

# The Capstone Experience

Dr. Wayne Dyksen

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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

# Course Goals

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- 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

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- 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., 1145 Engineering Building
- Presentations By
  - Professor
  - Teams
    - Status Reports
    - Formal Presentations
      - Project Plan
      - Alpha
      - Beta
    - Project Videos
  - Guest Speakers



# All-Hands Meetings

08/31: Capstone Overview  
09/05: (Labor Day, No Meeting)  
09/07: Project Plan  
09/12: Risks and Prototypes  
09/14: [Status Report Presentations](#)  
09/19: Team [Project Plan Presentations](#)  
09/21: Team [Project Plan Presentations](#)  
09/26: Resume Writing and Interviewing  
09/28: Career Gallery  
10/03: Team [Project Plan Presentations](#)  
10/05: Team [Project Plan Presentations](#)  
10/10: Schedule and Teamwork  
10/12: Creating and Giving Presentations  
10/17: Team [Alpha Presentations](#)  
10/19: Team [Alpha Presentations](#)  
10/24: Team [Alpha Presentations](#)  
10/26: Team [Alpha Presentations](#)

10/31: [Design Day](#) and the [Project Videos](#)  
11/02: Camtasia Demo  
11/07: Intellectual Property  
11/09: Ethics and Professionalism  
11/14: Team [Beta Presentations](#)  
11/16: Team [Beta Presentations](#)  
11/21: Team [Beta Presentations](#)  
11/23: Team Status Reports  
11/28: [Beta Presentations](#)  
11/30: Team Status Reports  
12/05: [Project Videos](#)  
12/07: [Project Videos](#) and [All Deliverables](#)  
12/08: [Design Day Setup](#)  
12/09: [Design Day](#)  
12/15: [Project Videos](#)



**MICHIGAN STATE**  
**UNIVERSITY**

# *The Capstone Experience*

Team Amazon

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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

**amazon**





All ▾



Back to School

Sponsored by  
Lysol

Departments ▾

Your Amazon.com

Today's Deals

Gift Cards & Registry

Sell

Help

Hello. Sign in

Your Account ▾

Try Prime ▾

Lists ▾



Cart

# PLAY ALL OF YOUR MUSIC. JUST ASK.

Prime  music



PANDORA



echo \$179<sup>99</sup>



## Welcome

Sign in for the best experience

### Popular departments



### The dress shop



xfinity

## XFINITY Home

A total home security  
and automation solution

# Team Amazon

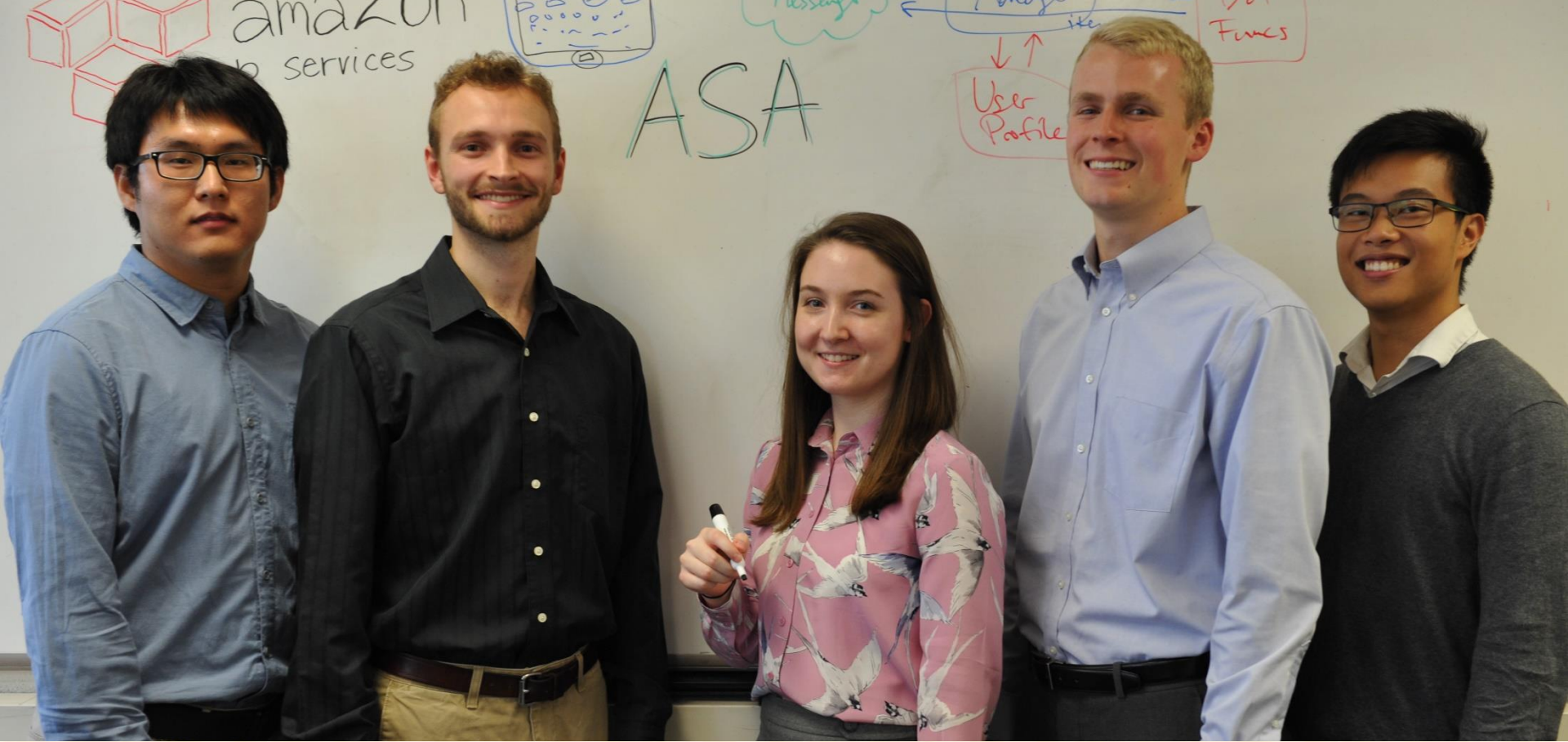
## Project Overview

### Asa: Your Amazon Shopping Assistant

- Functionalities
  - Provide Personal Shopping Assistant
  - To Amazon
  - Via Messaging Apps
- Features
  - Learn Preferences of User
  - Support Shopping for User or Others
  - Handle Various Messaging Apps
    - Facebook Messenger
    - Slack
    - Twilio
- Technologies
  - Facebook Messenger Bot and Facebook APIs
  - Amazon SNS / Twilio
  - Slackbot API
  - Amazon Product Advertising API
  - Amazon Web Services (AWS)
    - Machine Learning
    - Storage Solution
    - Lambda
    - API Gateway
    - Node
  - RESTful Web Services
  - Natural Language Processing







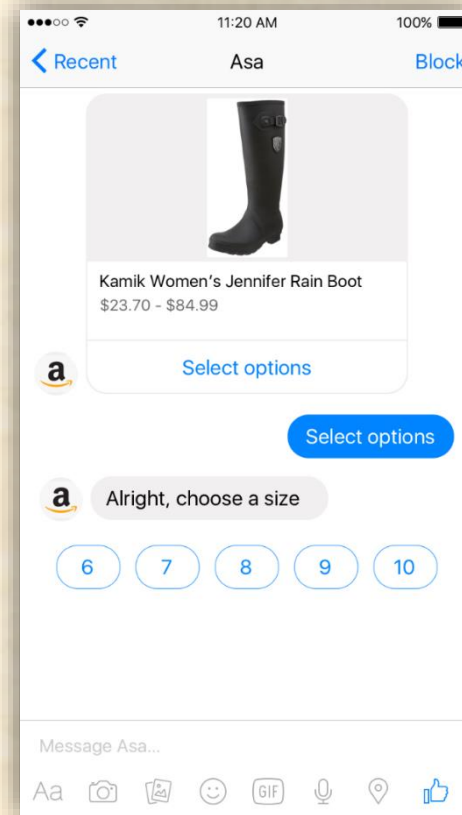
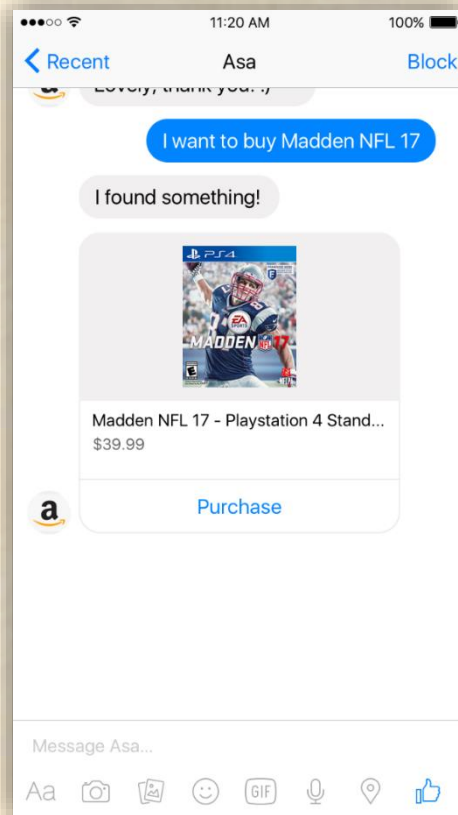
## Team Amazon

Yiming Li, Aaron Beckett, Renee Dennis, Evan Moran, Sam Chung

# Team Amazon Project Plan Presentation

2.

## Screen Mockups



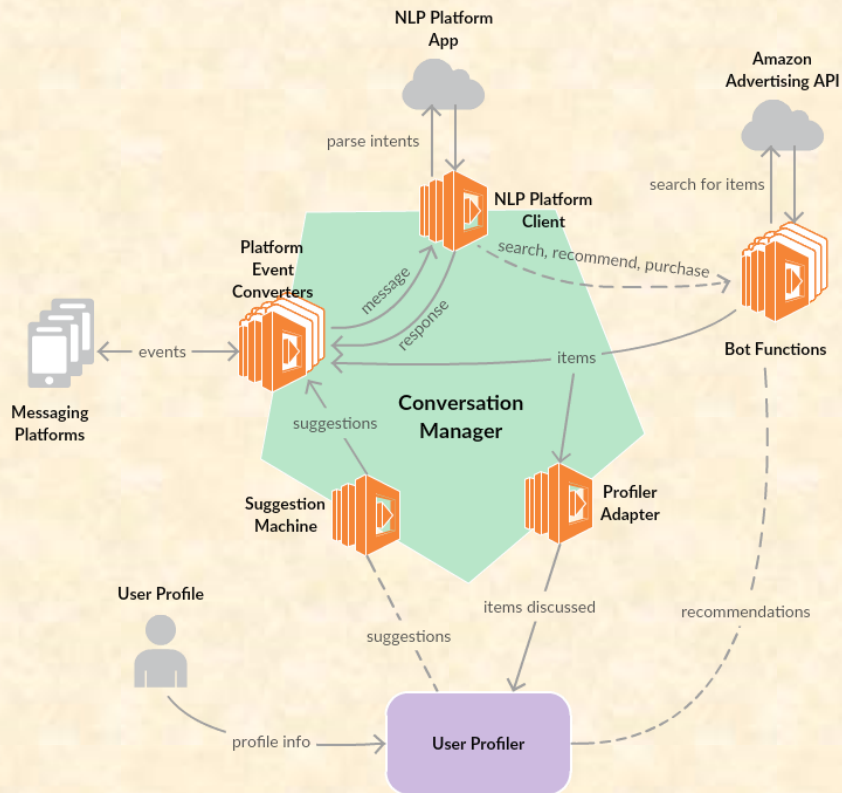


# Team Amazon Project Plan Presentation

# Team Amazon Project Plan Presentation

2.

## Architecture Diagram



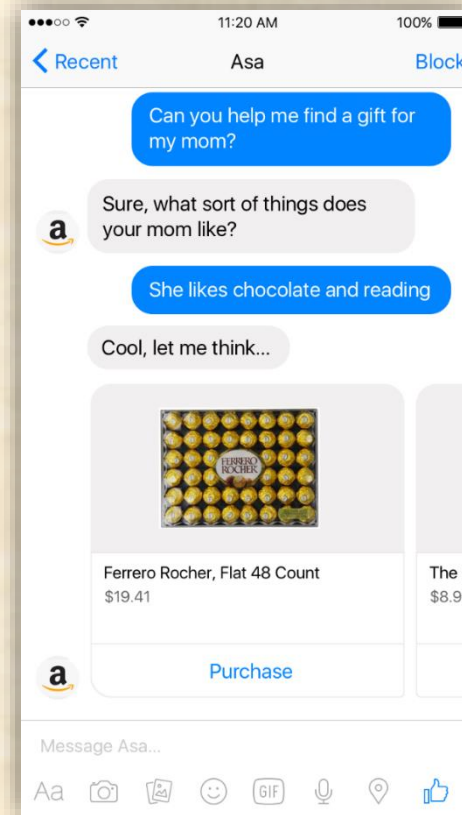
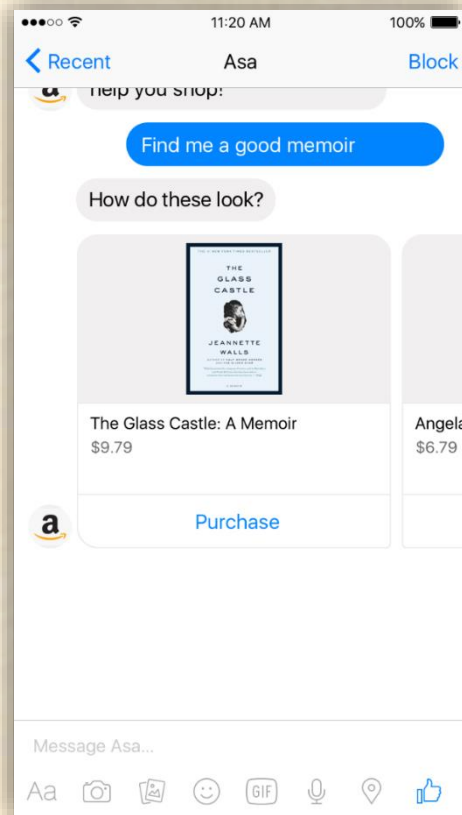


# Team Amazon Project Plan Presentation

# Team Amazon Project Plan Presentation

2.

## Screen Mockups





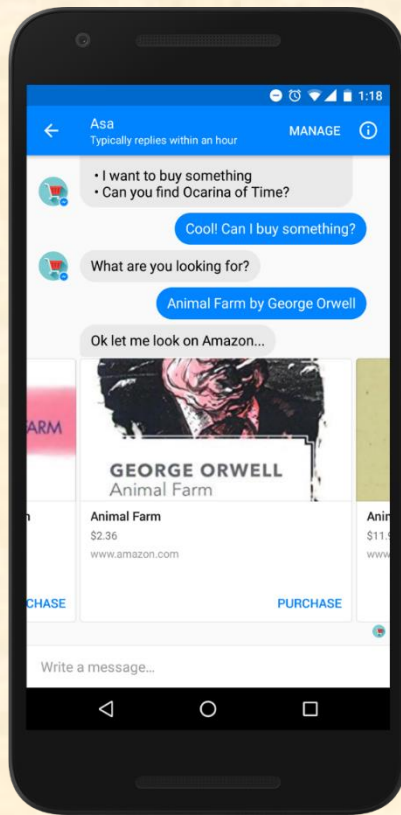
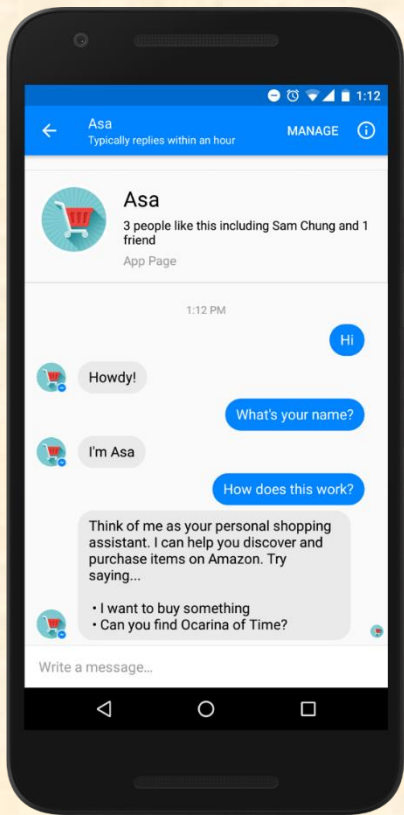
# Team Amazon Alpha Presentation



# Team Amazon Alpha Presentation

2.

## Initiation and Item Search

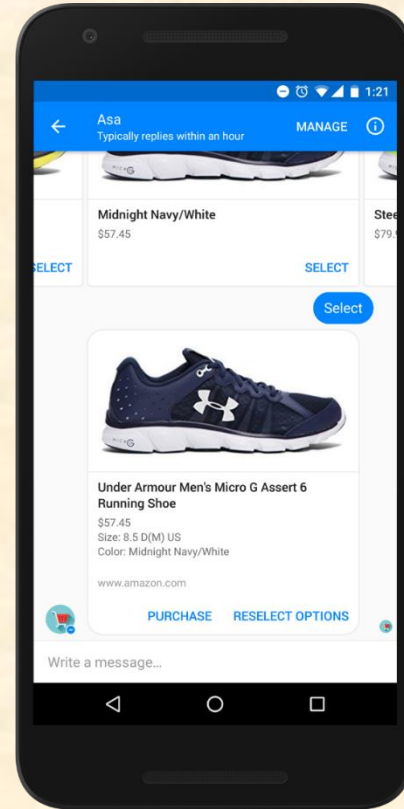
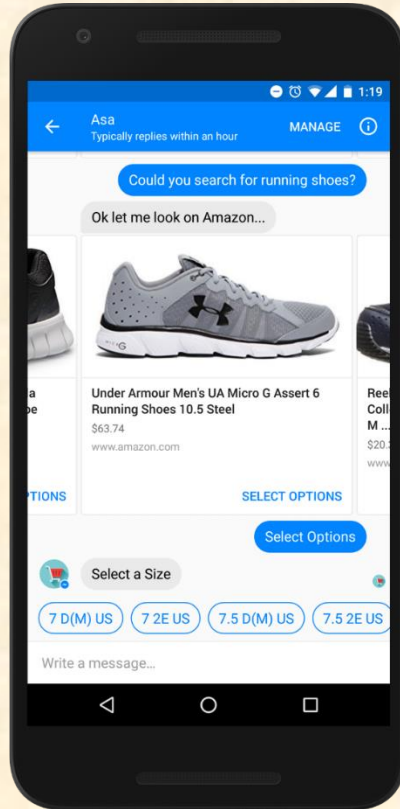




# Team Amazon Alpha Presentation

2.

## Variation Selection



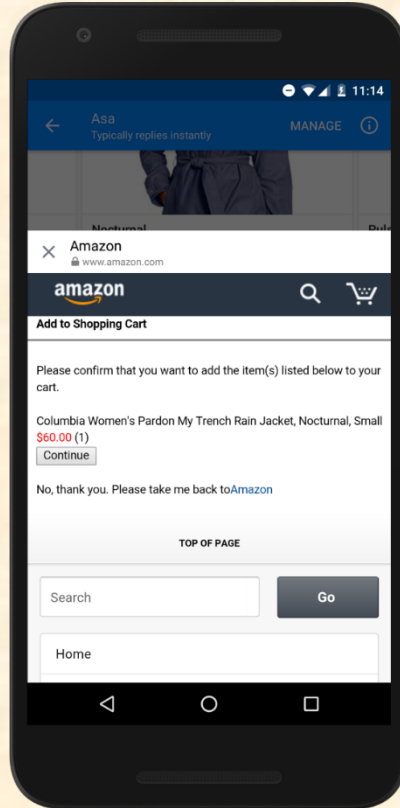


Team Amazon  
Alpha Presentation

# Team Amazon Alpha Presentation

2.

