Build a Web App
  ▪ Support Natural Language Voice Input
    o “I’d like a beach background for my video.”
    o “Let’s place a man on the beach.”
    o “I’d like the man to walk along the beach.”
  ▪ Leverage Microsoft Azure Cloud Computing
    o Store User and Project Information
    o Process Utterances (Voice Input)
    o Implement Speech to Text
    o Apply Natural Language Processing
  ▪ Send Projects to Other Users for Feedback

• Technologies
  ▪ Microsoft Azure Cloud Computing
  ▪ Bing Image Search
  ▪ SoundCloud API (For Music)
  ▪ CSS / HTML / JavaScript
  ▪ ASP.Net MVC or Node.js
  ▪ Natural Language Processing (NLP)
  ▪ SQL Database
Team TechSmith

Jared Ballance, Joe Freedman, Kevin Ahn, Jake Heisey, Pranay Kandru
Team TechSmith
Project Plan Presentation

Screen Mockup
Team TechSmith
Project Plan Presentation
Team TechSmith
Project Plan Presentation

Architecture Diagram

- Bling Image Search API
- Microsoft Cognitive Services API
- Soundcloud API
- Microsoft Azure
- ASP.NET
- TechSmith Director Web Application
- SQL Server
Team TechSmith
Project Plan Presentation
Team TechSmith
Project Plan Presentation

Screen Mockup
Team TechSmith
Alpha Presentation
Team TechSmith
Alpha Presentation

Login Page
The Capstone Experience

Team TWO MEN AND A TRUCK

Department of Computer Science and Engineering
Michigan State University
Fall 2017
TWO MEN AND A TRUCK®

“Movers Who Care”®
Team TWO MEN AND A TRUCK
Project Overview

Online Moving Estimator

• Functionalities
  ▪ Provide In-Home Moving Estimate
  ▪ Online Using Web App

• Features
  ▪ Design and Build Web App
  ▪ Provide Chat and Video Conference
  ▪ Determine Room Inventory
    o From Video
    o Automatically
  ▪ Estimate Moving Cost
    o Compute Load / Weight / Space on Truck
    o Use TMaaT Existing Algorithm
  ▪ Integrate with Existing Quick Estimate Module

• Technologies
  ▪ CSS / HTML / JavaScript / PHP
  ▪ Video Conferencing
  ▪ Image Processing and Pattern Recognition
Team TWO MEN AND A TRUCK
Leon Ye, Clay Wilson, Daria Tarasova, James Williams, Kevin Dittman
Team TWO MEN AND A TRUCK
Project Plan Presentation

Screen Mockup

Customer Portal

End Call
Team TWO MEN AND A TRUCK
Project Plan Presentation

Architecture Diagram
Team TWO MEN AND A TRUCK
Project Plan Presentation
Team TWO MEN AND A TRUCK
Project Plan Presentation

Screen Mockup

- Monitors: 3
- Chairs: 3
- Keyboards: 2
- Mouses: 2

Total: $80
Team TWO MEN AND A TRUCK
Alpha Presentation
Team TWO MEN AND A TRUCK
Alpha Presentation

Android Mobile App
Team TWO MEN AND A TRUCK
Alpha Presentation

Your Items:

LivingRoom
  chair x7
Office
  tvmonitor x2
Patio
  chair x5
The Capstone Experience

Team Union Pacific

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Union Pacific bridges are safe for the freight traffic they carry, as well as motorists and pedestrians. Our safety focus starts with more than 38,000 inspections annually to ensure the structural integrity for each bridge. For our employees, these inspections are more than just a job. Learn more about UP’s detailed inspection process.

Steel Giants Promise Safe Passage
Team Union Pacific
Project Overview

RailBuilder: The Great Race to Promontory

• Functionalities
  ▪ Create Railroad Building Game
  ▪ In 3D Representation of the World

• Features
  ▪ Support Creation of Game Levels
    o Deploy as Microsoft Windows App
    o Include Topology and Land Classification
    o Place Scenery in Realistic Fashion
    o Use Terrain Grade and Elevation
  ▪ Create Railroad Building Game
    o Between Two Locations in 3D
    o Using Limited Budget
    o Factoring Topology and Land Classification
    o Removing Scenery Where Rail is Laid

• Technologies
  ▪ Unity Game Engine
  ▪ Microsoft Windows
  ▪ Microsoft C# / .NET
  ▪ Apple iPads and iPhones (iOS) / Swift
  ▪ Google Android Tablets and Phones / Java
  ▪ ArcGIS Mapping Tools
Team Union Pacific

Trever Daniels, Declan McClintock, Jacob Young, Kyle Bush, Zachary Brenz
Team Union Pacific
Project Plan Presentation