## Purchase Cart





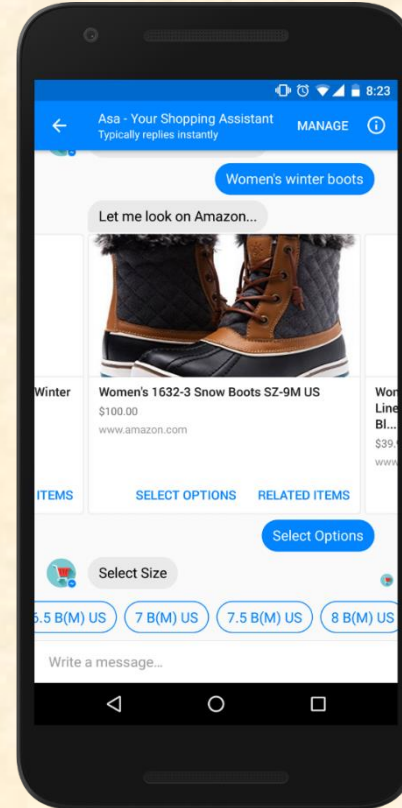
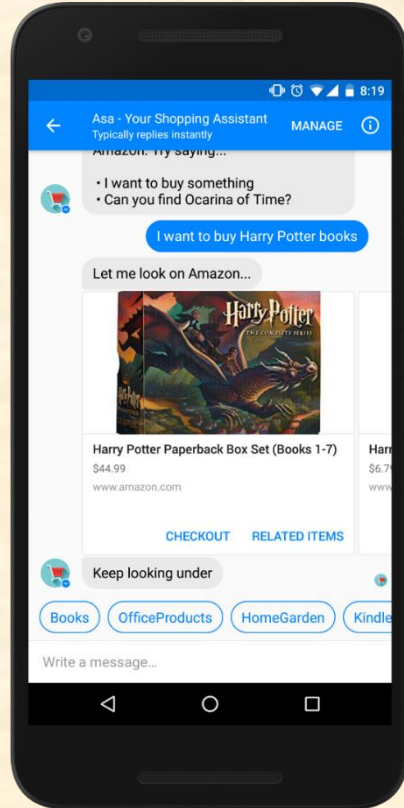


# Team Amazon Beta Presentation

# Team Amazon Beta Presentation

2.

## Purchasing Items



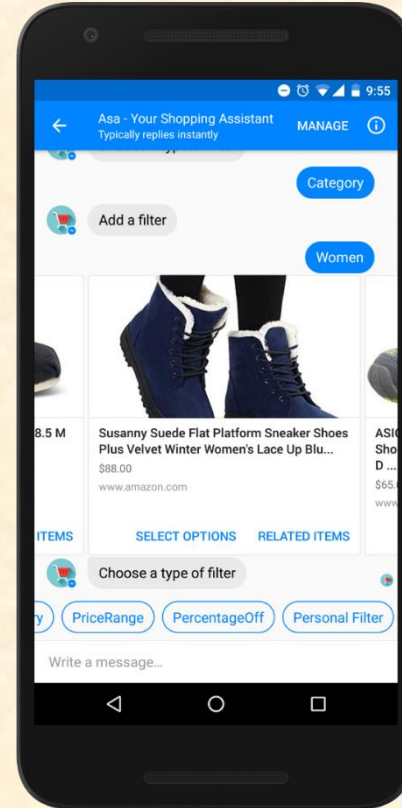
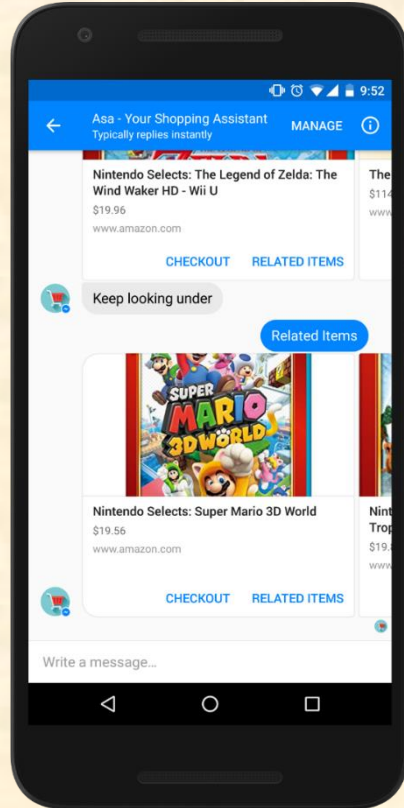
The Capstone Experience



# Team Amazon Beta Presentation

2.

## Related Items & Search Filtering





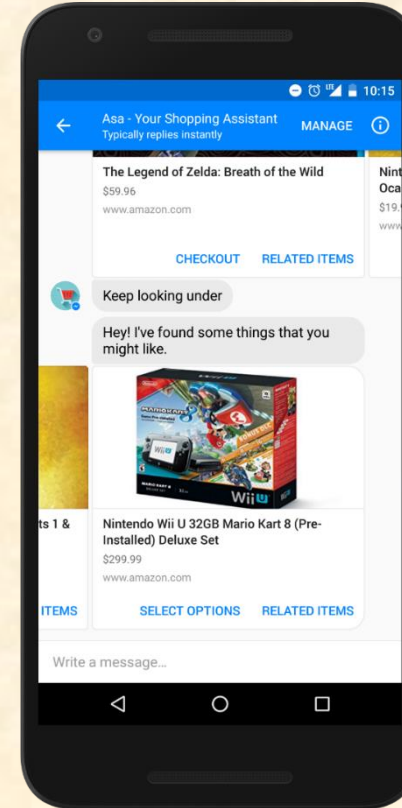
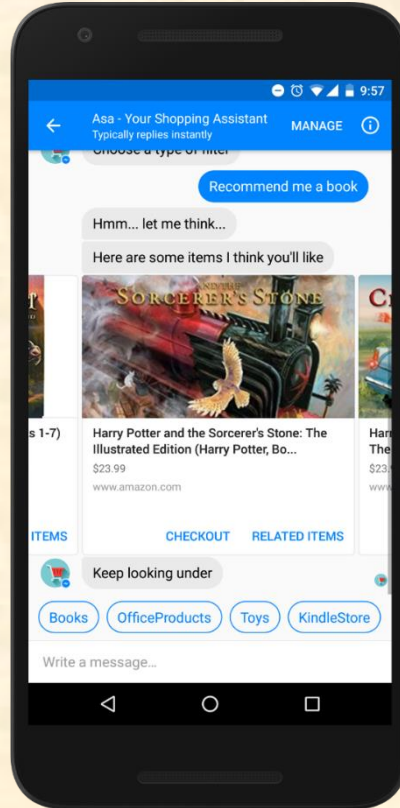


# Team Amazon Beta Presentation

# Team Amazon Beta Presentation

2.

## Recommendations & Suggestions







Team Amazon  
Design Day

MICHIGAN STATE  
UNIVERSITY

# *The Capstone Experience*

## Team Auto-Owners

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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

# ***Auto-Owners*** **INSURANCE**

**LIFE • HOME • CAR • BUSINESS**

[PRODUCTS](#) [ABOUT US](#) [CUSTOMER CLAIMS](#)

## ✓ FIND A LOCAL AGENCY

**FIND AN AGENT**

search by address

## ➤ CUSTOMER LOG IN

Highest in Customer Satisfaction

\*Highest in Customer Satisfaction with the Auto Insurance Claims Experience according to J.D. Power\*\*

Click for more information

HIGHEST CUSTOMER SATISFACTION  
J.D. POWER  
AND ASSOCIATES  
AUTO INSURANCE CLAIMS EXPERIENCE • 2015

PRESENTED TO  
AUTO-OWNERS  
INSURANCE  
BY J.D. POWER AND ASSOCIATES

**LIFE**

Life insurance, annuities, long term care and disability income protection are all products you will rely on many years into the future.

**HOME**

Regardless of which homeowners insurance fits your specific needs, Auto-Owners products are among the best in the industry.

**CAR**

"No Problem"® claims service with numerous claims offices serving our policyholders.

**BUSINESS**

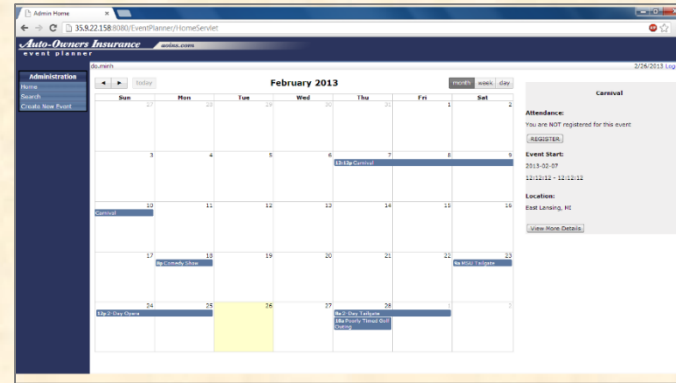
We insure a variety of businesses, both large and small. Insurance is available to meet the specific needs of most businesses.



# Team Auto-Owners Project Overview

## Mobile Event App

- Functionalities
  - Provide Event Management Apps
  - For Associates, Agents and External Partners
  - Via Web and Mobile Apps
- Features
  - Provide Attendee Functionality
    - Build Personal Profile
    - Register for Events
    - Access Event Materials
    - Provide Feedback
    - View Newsfeeds
  - Support Administrative Functionality
    - Build, Edit and Update Events
    - Send Email and Text Messages
    - Build and Administer Event Surveys
    - Generate Reports
- Technologies
  - CSS / HTML / JavaScript / PHP
  - Apple iPads and iPhones (iOS) / Swift or Objective-C
  - Google Android Tablets and Phones / Java
  - Database Technologies (Microsoft SQL or MySQL)



Lansing, Michigan



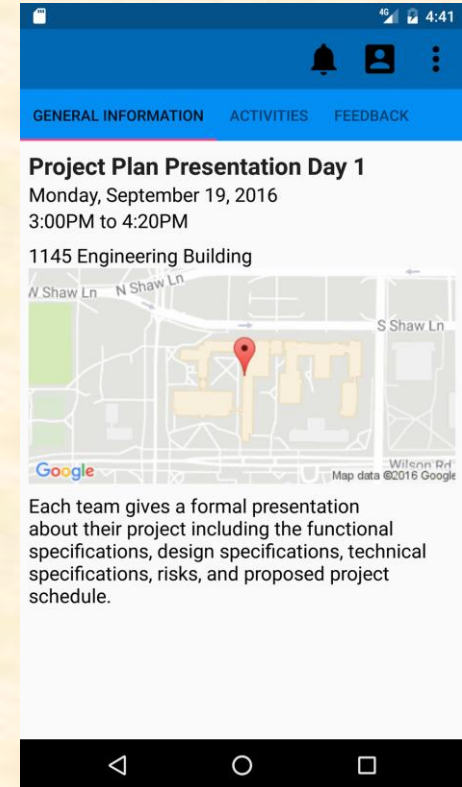
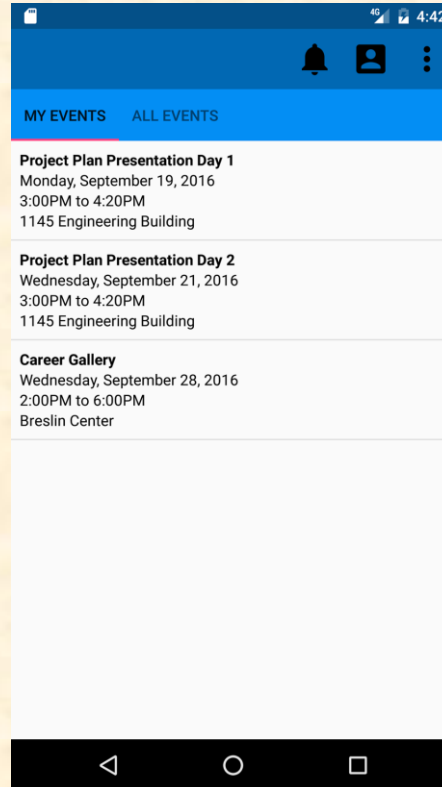
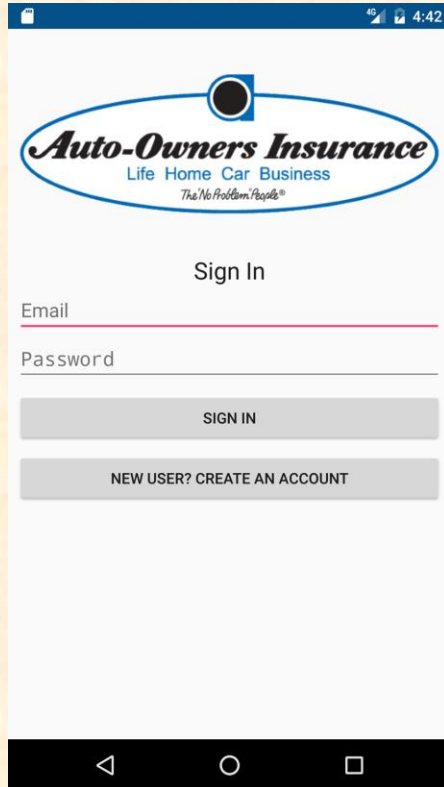
## Team Auto-Owners

Allen Scheck, Tyler Smith, Matt Krease, Shen Li, Eddy Maxwell

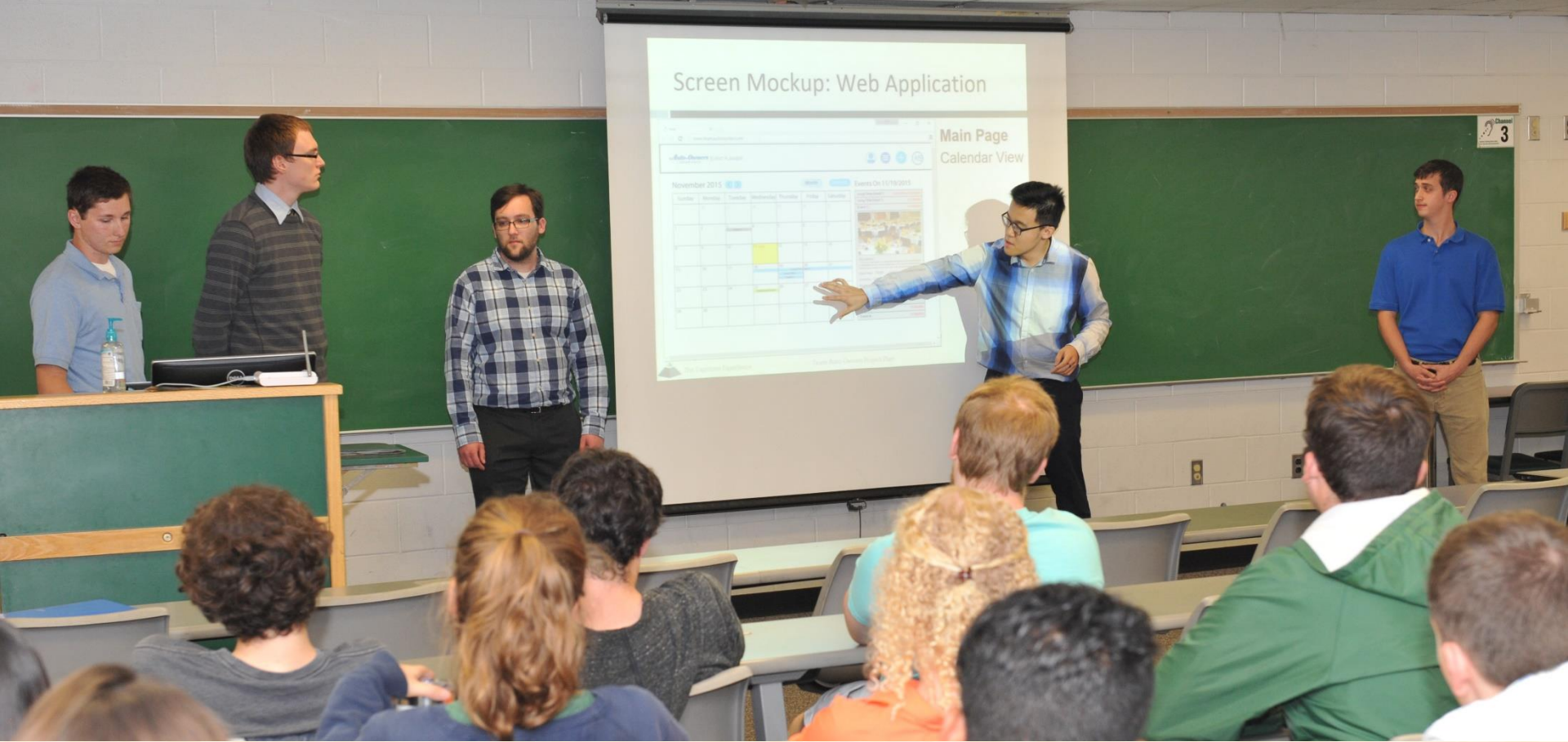
# Team Auto-Owners Project Plan Presentation

a.

## Screen Mockups







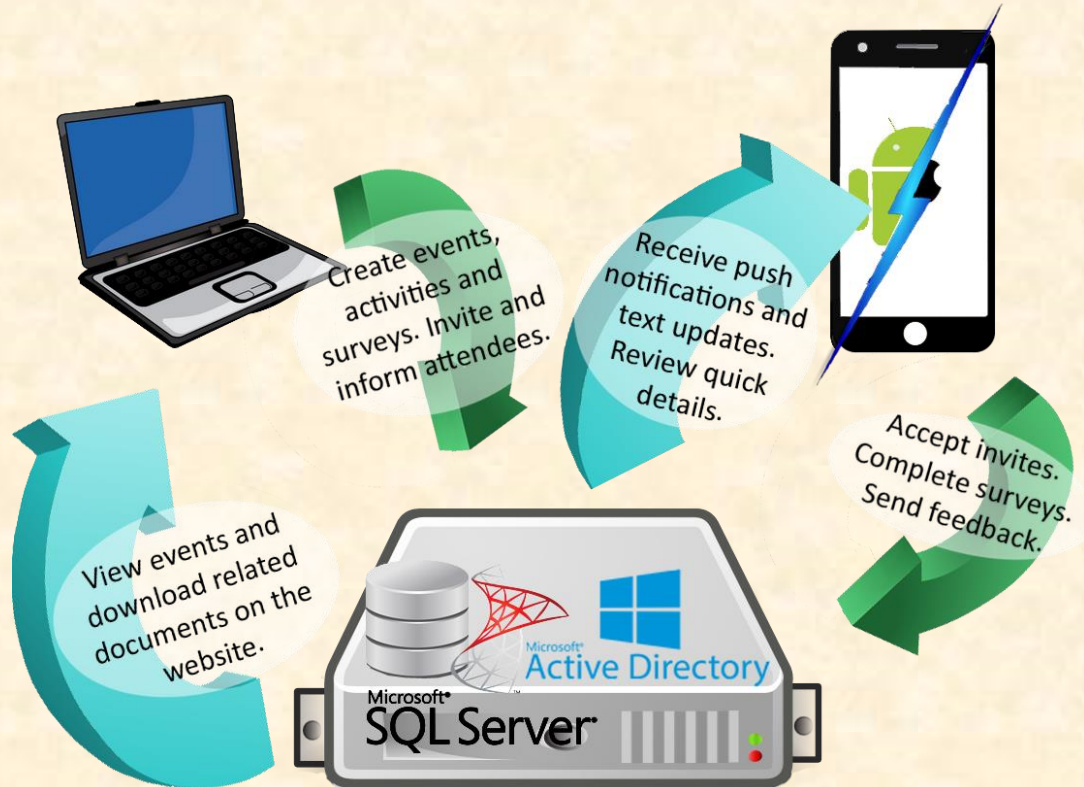
# Team Auto-Owners Project Plan Presentation



# Team Auto-Owners Project Plan Presentation

2.