Screen Mockup

Building Worlds On Rails

Load Map
Map Editor
Settings
Team Union Pacific
Project Plan Presentation

Architecture Diagram

Win State: Connect Two Rail Stations
Place Track On The Terrain
Show Off All The Technology In The Base Application

Manage Budget

Save Load

Local Storage File

Unity 3D

Terrain Texturing Algorithm
Asset Placement Algorithm
3D Terrain Height Generator

Terrain Generating Application

ZIP File Interpreter

Save and Load File Generator

Terrain Generating Application

Win State: Connect Two Rail Stations
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Asset Placement Algorithm
3D Terrain Height Generator

Terrain Generating Application

ZIP File Interpreter

Save and Load File Generator
Team Union Pacific Project Plan Presentation
Team Union Pacific
Project Plan Presentation

Screen Mockup
Team Union Pacific
Alpha Presentation

Map Creator

[Image of Map Creator interface with options for Name, Density, Overlap, Spacing, Latitude, and Longitude for Pin 1 and Pin 2.]
Team Union Pacific
Alpha Presentation

Map Editor
Team Union Pacific Alpha Presentation
Map Viewer
The Capstone Experience

Team Urban Science

Department of Computer Science and Engineering
Michigan State University
Fall 2017
Automotive News interviewed Jim Anderson to better understand both sales effectiveness ratings and Urban Science.

LEARN MORE

WHEN WE LOOK AT THE MARKET, WE’RE THE ONLY ONES WHO SEE THE FULL PICTURE.

Every major OEM. Every major dealer body. In every nook, cranny and region, OEMs around the world trust the unique knowledge base and skill set of Urban Science. In the world’s most complex business, we’re a key partner for success in every part of their operations.
VDA: Virtual Dealership Advisor

Functionalities
- Answer User Free-Form Speech Input Question
- By Correlating Question with Key Performance Indicators (KPIs)

Features
- Design and Build Mobile App
- Visualize Selected KPIs
- Show Actions Associated with Each KPI
- Evaluate All Possible KPIs and Actions
- Determine Best Answer to Question

Technologies
- Apple iPads and iPhones (iOS) / Swift
- Google Android Tablets and Phones / Java
- Microsoft .NET Core 1.0
- Microsoft Cognitive Services
  - Speech
  - Language
  - Knowledge
  - Search
Team Urban Science
Will Renius, James Grenfell, Daniel Oforidankwa, Eric Zhou, Harry Singh
Team Urban Science
Project Plan Presentation

Screen Mockup

- Login
  - Enter your username
  - Enter your password
  - Remember Me
  - Log In

- Home
  - Welcome to the Urban Science dealership improvement analyzer!
  - Please ask me a question about your dealership sales...

- Confirm
  - You asked me...
  - How can I improve my mid-size sedan sales in the Detroit area?
  - Is this correct?
Team Urban Science
Project Plan Presentation
Team Urban Science
Project Plan Presentation

Architecture Diagram

Xamarin Framework

ASP.NET MVC WWW

ASP.NET Web API

Controller

Virtual Dealership Adviser API

Read Requests

HTTP Request/Response

GET/POST

Microsoft Cognitive Services

Text Analytics API

Bing Speech API

AWS Servers

Dealership Databases

Keyword/KPI mappings
Team Urban Science Project Plan Presentation
Team Urban Science
Project Plan Presentation

Screen Mockup

KPI Results

Select a potential area for improvement:

- Sedan Sales: 30%
- Other KPI: 60%
- Other KPI: 80%

Recommended Actions

Your full-size truck sales in the Detroit area are 30% above expected!
We recommend increasing inventory.

- Ignore
- Take Action

You may also want to try...

Other KPI: 60%

Start over
Universal Motors, Select a potential area for improvement

Here is what we’ve found for: “how do I improve my car sales”

Team Urban Science
Alpha Presentation
Team Urban Science
Alpha Presentation

KPI Page (Web App)
Team Urban Science
Alpha Presentation

KPI Page (iOS)
Here are your Action Items.

Your Dealer Sales has a value of 120. Evaluate Dealer Experience to determine the level of additional opportunities your dealerships could have compared to other dealers.

Your Dealer Sales has a value of 170. Evaluate Dealer Experience to determine the level of additional opportunities your dealerships could have compared to other dealers.

Your Dealer Sales has a value of 180. Evaluate Dealer Experience to determine the level of additional opportunities your dealerships could have compared to other dealers.

Your Dealer Sales has a value of 200. Evaluate Dealer Experience to determine the level of additional opportunities your dealerships could have compared to other dealers.