## Architecture Diagram



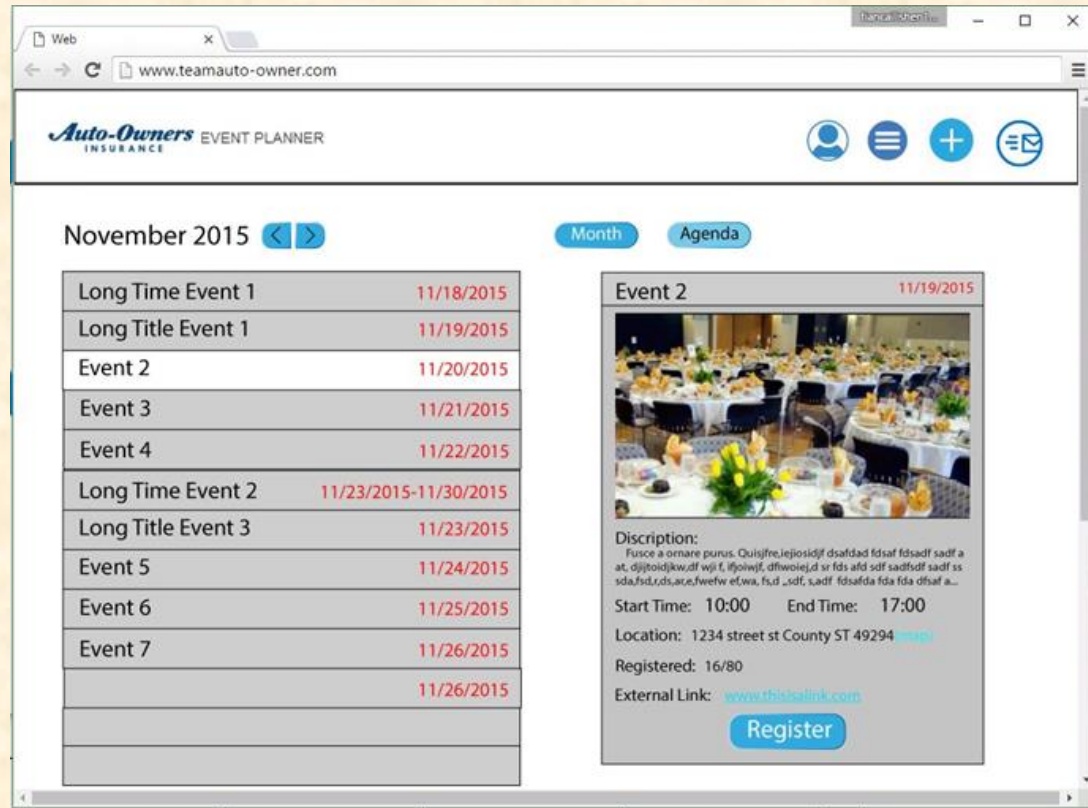


# Team Auto-Owners Project Plan Presentation

# Team Auto-Owners Project Plan Presentation

2.

Screen Mockup







# Team Auto-Owners Alpha Presentation

# Team Auto-Owners Alpha Presentation

2.

Website

Auto-Owners | Event Cal | x

www.auto-owners.com/event-planner.html

☆ ⋮

**Auto-Owners**  
INSURANCE

▼ My Events

Conference  
10/11/2016 - 10/12/2016

Birthday  
10/11/2016 - 10/12/2016

Travel  
10/11/2016 - 10/12/2016

Music concert  
10/11/2016 - 10/12/2016

Meeting  
10/11/2016 - 10/12/2016

▶ Recent Attended

▶ Next Week

< > TODAY

October 2016

MONTH WEEK DAY LIST

Sun	Mon	Tue	Wed	Thu	Fri	Sat
25	26	27	28	29	30	All Day Ev
2	3	4	5	6	7	Long Event
9	10	11	12	13	14	
Long Event	4p Repeating	Conference	+5 more	7a Birthday P		
16	17	18	19	20	21	
4p Repeating						
23	24	25	26	27	28	Click for Goo
30	31	1	2	3	4	

UnderWriting Support: 1-800-238-2934 | Technical Support: 1-800-346-0346 x1850

The information gathered will be used for the sole purpose of providing an insurance rate proposal. Rates are subject to change based on company rate schedules and/or changes to any of the required rating information.

Live Support

Feedback & Comments

Terms of Use and Private Policy

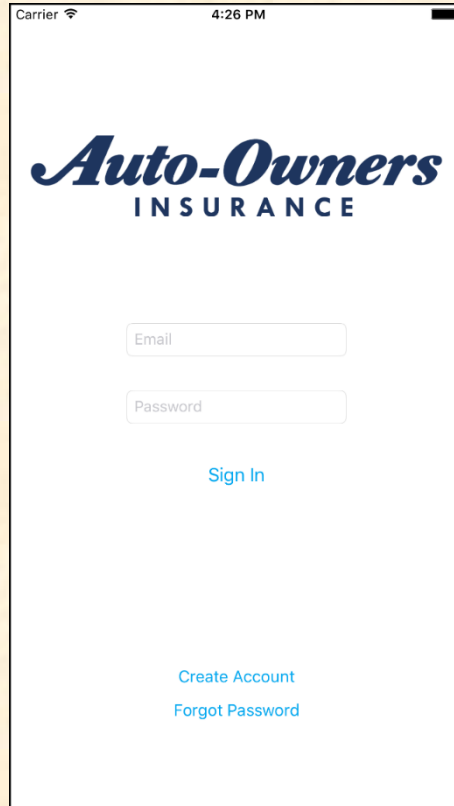
**Auto-Owners**  
INSURANCE  
LIFE • HOME • CAR • BUSINESS

The Capstone Experience

# Team Auto-Owners Alpha Presentation

2.

iPhone/iPad App



Carrier 4:26 PM

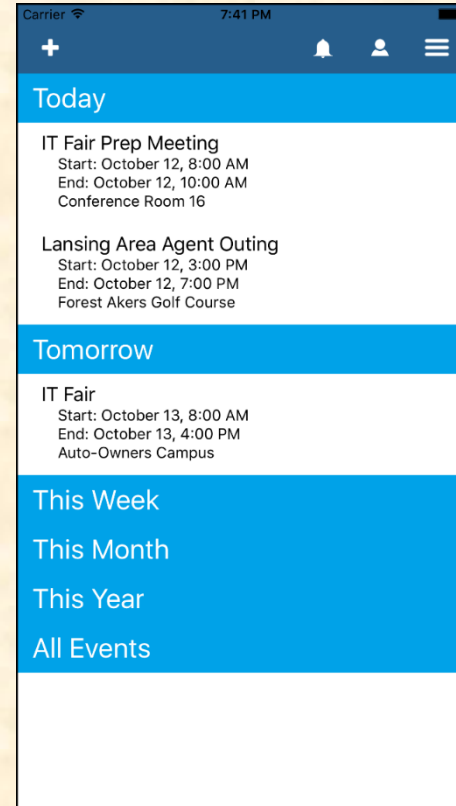
***Auto-Owners***  
**INSURANCE**

Email

Password

[Sign In](#)

[Create Account](#)  
[Forgot Password](#)



Carrier 7:41 PM

+

Today

**IT Fair Prep Meeting**  
Start: October 12, 8:00 AM  
End: October 12, 10:00 AM  
Conference Room 16

**Lansing Area Agent Outing**  
Start: October 12, 3:00 PM  
End: October 12, 7:00 PM  
Forest Akers Golf Course

Tomorrow

**IT Fair**  
Start: October 13, 8:00 AM  
End: October 13, 4:00 PM  
Auto-Owners Campus

This Week

This Month

This Year

All Events



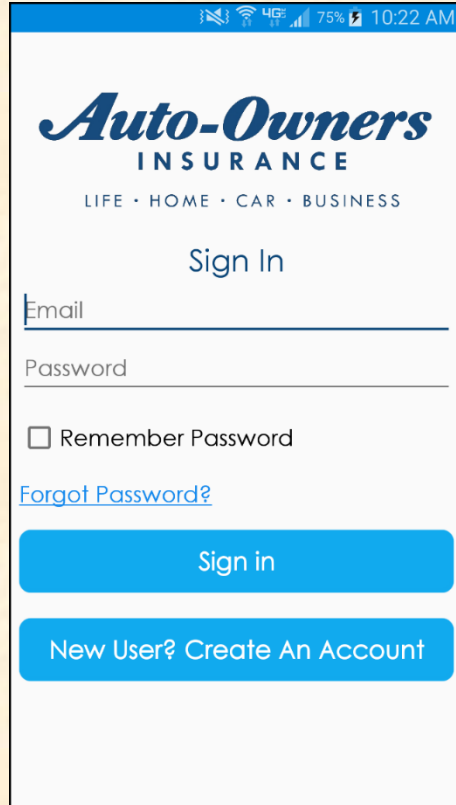




# Team Auto-Owners Alpha Presentation

# Team Auto-Owners Alpha Presentation

Android App



Auto-Owners  
INSURANCE

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Sign In

Email

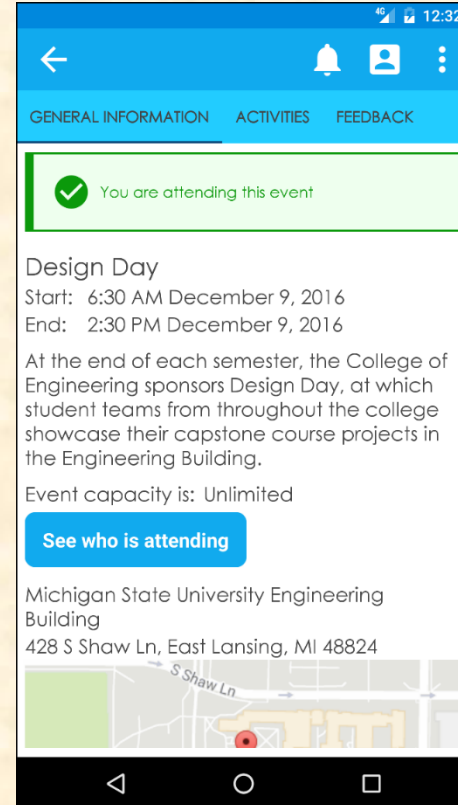
Password

☐ Remember Password

[Forgot Password?](#)

Sign in

New User? Create An Account



←

GENERAL INFORMATION ACTIVITIES FEEDBACK

✓ You are attending this event

Design Day

Start: 6:30 AM December 9, 2016

End: 2:30 PM December 9, 2016

At the end of each semester, the College of Engineering sponsors Design Day, at which student teams from throughout the college showcase their capstone course projects in the Engineering Building.

Event capacity is: Unlimited

See who is attending

Michigan State University Engineering Building  
428 S Shaw Ln, East Lansing, MI 48824

S Shaw Ln



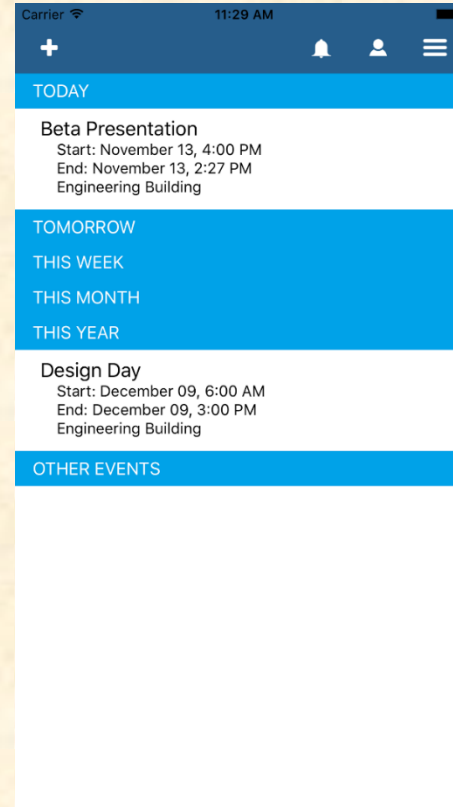
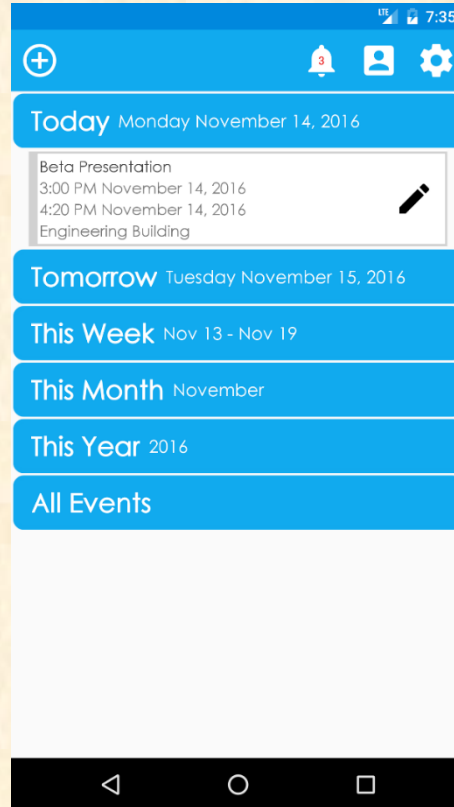


## Team Auto-Owners Beta Presentation

# Team Auto-Owners Beta Presentation

2.

## Mobile Application Events View



# Team Auto-Owners Beta Presentation

2.

## Website Calendar View

The screenshot shows a web browser window displaying the Auto-Owners Insurance website. The page features a dark blue header with the company logo and navigation icons. A sidebar on the left lists 'My Events' and 'Recent Attended'. The main content area displays a calendar for November 2016, with events like '3p Test 5' and '6a Design Day' highlighted. The footer includes links for 'Live Support', 'Feedback & Comments', and 'Terms of Use and Private Policy', along with the company logo and tagline.

**Auto-Owners INSURANCE**

**My Events**

- Design Day  
12/9/2016 - 12/9/2016
- Testing  
01/1/2017 - 10/26/2016
- Testing  
01/1/2017 - 10/26/2016
- Testing  
01/1/2017 - 10/26/2016

**Recent Attended**

**Calendar: November 2016**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31 3p Test 5	1	2	3	4	
6	7	8	9	10	11	
13	14	15	16	17	18	
20	21	22	23	24	25	
27	28	29	30	1	2	
4	5	6	7	8 6a Design Day	9	

**Auto-Owners INSURANCE**  
LIFE • HOME • CAR • BUSINESS





## Team Auto-Owners Beta Presentation



# Team Auto-Owners Beta Presentation

2.

## Website Survey Creation

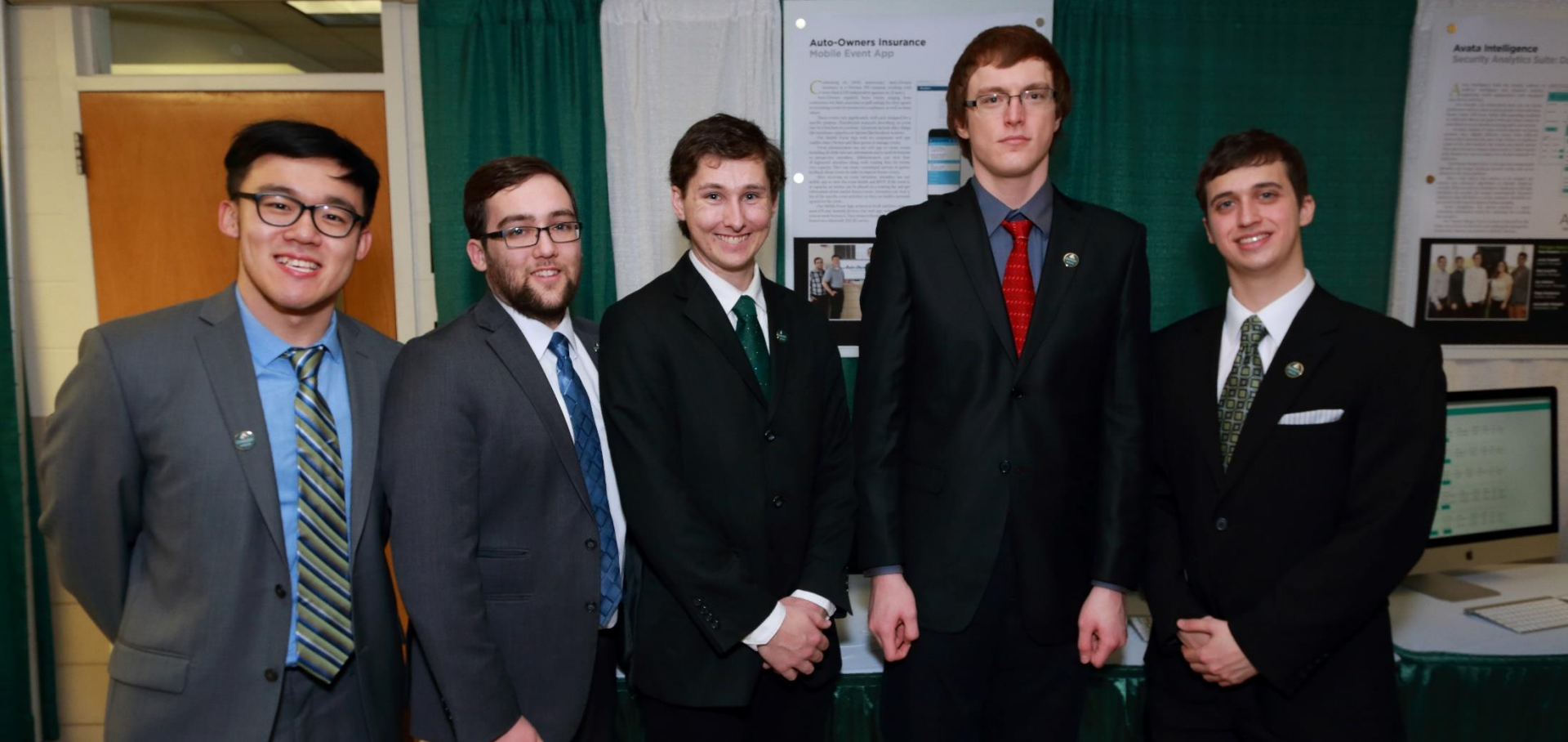
The screenshot displays the 'Survey Creation' page within the 'Administrator Panel' of the Auto-Owners Insurance website. The page features a dark blue header with the company logo and navigation icons. Below the header, the 'Administrator Panel' section includes links for 'Events', 'Add Event', 'Send Notification', and 'Survey'. The main content area is titled 'Survey Creation' and contains three question forms (Q1, Q2, Q3) and an 'ADD QUESTION' button.

**Q1:** Title: WHAT IS YOUR GENDER. Type: ☐ Text ☐ RadioGroup ☐ Check box ☐ Rate. Choice: MALE, FEMALE. ADD CHOICE

**Q2:** Title: DO YOU LIKE OUR EVENT, WHY OR WHY NOT? Type: ☐ Text ☐ RadioGroup ☐ Check box ☐ Rate

**Q3:** Title: PLEASE RATE OUR EVENT(S WILL BE THE BEST). Type: ☐ Text ☐ RadioGroup ☐ Check box ☒ Rate. How Many Stars: 6. ADD QUESTION

At the bottom of the page, there are links for 'Live Support', 'Feedback & Comments', and 'Terms of Use and Private Policy', along with the Auto-Owners Insurance logo and the tagline 'LIFE • HOME • CAR • BUSINESS'.



Team Auto-Owners  
Design Day

MICHIGAN STATE  
UNIVERSITY

# *The Capstone Experience*

Team Avata

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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



# Avata

INTELLIGENCE





Applications ▾

Products ▾

About ▾

News

Contact Us



# 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: Dataset Merger Tool

- Functionalities
  - Automatically Find and Merge Duplicate Records
  - Within and Across Security Datasets
- Features
  - Design and Implement Dataset Matching Algorithm
  - Allow Users Approval or Disapproval
  - Present Results Graphically and Textually
  - Build User Interface In ReactJS
  - Handle
    - Various Data Sources and Schema
    - Very Large Datasets
- Technologies
  - JavaScript / React JS
  - Java 8 / Spring Boot Framework / Hibernate Framework
  - SQL Server
  - Dataset Matching Algorithms
    - String Matching
    - Complex Error Code Matching
    - Lucene
    - Elastic Search





## Team Avata

Jonny Dowdall, Matt Scheffler, Zach Wellmer, Paige Henderson, Aasir Walajahi

# Team Avata Project Plan Presentation

2.