Team Urban Science
Alpha Presentation
Team Urban Science
Alpha Presentation

Action Page (Android)

Here are your Action Items:

- Your Dealer Sales has a value of 120. Use Premium MMO to take a look at your sales effectiveness to determine the level of additional opportunity.
- Your Dealer Sales has a value of 120. Evaluate Dealer Business Intelligence to determine how your profit compares to other dealers.
- Your Dealer Sales has a value of 120. Leverage Sales Leads to find additional interest in your area.
The Capstone Experience

Team Yello

Department of Computer Science and Engineering
Michigan State University
Fall 2017
yello
Campus Recruiting

Complete solution for robust campus recruiting teams

REQUEST A DEMO

Accurately report on the effectiveness of your campus recruiting efforts to make data-driven decisions on where to recruit in the future and why.
Automatic Resume Verification

• Functionalities
  ▪ Verify Resume Information
  ▪ Automatically and Instantly

• Features
  ▪ Design and Build Two Web Apps
    o For Universities and Workplaces to Upload Credentials
    o For Candidates to Upload Resumes
  ▪ Ensure Security and Privacy
    o Proof of Source
    o Proof of Existence / Timestamp
    o Proof of Work / Education / Military Service
  ▪ Store and Access Credentials Using a Blockchain
  ▪ Notify Candidates When Credentials Uploaded
  ▪ Verify Resume Information Upon Uploading
  ▪ Inform Recruiters re Resume Accuracy

• Technologies
  ▪ Ruby on Rails
  ▪ Blockchain
  ▪ Transactional APIs
Team Yello
Project Plan Presentation

Screen Mockup

University Credential Upload

Welcome, university/workplace!
Please Upload Credentials

Add Field
First Name: John
Last Name: Doe

e.g. GPA: e.g. 3.65

Upload
Team Yello
Project Plan Presentation
Team Yello
Project Plan Presentation

Architecture Diagram

Users → Web Application → Database
Institutions → Web Application

Master Node

Blockchain
Team Yello
Project Plan Presentation

Screen Mockup

[Image of screen mockup showing a job postings page with locations and apply buttons]
The Capstone Experience

Dr. Wayne Dyksen
Department of Computer Science and Engineering
Michigan State University
Fall 2017
The Capstone Experience Lab
The Capstone Experience Lab
The Capstone Experience Lab
The Capstone Experience Lab
View of Spartan Stadium
The Capstone Experience

Design Day Award Winners

December 9, 2016
All-Hands Design Day, December 9, 2016
Auto-Owners Exhibition Award
Team Whirlpool, Fall 2016
Mooch
Adam Schoonmaker, Noah Hines, Daniel Jiang, Laura Robb, Caleb Swanson
Presented by Scott Lake and Ross Hacker of Auto-Owners Insurance
MSU Federal Credit Union Praxis Award
Team Rook, Fall 2016
Anomaly Detection Suite v2.0
Zach Rosenthal, Grant Levene, Brian Harazim, Cam Gibson, Andrew Werner
Presented by Samantha Amburgey of MSU Federal Credit Union
TechSmith Screencast Award
Team Ford, Fall 2016
SYNC Calendar
Avery Yue, Brett Durlock, Jack Zaidel, Eric Pressey, Cam Rooks
Presented by Wendy Hamilton and Dean Craven of TechSmith
Urban Science Sigma Award
Team Amazon, Fall 2016
Asa: Your Amazon Shopping Assistant
Sam Chung, Yiming Li, Aaron Beckett, Renee Dennis, Evan Moran
Presented by Linda Koepppe and Elizabeth Klee of Urban Science
The Capstone Experience

Design Day Award Winners

April 28, 2017
Auto-Owners Exhibition Award
Team TechSmith, Spring 2017
Teacher’s Virtual Toolbelt
Alex Crimin, Zeke Zandbergen, Yang He, Ryan Cornillie
Presented by Scott Lake of Auto-Owners Insurance
MSU Federal Credit Union Praxis Award

Team Union Pacific, Spring 2017

Learning New Train Routes

Matthew Schleusener, Kangjie Mi, Nick Summers, Jon Wild

Presented by Liam Petraska of MSU-Federal Credit Union
TechSmith Screencast Award
Team Amazon, Spring 2017
ACRA: Amazon Customer Review Analyzer
Jie Wan, Jason Liu, Ian Whalen, Ankit Luthra, Tess Huelskamp
Presented by Wendy Hamilton of TechSmith
Urban Science Sigma Award
Team Michigan State University, Spring 2017
CATAlyst: Mapping CATA Buses in Real-Time
Charlie Ward, Cathy Dinsmoor, Tom Beaver, Jimmy Mkude, James Dodge
Presented by Linda Koepppe and Luke Mercier of Urban Science
The Capstone Experience

Dr. Wayne Dyksen
Department of Computer Science and Engineering
Michigan State University
Fall 2017
amazon
Auto-Owners
INSURANCE
LIFE • HOME • CAR • BUSINESS
Humana
ROOK SECURITY
TWO MEN AND A TRUCK®

“Movers Who Care®”
yello