Screen Mockup

← → ✕ 🏠

Reports

🔍

Merged Records

Records In Review

Analysis

🔍

Sort By

Sort Key 1

Sort Key 2

Sort Key 3

Un-Merge

Data Source	Field 1	Field 2	Field 3
Data Source 1	a	b	c
Data Source 5	e	f	g
Data Source 2	i	j	k

Un-Merge

Data Source	Field 1	Field 2	Field 3
Data Source 1	a	b	c
Data Source 1	e	f	g

Un-Merge

Data Source	Field 1	Field 2	Field 3
Data Source 1	a	b	c
Data Source 6	e	f	g

Un-Merge

Data Source	Field 1	Field 2	Field 3
Data Source 6	a	b	c
Data Source 5	e	f	g
Data Source 4	i	j	k



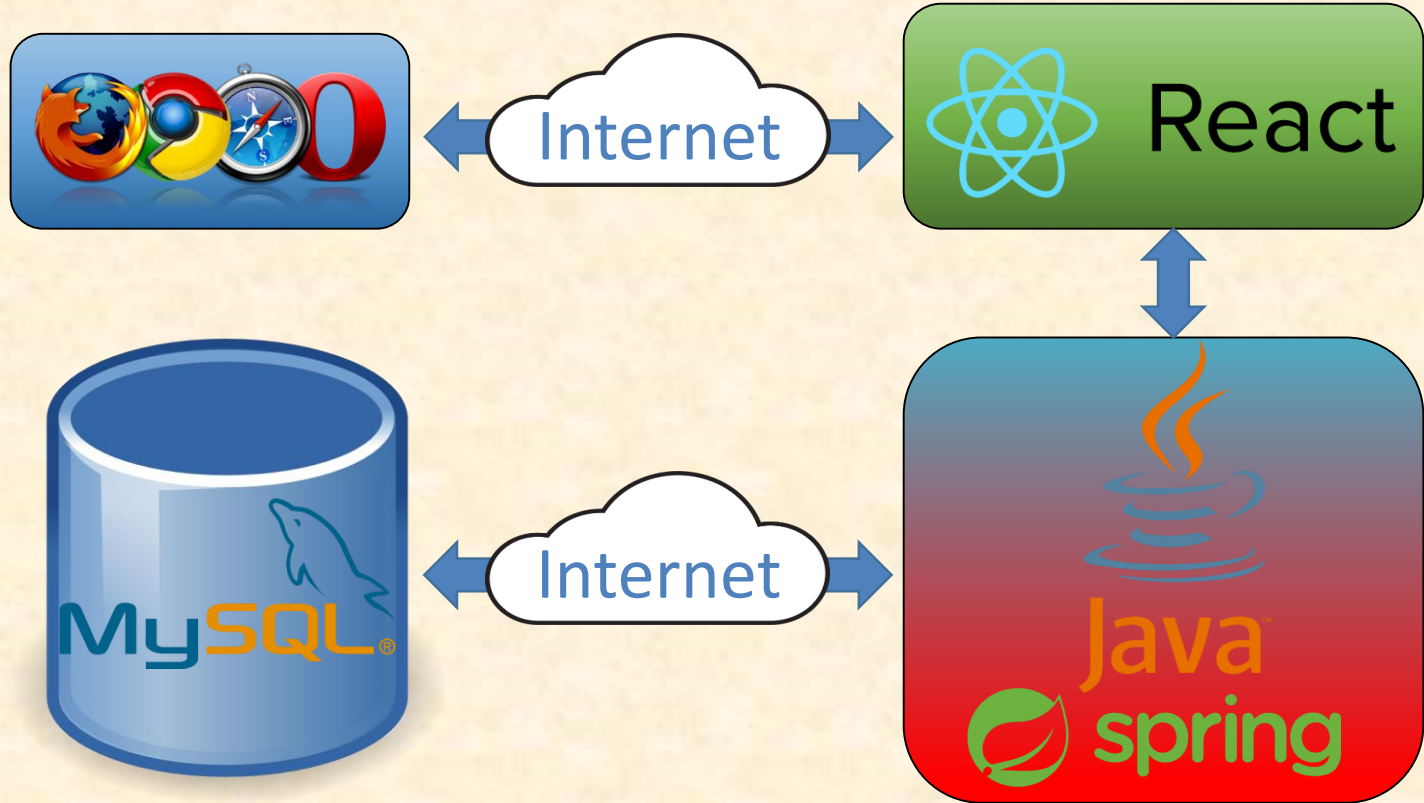


# Team Avata Project Plan Presentation

# Team Avata Project Plan Presentation

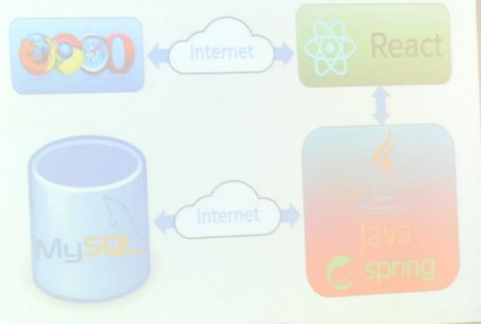
a.

Architecture Diagram





## System Architecture



Team Avata  
Project Plan Presentation

# Team Avata Project Plan Presentation

2.

Screen Mockup





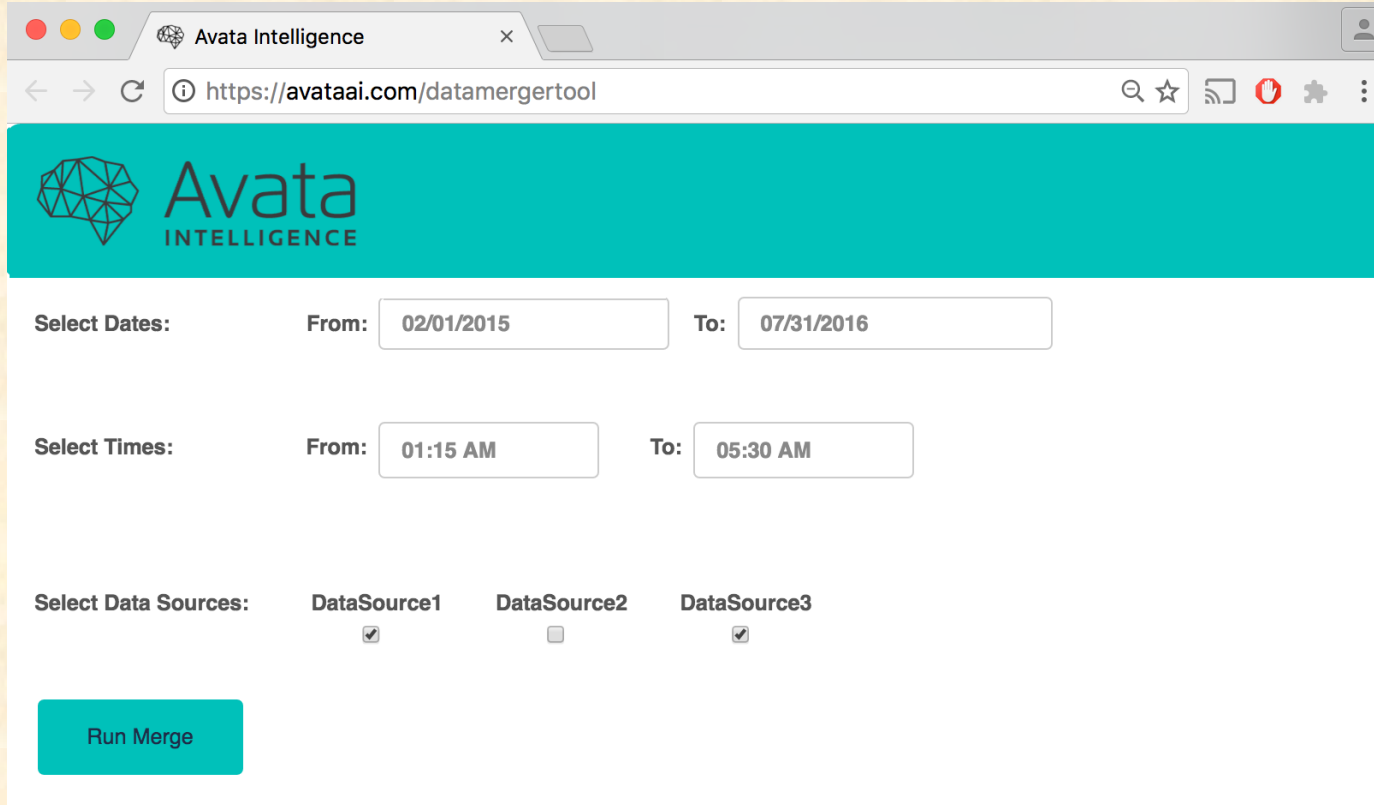


# Team Avata Alpha Presentation

# Team Avata Alpha Presentation

a.

Landing Page



The screenshot shows a web browser window with the title "Avata Intelligence". The address bar displays the URL "https://avataai.com/datamergertool". The page features a teal header with the Avata Intelligence logo. Below the header, there are three sections for user input:

- Select Dates:** Includes "From:" and "To:" labels with text input fields. The "From:" field contains "02/01/2015" and the "To:" field contains "07/31/2016".
- Select Times:** Includes "From:" and "To:" labels with text input fields. The "From:" field contains "01:15 AM" and the "To:" field contains "05:30 AM".
- Select Data Sources:** Includes labels "DataSource1", "DataSource2", and "DataSource3", each followed by a checkbox. "DataSource1" and "DataSource3" have their checkboxes checked, while "DataSource2" has an unchecked checkbox.

A teal "Run Merge" button is located at the bottom left of the form area.

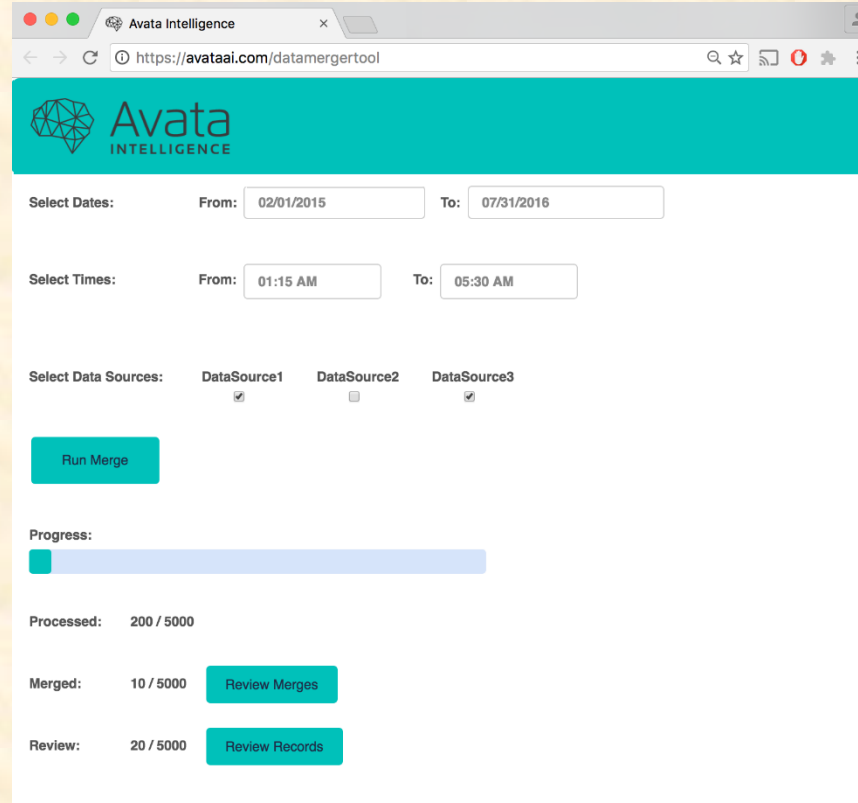
The Capstone Experience



# Team Avata Alpha Presentation

2.

## Merge Progress



The screenshot shows a web browser window with the title 'Avata Intelligence' and the URL 'https://avataai.com/datamergertool'. The page features a teal header with the Avata Intelligence logo. Below the header, there are several form fields for selecting dates, times, and data sources. A 'Run Merge' button is prominently displayed. Below the button, a progress bar shows the current status of the merge process. At the bottom, there are two rows of information: 'Processed: 200 / 5000' and 'Merged: 10 / 5000', each with a corresponding 'Review' button.

Select Dates: From: 02/01/2015 To: 07/31/2016

Select Times: From: 01:15 AM To: 05:30 AM

Select Data Sources: DataSource1 ☒ DataSource2 ☐ DataSource3 ☒

Run Merge

Progress:

Processed: 200 / 5000

Merged: 10 / 5000 [Review Merges](#)

Review: 20 / 5000 [Review Records](#)



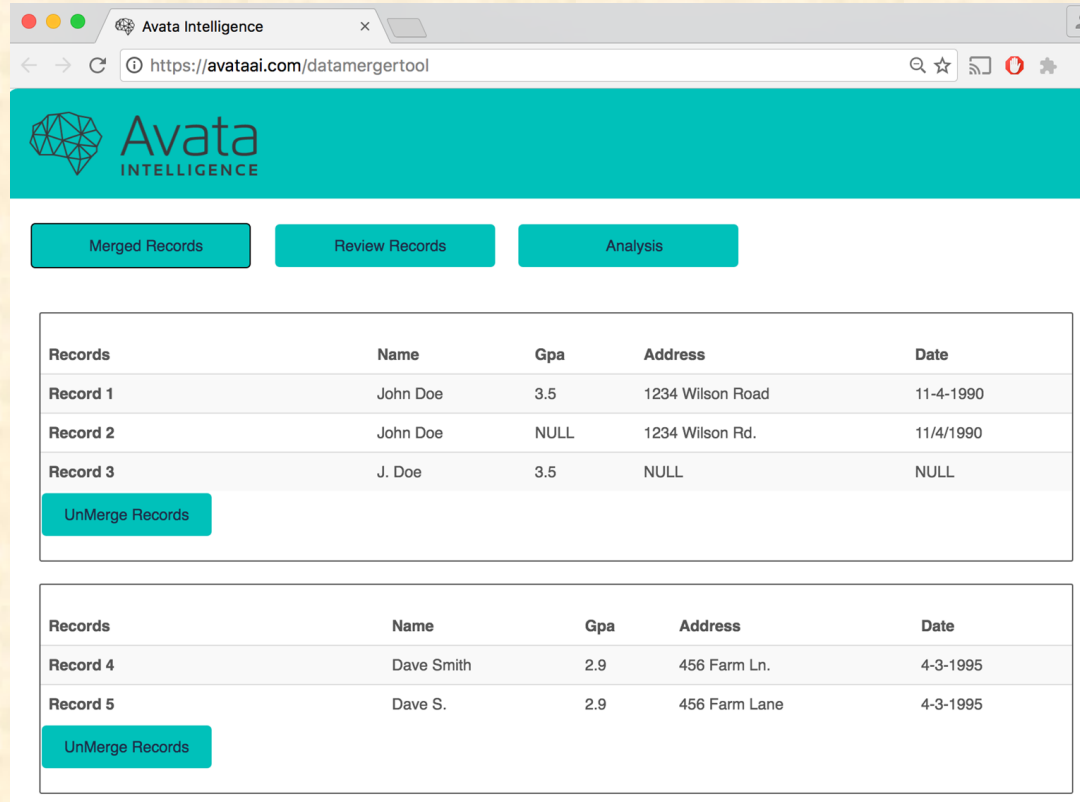
# Team Avata Alpha Presentation



# Team Avata Alpha Presentation

2.

## Merged Records



The screenshot shows a web browser window with the address bar displaying "https://avataai.com/datamergertool". The page features a teal header with the "Avata INTELLIGENCE" logo. Below the header, there are three teal buttons: "Merged Records", "Review Records", and "Analysis". The "Merged Records" button is selected. The main content area displays two tables of merged records. The first table has three records, and the second table has two records. Each record is shown with its ID, Name, Gpa, Address, and Date. Below each table is a teal button labeled "UnMerge Records".

Records	Name	Gpa	Address	Date
Record 1	John Doe	3.5	1234 Wilson Road	11-4-1990
Record 2	John Doe	NULL	1234 Wilson Rd.	11/4/1990
Record 3	J. Doe	3.5	NULL	NULL

UnMerge Records

Records	Name	Gpa	Address	Date
Record 4	Dave Smith	2.9	456 Farm Ln.	4-3-1995
Record 5	Dave S.	2.9	456 Farm Lane	4-3-1995

UnMerge Records



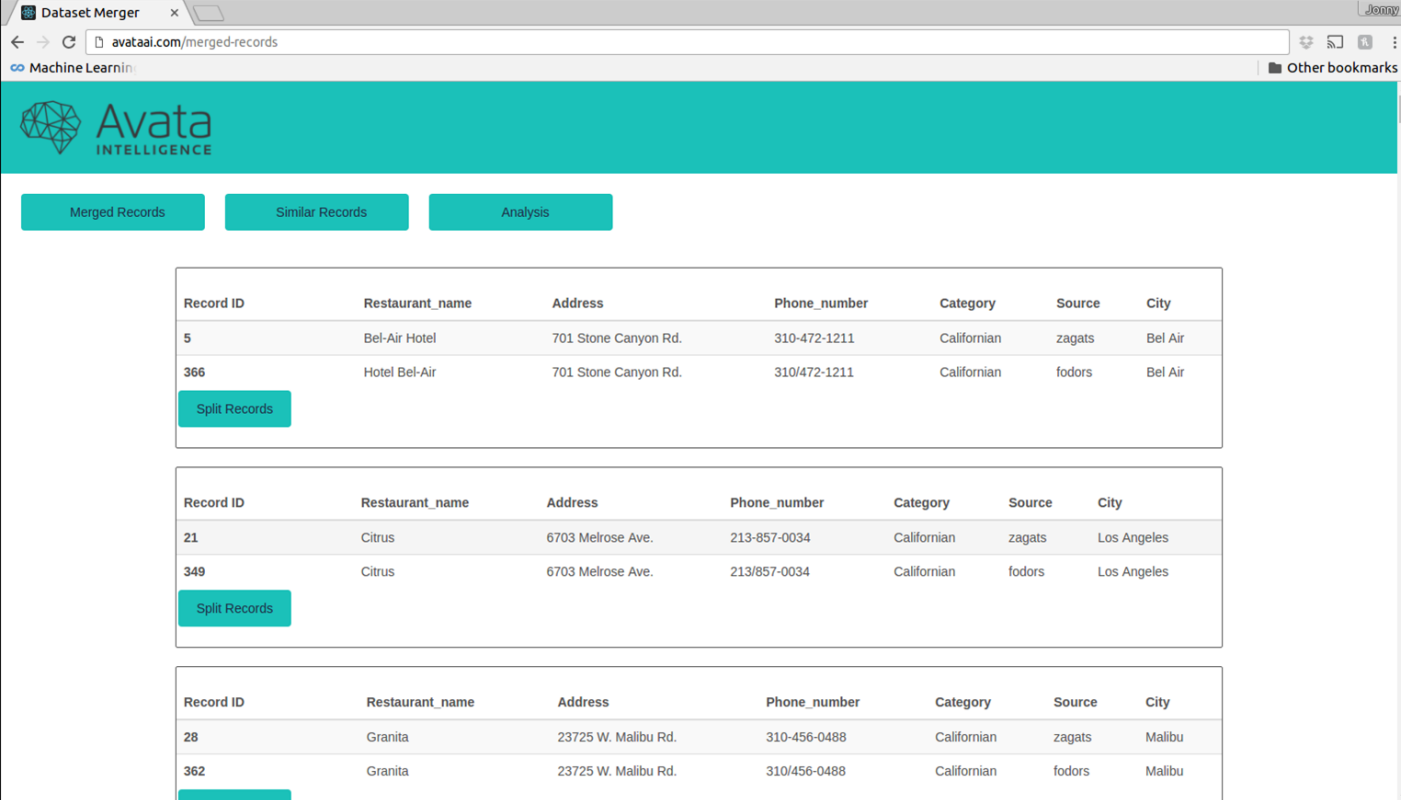


# Team Avata Beta Presentation

# Team Avata Beta Presentation

2.

## Merged Records Page



The screenshot shows a web browser window with the address bar displaying "avataai.com/merged-records". The page features the Avata Intelligence logo and three navigation buttons: "Merged Records", "Similar Records", and "Analysis". Below these are three tables of merged records, each with a "Split Records" button.

**Table 1:**

Record ID	Restaurant_name	Address	Phone_number	Category	Source	City
5	Bel-Air Hotel	701 Stone Canyon Rd.	310-472-1211	Californian	zagats	Bel Air
366	Hotel Bel-Air	701 Stone Canyon Rd.	310/472-1211	Californian	fodors	Bel Air

**Table 2:**

Record ID	Restaurant_name	Address	Phone_number	Category	Source	City
21	Citrus	6703 Melrose Ave.	213-857-0034	Californian	zagats	Los Angeles
349	Citrus	6703 Melrose Ave.	213/857-0034	Californian	fodors	Los Angeles

**Table 3:**

Record ID	Restaurant_name	Address	Phone_number	Category	Source	City
28	Granita	23725 W. Malibu Rd.	310-456-0488	Californian	zagats	Malibu
362	Granita	23725 W. Malibu Rd.	310/456-0488	Californian	fodors	Malibu

# Team Avata Beta Presentation

2.


## Similar Records Page

Dataset Merger

avataai.com/similar-records

Machine Learning

Other bookmarks

Avata  
INTELLIGENCE

Merged RecordsSimilar RecordsAnalysis

Record ID	Restaurant_name	Address	Phone_number	Category	Source	City
1	Arnie Morton's of Chicago	435 S. La Cienega Blvd.	310-246-1501	Steakhouses	zagats	Los Angeles
331	Arnie Morton's of Chicago	435 S. La Cienega Blvd.	310/246-1501	American	fodors	Los Angeles
<div>Do Not MergeMerge Records</div>						

Record ID	Restaurant_name	Address	Phone_number	Category	Source	City
2	Art's Deli	12224 Ventura Blvd.	818-762-1221	Delis	zagats	Studio City
332	Art's Delicatessen	12224 Ventura Blvd.	818/762-1221	American	fodors	Studio City
<div>Do Not MergeMerge Records</div>						

Record ID	Restaurant_name	Address	Phone_number	Category	Source	City
6	Belvedere The	9882 Little Santa Monica Blvd.	310-788-2306	Pacific New Wave	zagats	Beverly Hills
16	Cafe Blanc	9777 Little Santa Monica Blvd.	310-888-0108	Pacific New Wave	zagats	Beverly Hills
<div>Do Not MergeMerge Records</div>						



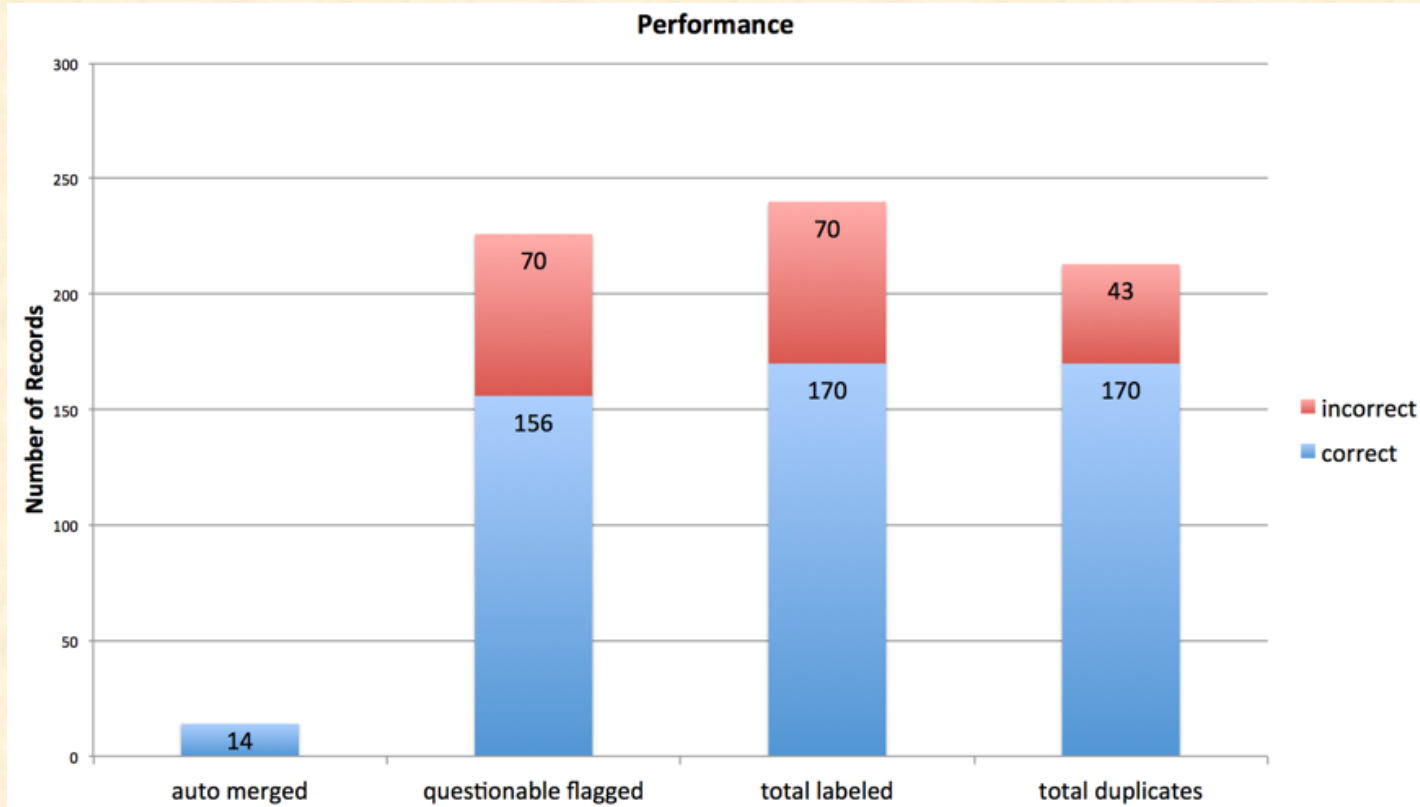


# Team Avata Beta Presentation

# Team Avata Beta Presentation

2.

## Results





Team Avata  
Design Day

MICHIGAN STATE  
UNIVERSITY

# *The Capstone Experience*

Team Ford

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



*From Students...  
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[Trucks & Vans](#)

[Shopping Tools](#)

[Owner](#)

[Find a Dealer](#)

[Saved Items](#)



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YEARS**

**FORD F-SERIES**

**AMERICA'S  
BEST  
SELLING  
TRUCKS**



2016 SUPER DUTY

# Team Ford Project Overview

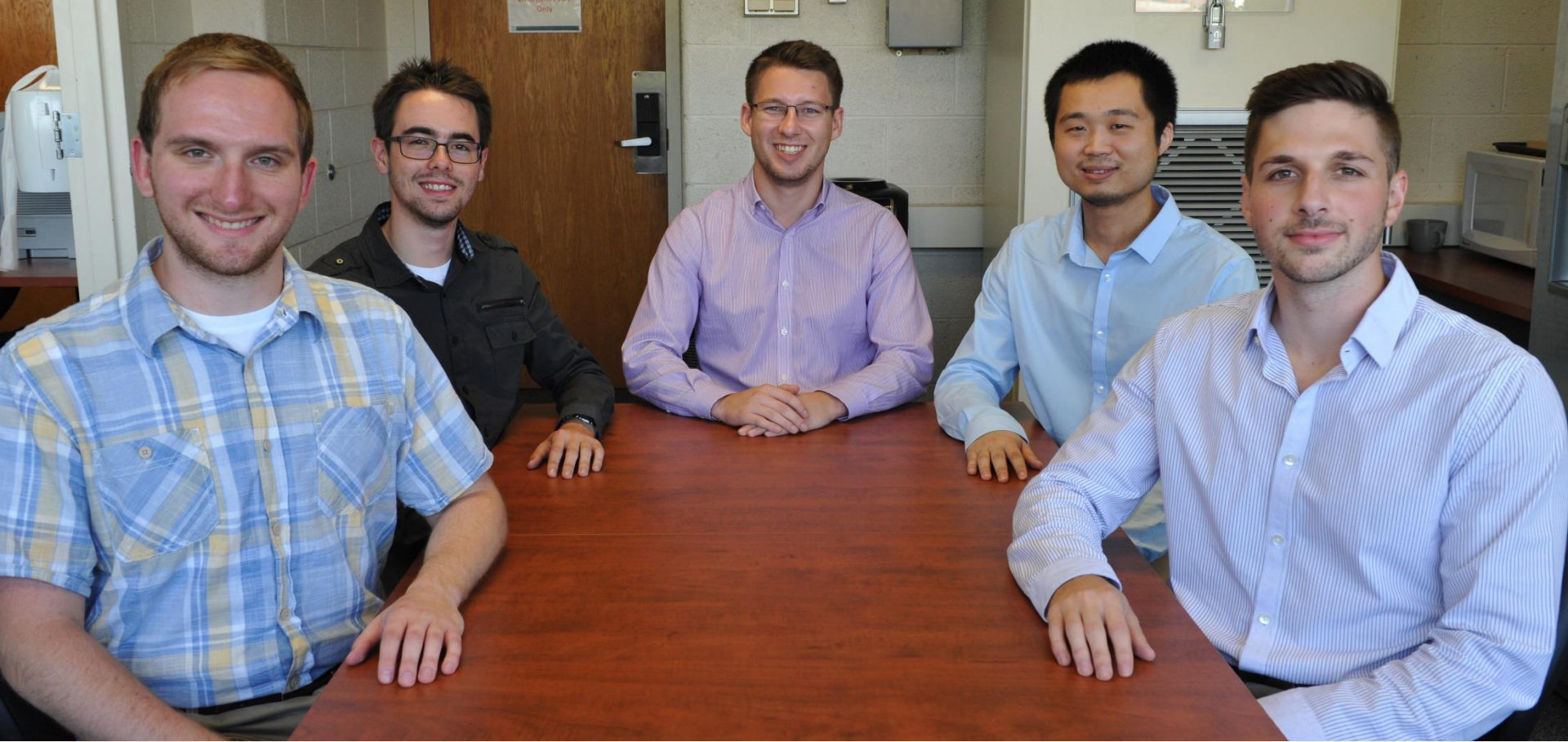
## Sync Calendar

- Functionalities
  - Provide In-Car Calendaring and To-Do Lists
  - That Integrates with Popular Services
  - By Leveraging Ford Sync AppLink
- Features
  - Provide Native Apps for Apple iOS and Google Android
  - Support Popular Calendaring and Task Software
    - Microsoft Exchange / Outlook
    - Google Calendar / Tasks
  - Handle Voice-Enabled Input
    - Read Remaining Events for Today
    - Add Calendar Event
    - Mark Task Complete
    - Etc.
  - Support Advanced Use Cases
    - Add Automatic Reminder to Refuel
    - Schedule Oil Change
    - Disable Manual Input When Vehicle In Motion
    - Etc.
- Technologies
  - Ford Sync 3 AppLink Emulator
  - Apple iPads and iPhones (iOS) / Swift or Objective-C
  - Google Android Tablets and Phones / Java
  - Microsoft SQL Server 2012



Dearborn, Michigan





## Team Ford

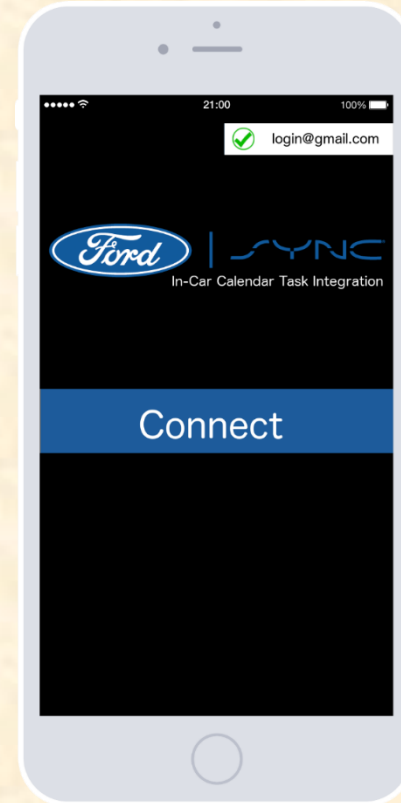
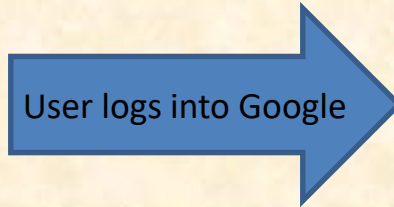
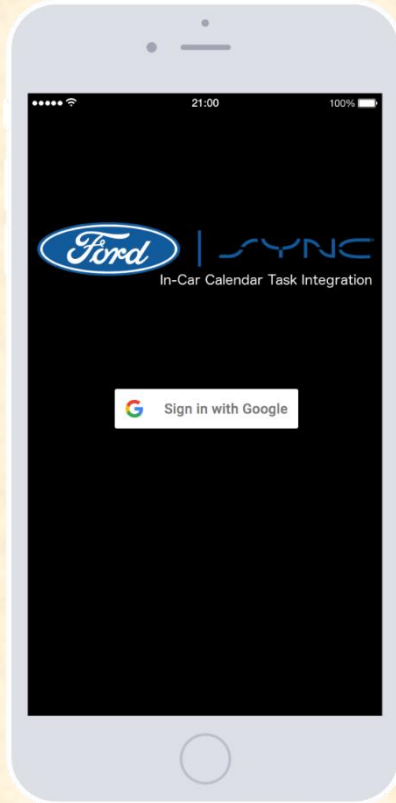
Eric Pressey, Brett Durlock, Cam Rooks, Avery Yue, Jack Zaidel



# Team Ford Project Plan Presentation

2.

## Screen Mockups





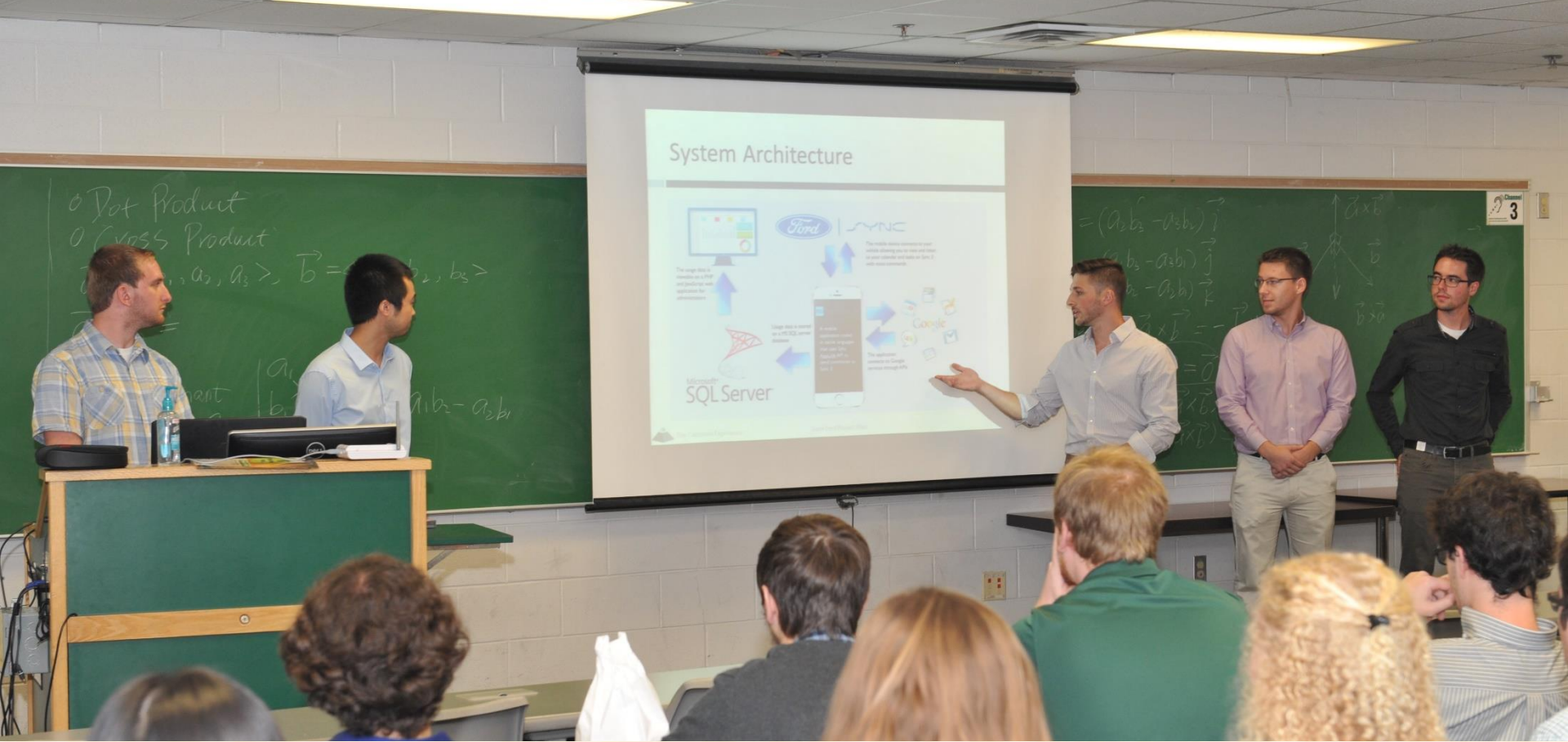
# Team Ford Project Plan Presentation

# Team Ford Project Plan Presentation

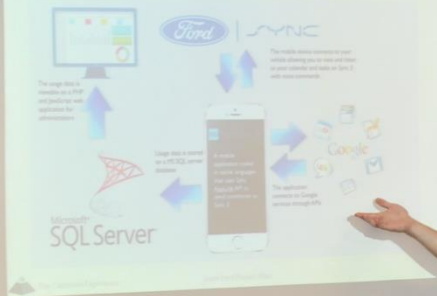
2.

## Architecture Diagram





## System Architecture



Team Ford  
Project Plan Presentation

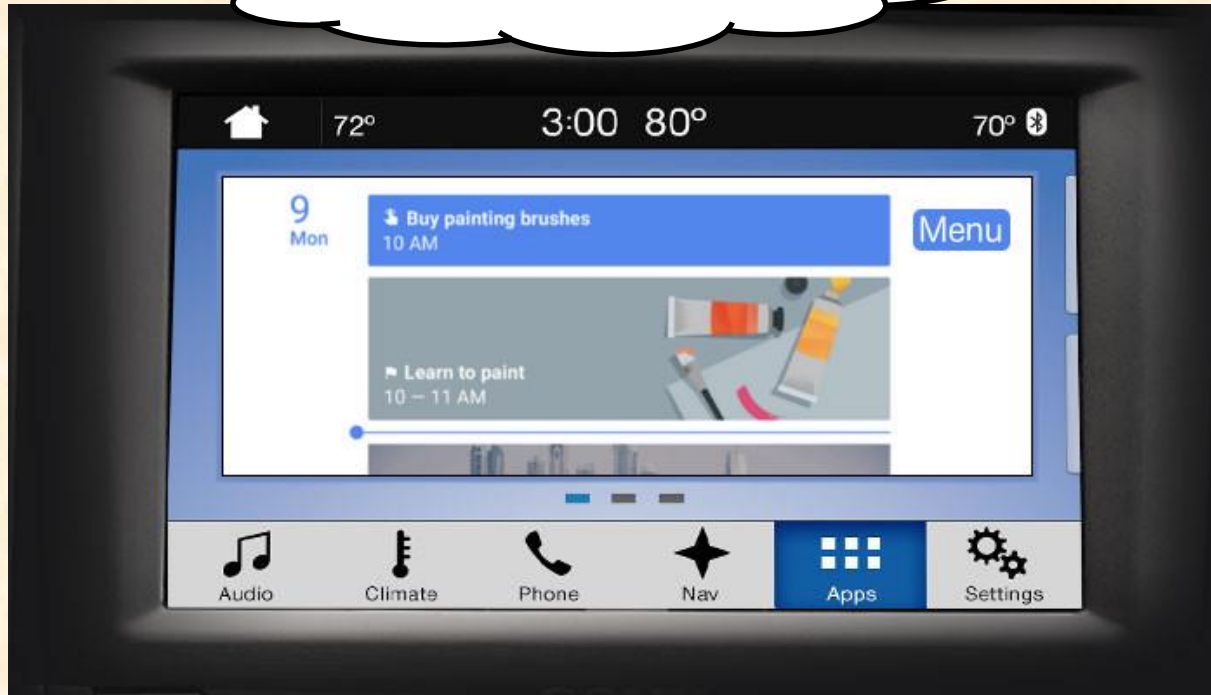


# Team Ford Project Plan Presentation

2.

Screen Mockup

"Show today's calendar"





# Team Ford Alpha Presentation

# Team Ford Alpha Presentation

2.

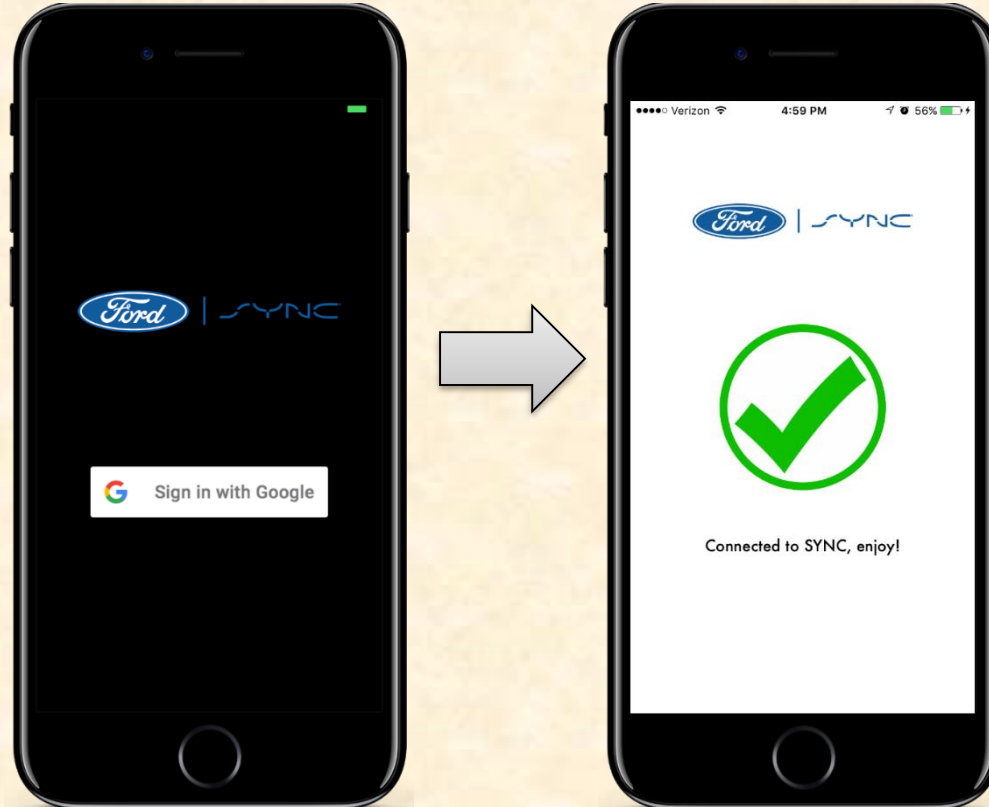
SYNC Calendar: Vehicle Screen



# Team Ford Alpha Presentation

2.

## SYNC Calendar – Phone Screen



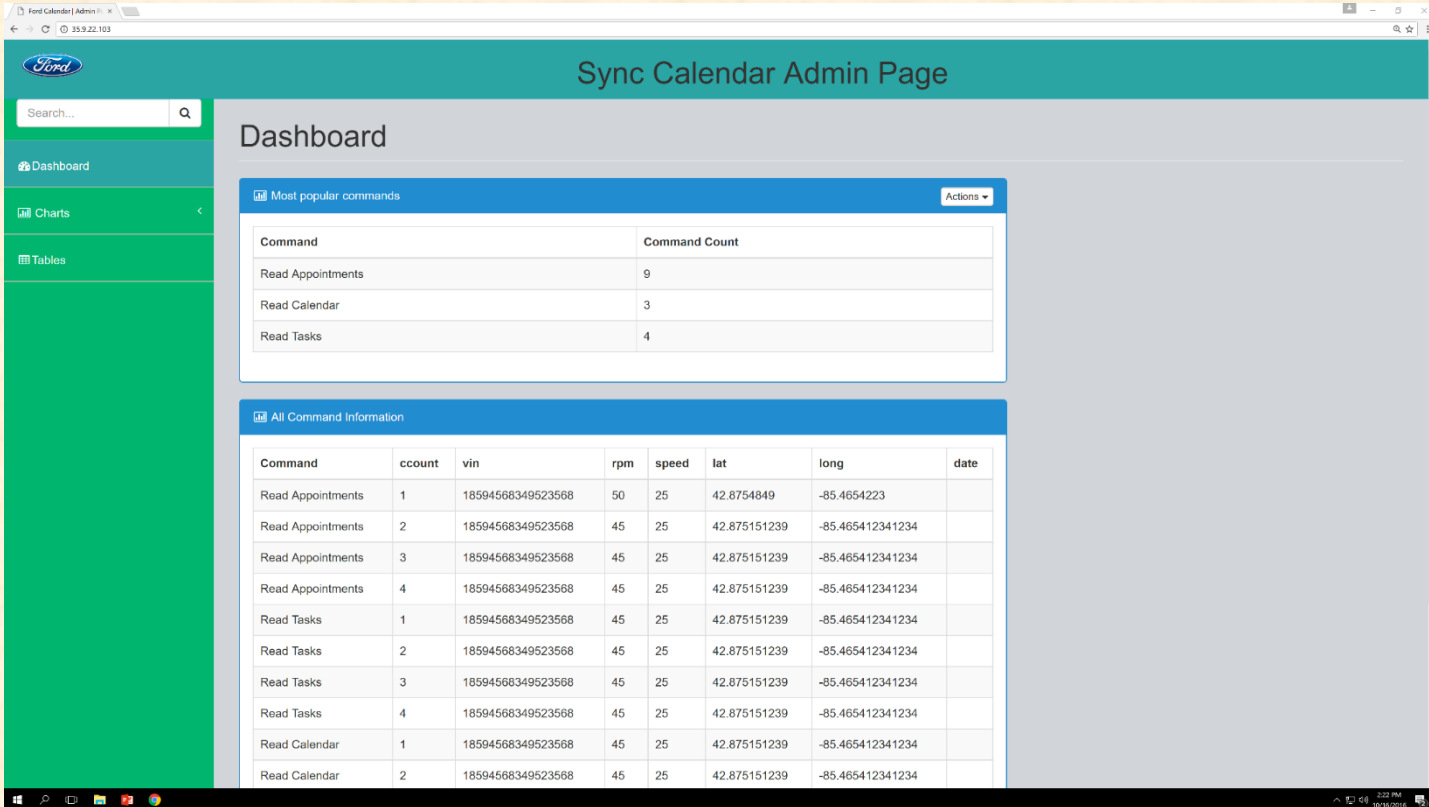




# Team Ford Alpha Presentation

# Team Ford Alpha Presentation

Administrative Web Portal



The screenshot shows a web browser window displaying the 'Ford Calendar Admin Page'. The page has a teal header with the Ford logo and a search bar. A left sidebar contains navigation links for Dashboard, Charts, and Tables. The main content area is titled 'Dashboard' and features two data sections. The first section, 'Most popular commands', is a table with two columns: 'Command' and 'Command Count'. The second section, 'All Command Information', is a larger table with columns for 'Command', 'ccount', 'vin', 'rpm', 'speed', 'lat', 'long', and 'date'.

Command	Command Count
Read Appointments	9
Read Calendar	3
Read Tasks	4

Command	ccount	vin	rpm	speed	lat	long	date
Read Appointments	1	18594568349523568	50	25	42.8754849	-85.4654223	
Read Appointments	2	18594568349523568	45	25	42.875151239	-85.465412341234	
Read Appointments	3	18594568349523568	45	25	42.875151239	-85.465412341234	
Read Appointments	4	18594568349523568	45	25	42.875151239	-85.465412341234	
Read Tasks	1	18594568349523568	45	25	42.875151239	-85.465412341234	
Read Tasks	2	18594568349523568	45	25	42.875151239	-85.465412341234	
Read Tasks	3	18594568349523568	45	25	42.875151239	-85.465412341234	
Read Tasks	4	18594568349523568	45	25	42.875151239	-85.465412341234	
Read Calendar	1	18594568349523568	45	25	42.875151239	-85.465412341234	
Read Calendar	2	18594568349523568	45	25	42.875151239	-85.465412341234	



# Team Ford Beta Presentation



# Team Ford Beta Presentation

2.

SYNC 3 – Vehicle Screen



The Capstone Experience





# Team Ford Beta Presentation

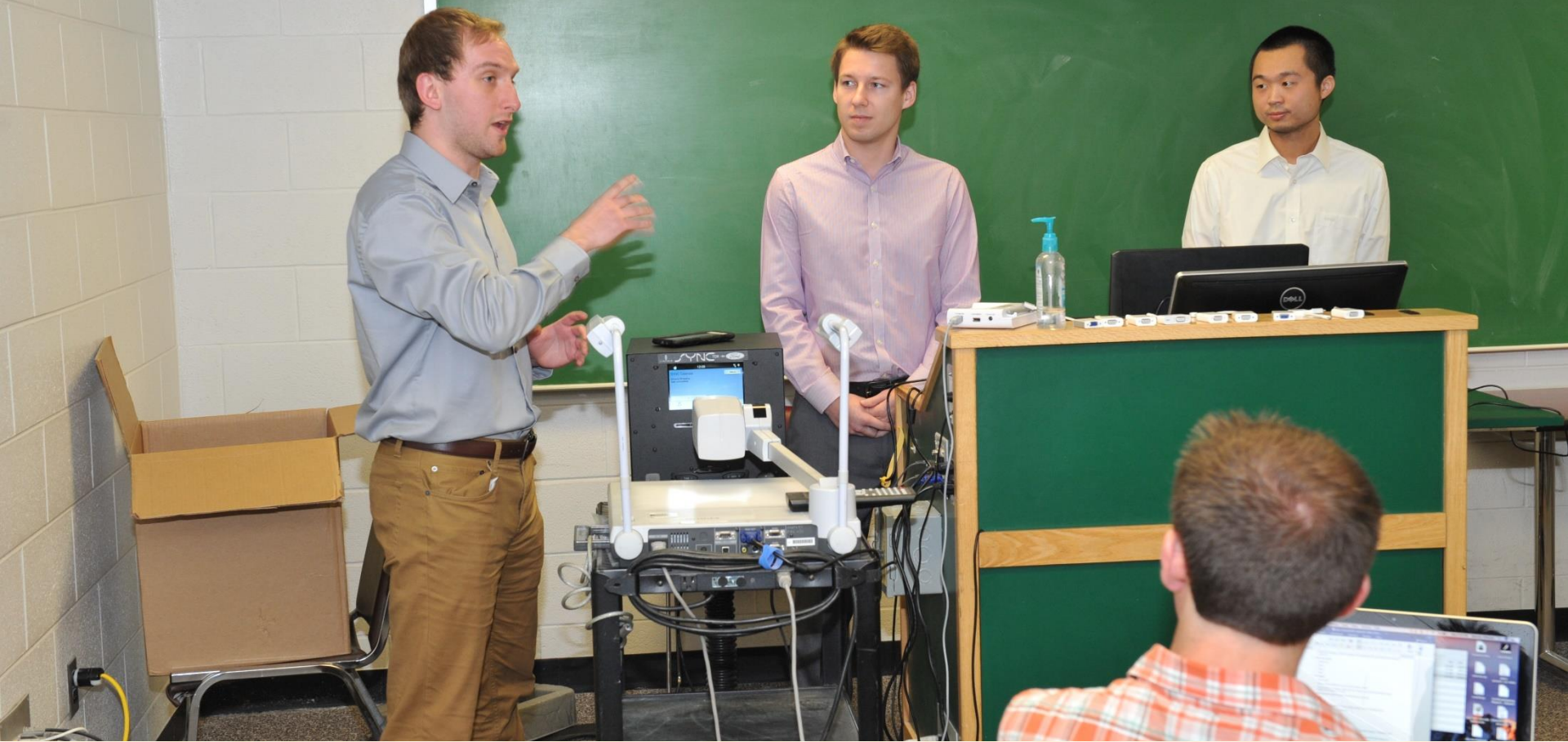
2.

SYNC 3 – Pulled Events Page



The Capstone Experience



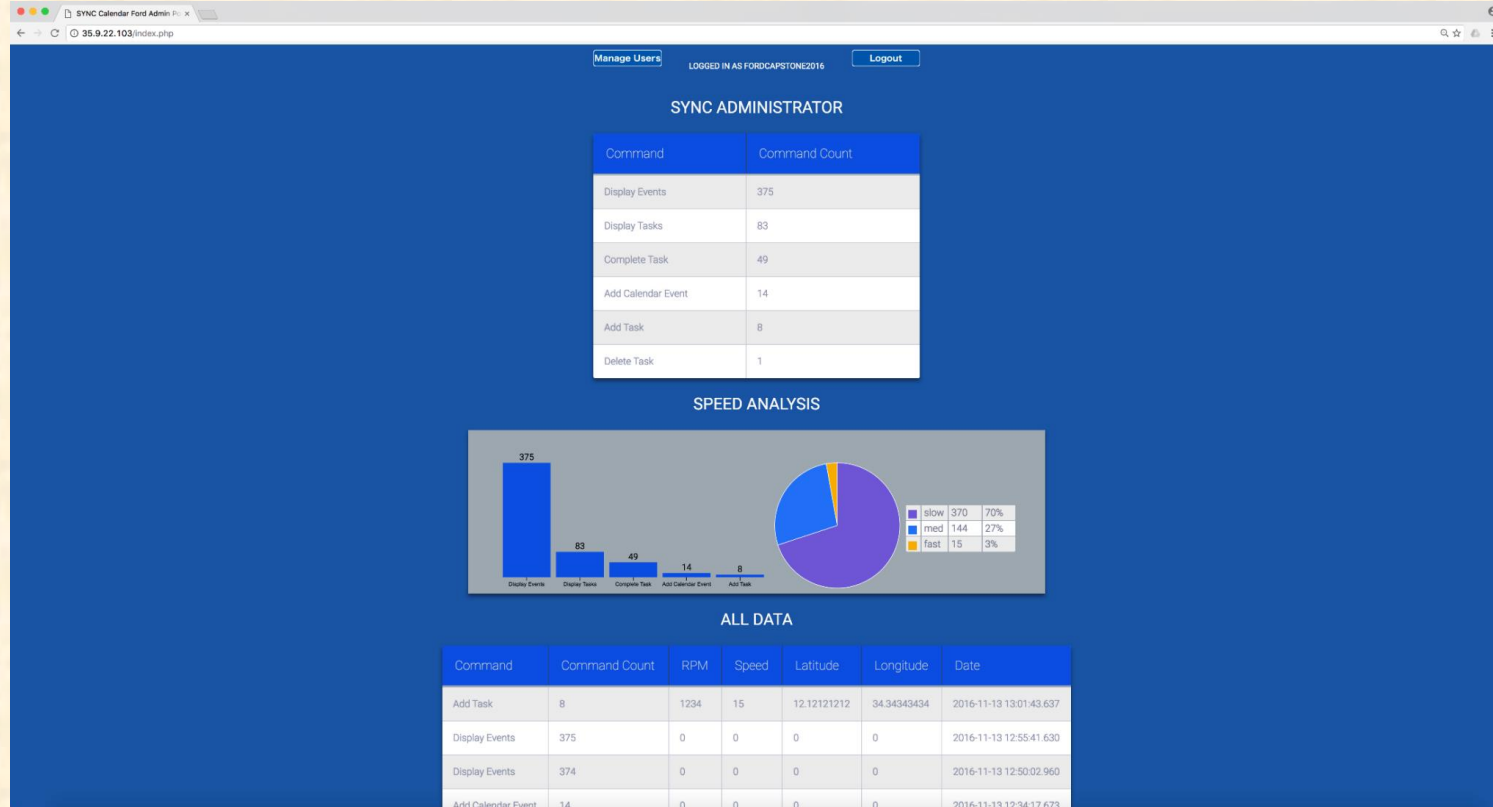


Team Ford  
Beta Presentation

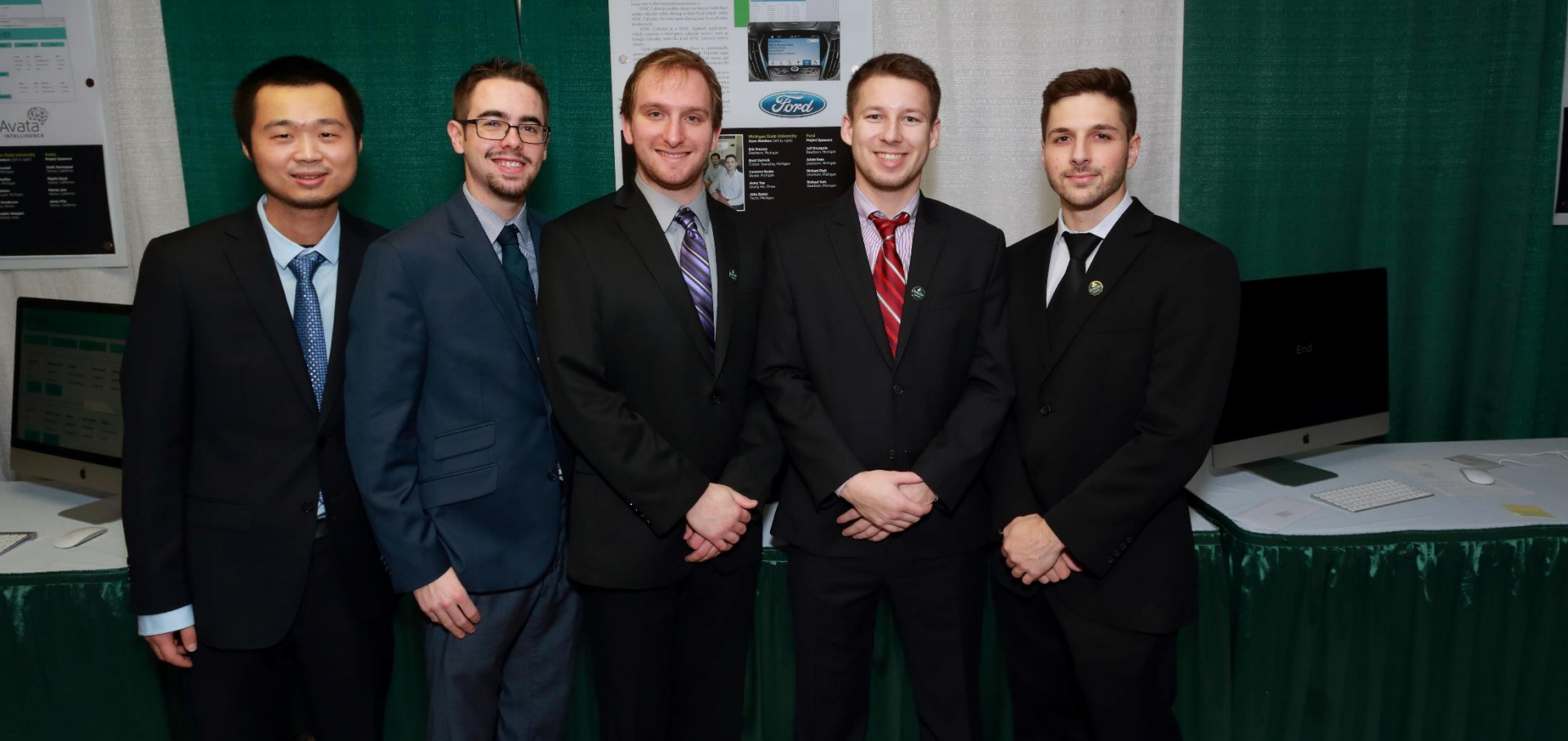
# Team Ford Beta Presentation

2.

## Administrative Portal







Team Ford  
Design Day



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# *The Capstone Experience*

Team GM

Department of Computer Science and Engineering  
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Fall 2016



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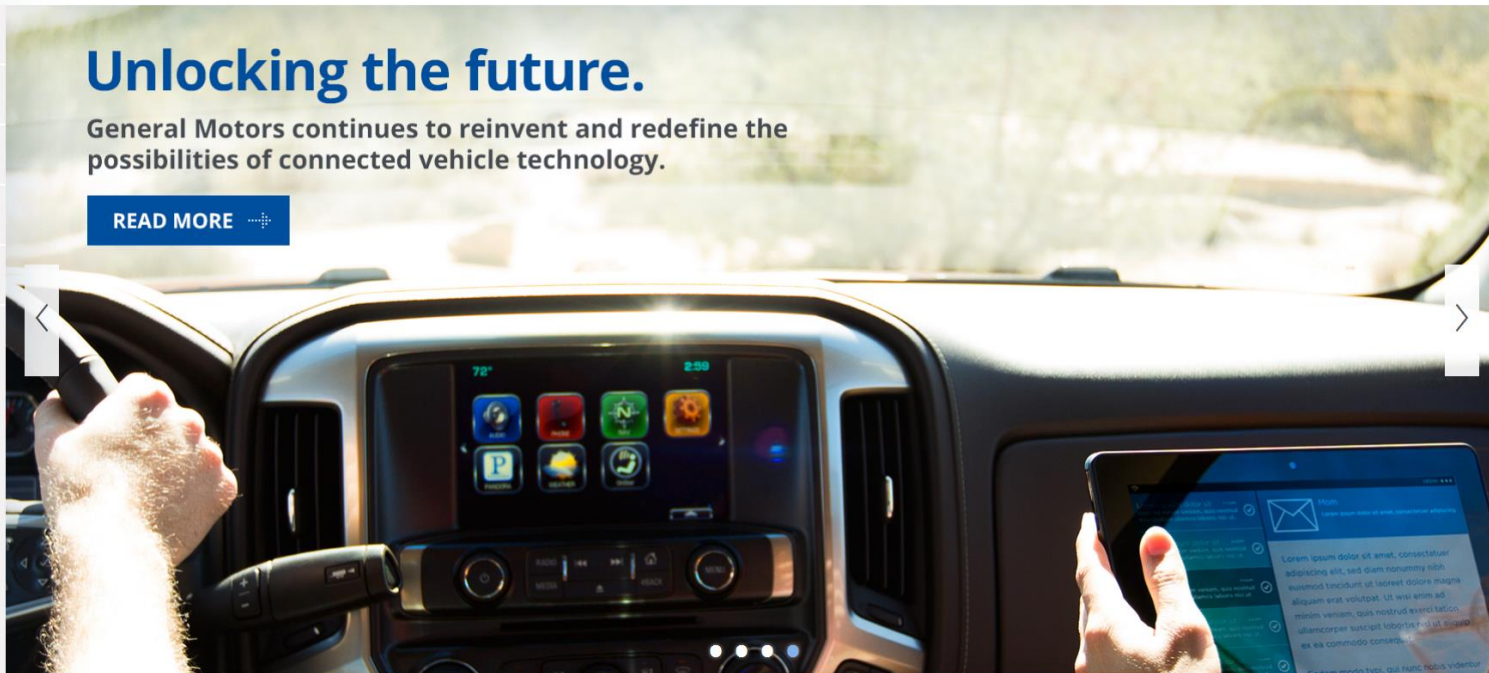
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# Team GM

## Project Overview

### Gemini: Predictive Rich Cards

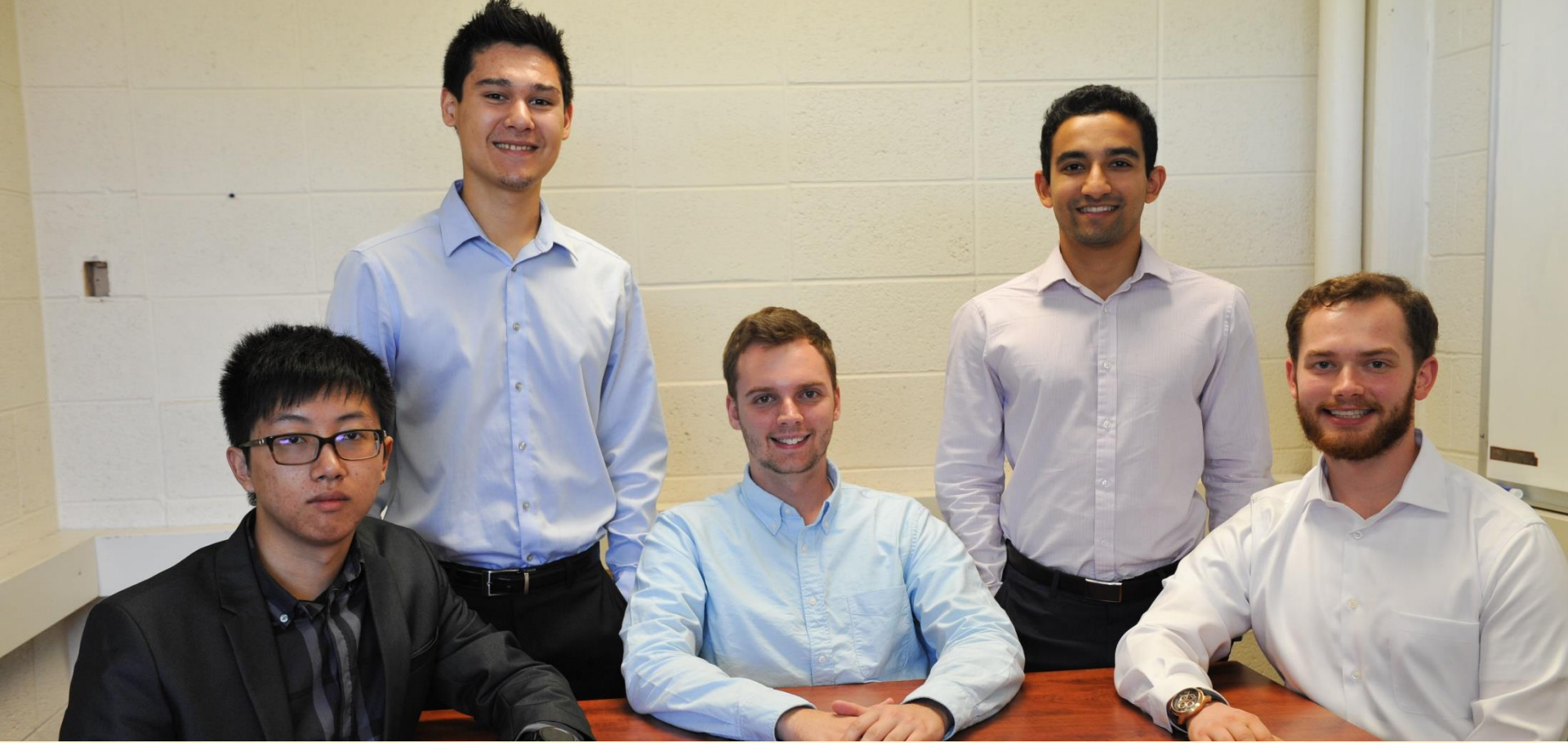
- Functionalities
  - Leverage Microsoft Cortana and Google Now Cards
  - To
    - Answer User-Initiated Queries
    - Deliver Predicted Information Proactively
  - Based on Search Habits of User
- Features
  - Provide Native Apps for Apple iOS and Google Android
  - Utilize Multiple Search Sources
  - Use Natural Language Web Services
  - Support Variety of Content
    - Action Items
    - Approvals
    - Workflows
    - Calendar Items
    - Etc.
- Technologies
  - Google Now Cards / Microsoft Cortana
  - Apple iPads and iPhones (iOS) / Swift or Objective-C
  - Google Android Tablets and Phones / Java
  - Microsoft SQL Server
  - Microsoft Azure Machine Learning Studio
  - Machine Learning and Artificial Intelligence Tools



Detroit, Michigan







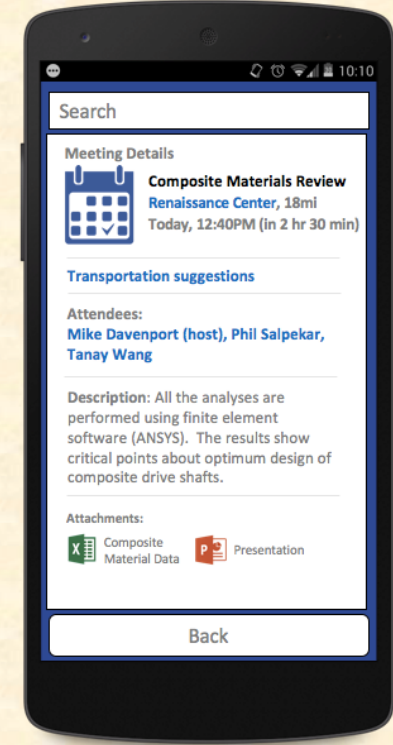
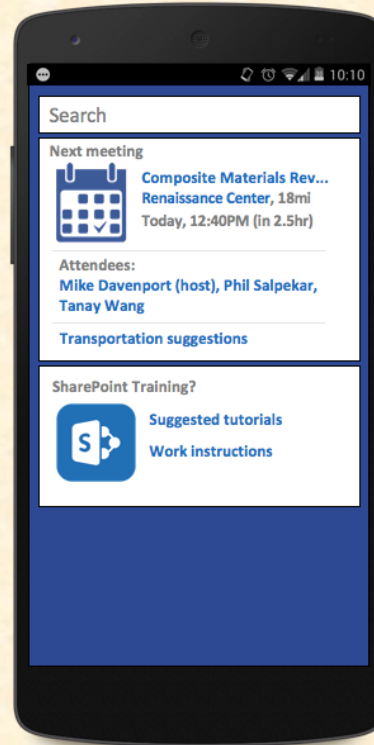
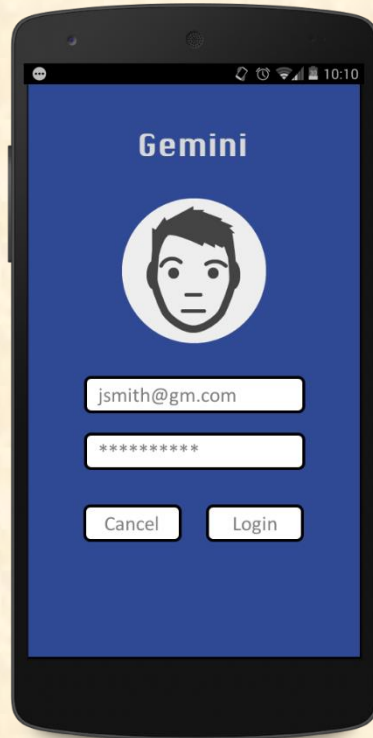
## Team GM

Runzhong Wang, Andrew Davenport, Phil Prescher, Tanay Salpekar, Mike Suszan

# Team GM Project Plan Presentation

2.

## Screen Mockups





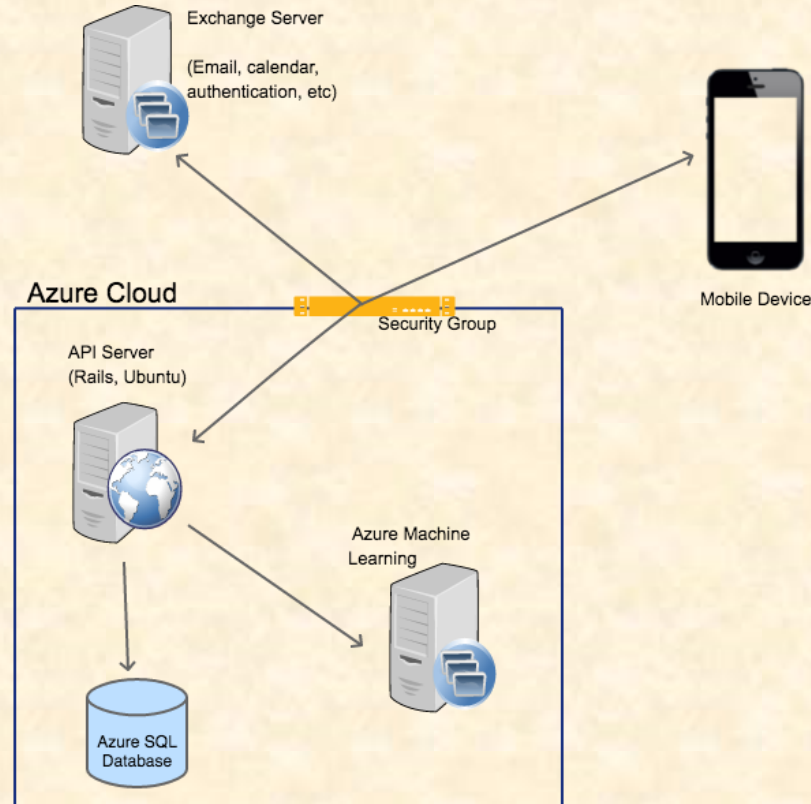
# Team GM Project Plan Presentation



# Team GM Project Plan Presentation

2.

## Architecture Diagram





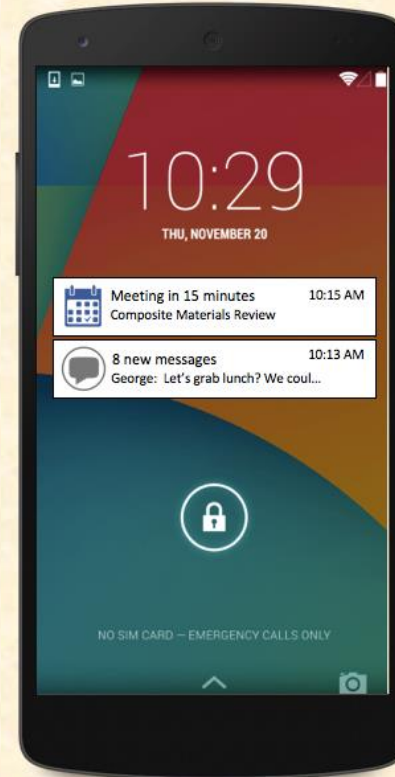
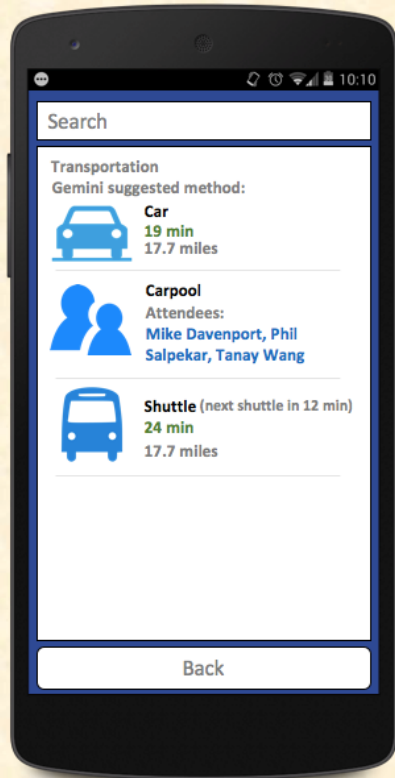


# Team GM Project Plan Presentation

# Team GM Project Plan Presentation

2.

Screen Mockup





# Team GM Alpha Presentation

# Team GM Alpha Presentation

2.

Gemini Login Slide

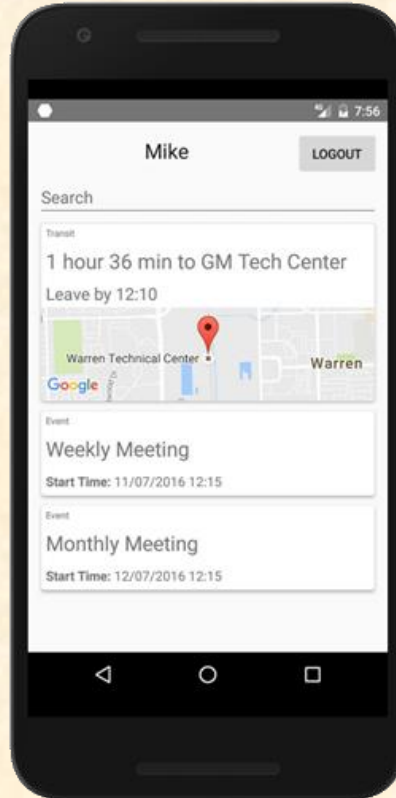




# Team GM Alpha Presentation

2.

Meeting Location



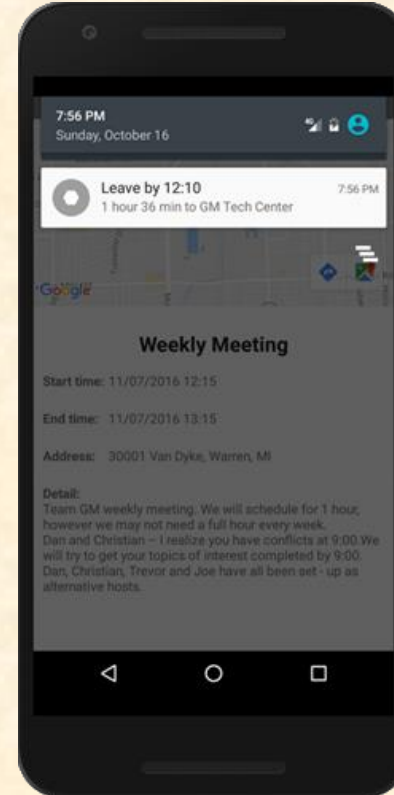
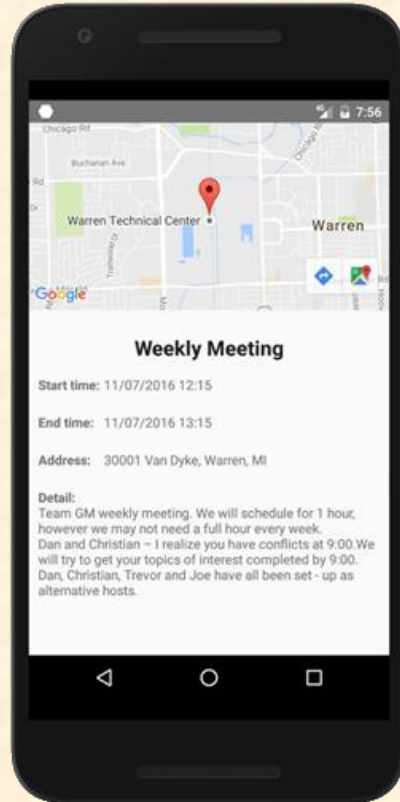


# Team GM Alpha Presentation

# Team GM Alpha Presentation

2.

## Meeting Details





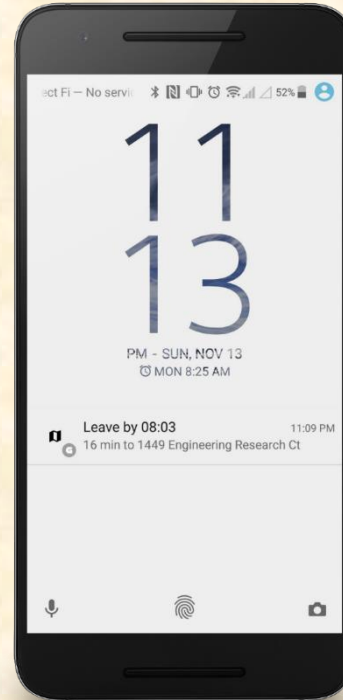
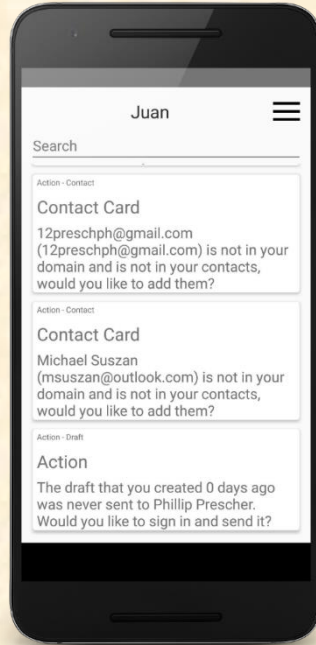
# Team GM Beta Presentation



# Team GM Beta Presentation

2.

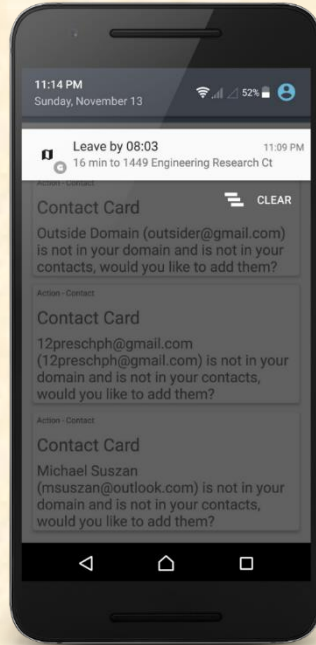
## Action Cards/New Event Card



# Team GM Beta Presentation

2.

## Status Notification/Login Screen



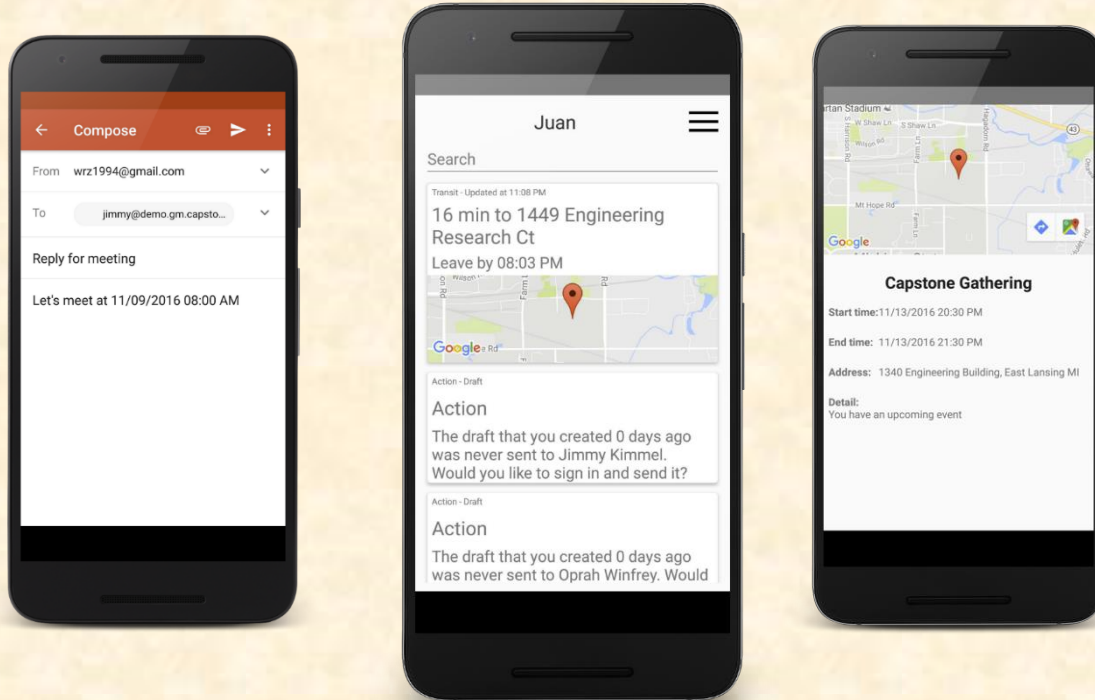


# Team GM Beta Presentation

# Team GM Beta Presentation

2.

Email Template/New Event Cards







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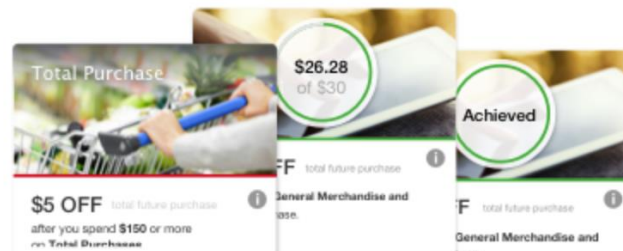
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# Team Meijer Project Overview

## Intelligent Shopping List

- Functionalities
  - Generate Shopping List
  - Based on Recent Purchases
  - Via Meijer's mPerks
- Features
  - Auto-Generate Initial Shopping List
  - Provide Review and Refinement Capabilities
  - Handle Auto-Delivery of Purchases
  - Support both Apple iOS and Google Android Mobile Devices
  - Provide Back-End Administration Apps
- Technologies
  - CSS / HTML / JavaScript / PHP
  - Microsoft Azure / Azure Mobile Services
  - Microsoft SQL Server 2012
  - Microsoft C# / .NET MVC / ASP.Net
  - Meijer Web Services
  - Xamarin or PhoneGap or Swift / Java
  - Crashlytics



**meijer**

Grand Rapids, Michigan





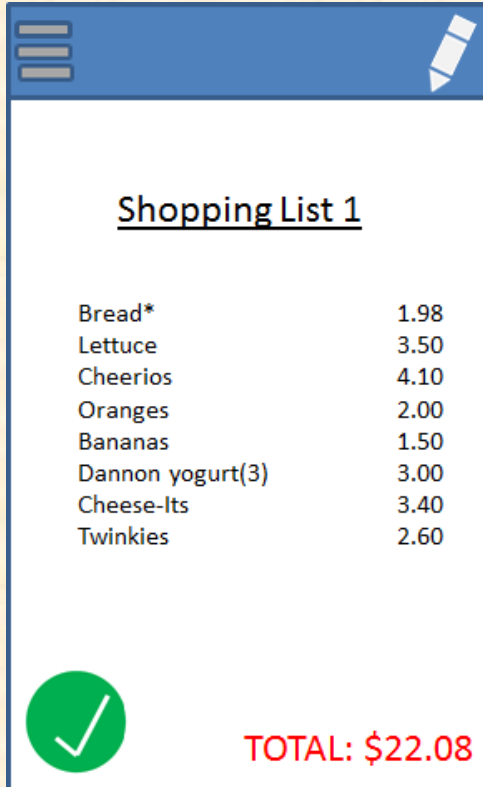
## Team Meijer

Alex Wziontka, Christina Harper, Lauren Antakli, Jacob Buckley, Adam Pruim

# Team Meijer Project Plan Presentation


2.

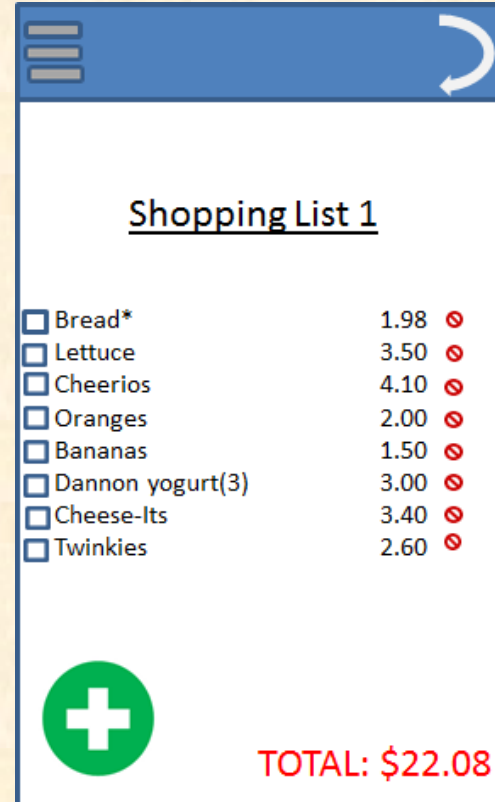
## Screen Mockups











Shopping List 1


Bread*	1.98
Lettuce	3.50
Cheerios	4.10
Oranges	2.00
Bananas	1.50
Dannon yogurt(3)	3.00
Cheese-Its	3.40
Twinkies	2.60

 TOTAL: \$22.08

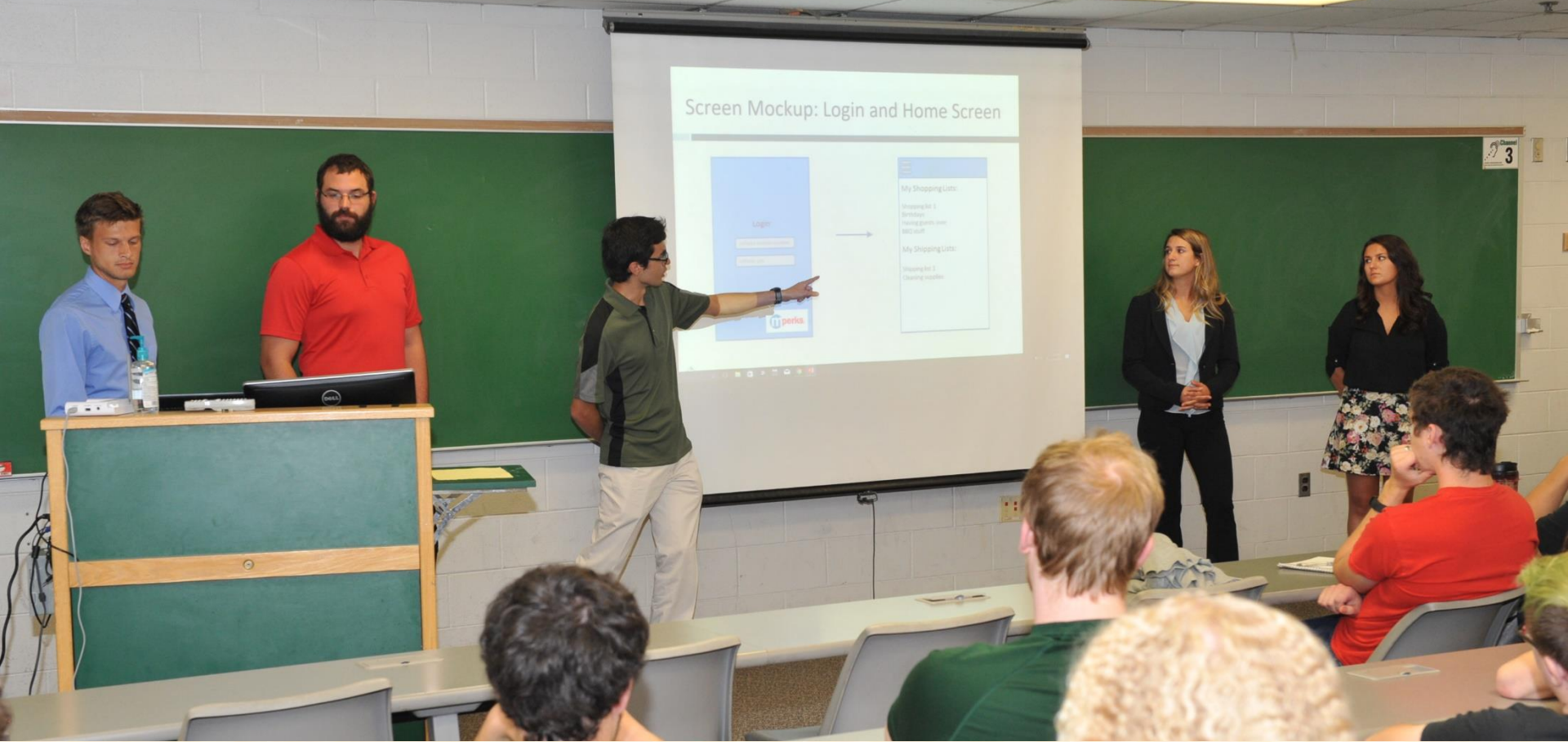


Shopping List 1

<input type="checkbox"/> Bread*	1.98	
<input type="checkbox"/> Lettuce	3.50	
<input type="checkbox"/> Cheerios	4.10	
<input type="checkbox"/> Oranges	2.00	
<input type="checkbox"/> Bananas	1.50	
<input type="checkbox"/> Dannon yogurt(3)	3.00	
<input type="checkbox"/> Cheese-Its	3.40	
<input type="checkbox"/> Twinkies	2.60	

 TOTAL: \$22.08





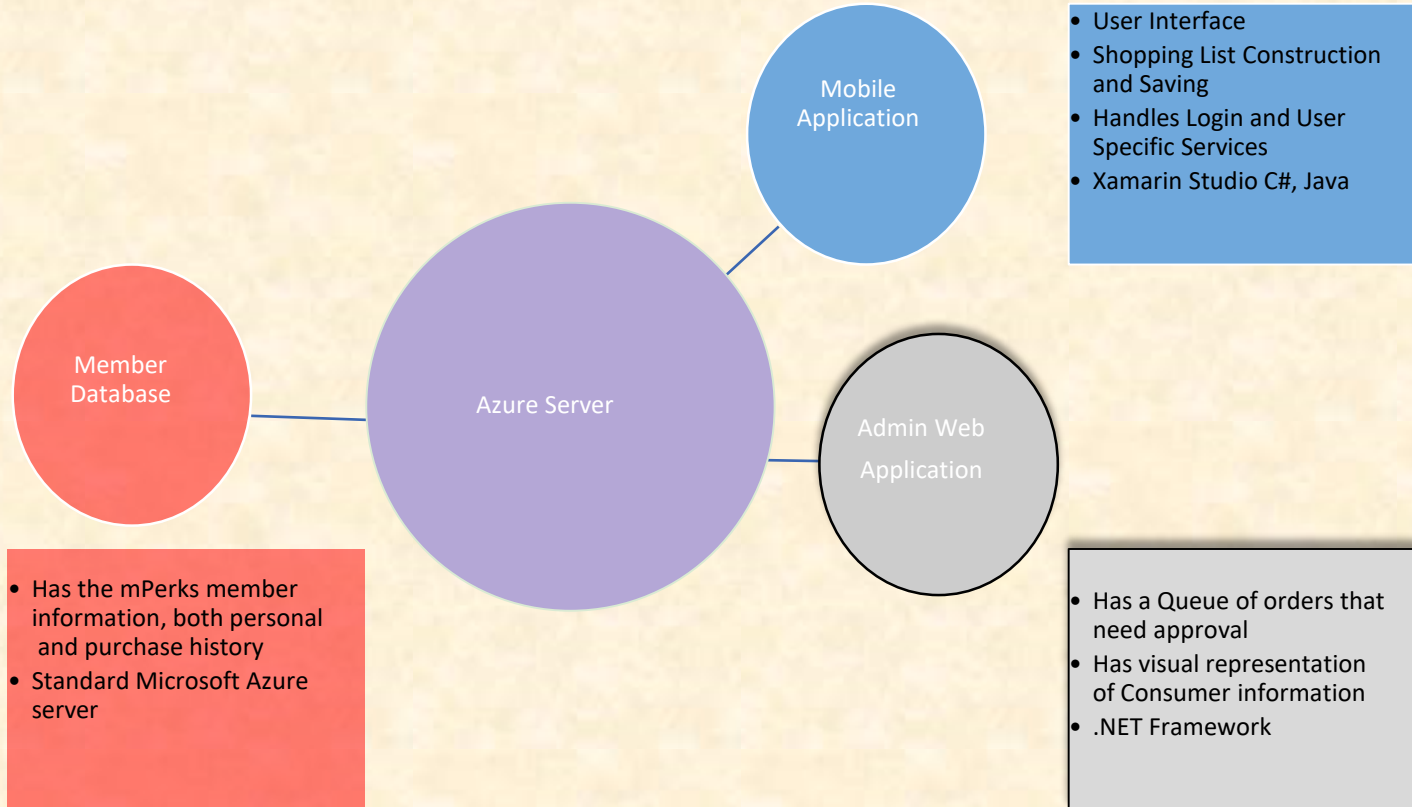
# Team Meijer Project Plan Presentation



# Team Meijer Project Plan Presentation

2.

## Architecture Diagram





Team Meijer  
Project Plan Presentation

# Team Meijer Project Plan Presentation

a.

Screen Mockup

## Order History

Name	Email	Address	Date	
User 1	user1@gmail.com	1234 Road Ln	9/15/16	<input type="button" value="View Order"/>
User 2	user2@gmail.com	1234 Road Ln	9/15/16	<input type="button" value="View Order"/>
User 3	user3@gmail.com	1234 Road Ln	9/15/16	<input type="button" value="View Order"/>
User 4	user4@gmail.com	1234 Road Ln	9/15/16	<input type="button" value="View Order"/>
User 5	user5@gmail.com	1234 Road Ln	9/15/16	<input type="button" value="View Order"/>







# Team Meijer

## Alpha Presentation

a.

### Web App: Order History

Meijer Web App

Order History


Register

Log in

## Order History

[Create New \(Development Only\)](#)

id	Store_Id	Customer_Id	date_received	date_completed	Status	
8	23	1	10/9/2016 12:00:00 AM	10/10/2016 12:00:00 AM	Pending ▾	<button>Details</button>
9	2	1111	10/9/2016 6:00:00 AM	10/10/2016 6:00:00 AM	Complete ▾	<button>Details</button>
10	1235	2367	10/12/2016 12:00:00 AM	10/15/2016 12:00:00 AM	Pending ▾	<button>Details</button>



© 2016 - Meijer Smart Shopping List

# Team Meijer Alpha Presentation

2.


Web App: Edit Order

Meijer Web App	Order History	Register	Log in
----------------	---------------	----------	--------

## Edit Order

Store_Id	<input type="text" value="23"/>
Customer_Id	<input type="text" value="1"/>
date_received	<input type="text" value="10/9/2016 12:00:00 AM"/>
date_completed	<input type="text" value="10/10/2016 12:00:00 AM"/>
Status	<input type="text" value="Completed"/>
<input type="button" value="Save"/>	

[Back to List](#)

  
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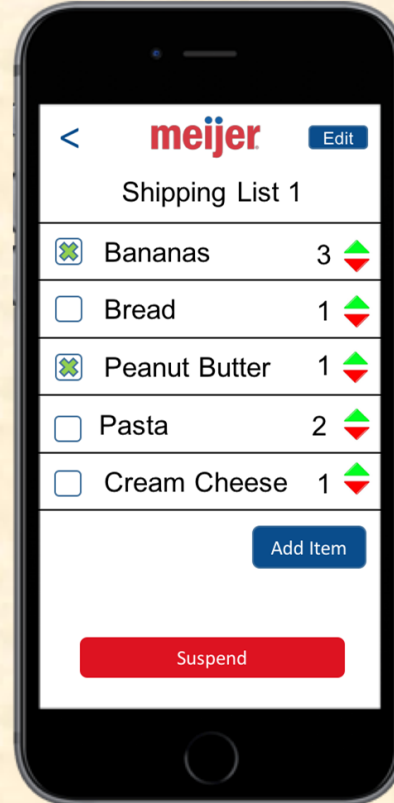
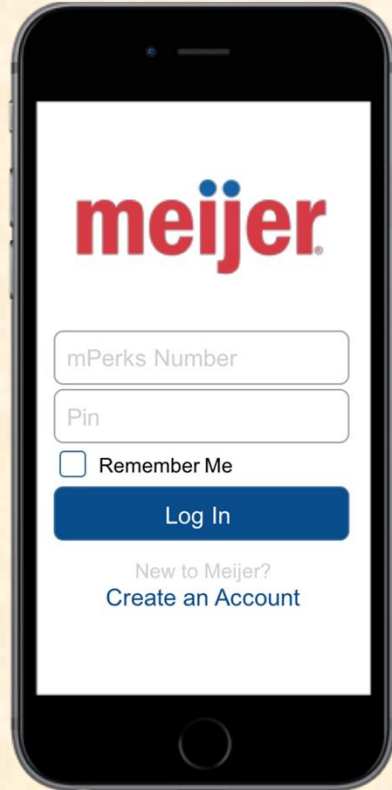


# Team Meijer Alpha Presentation

# Team Meijer Alpha Presentation

a.

Mobile App



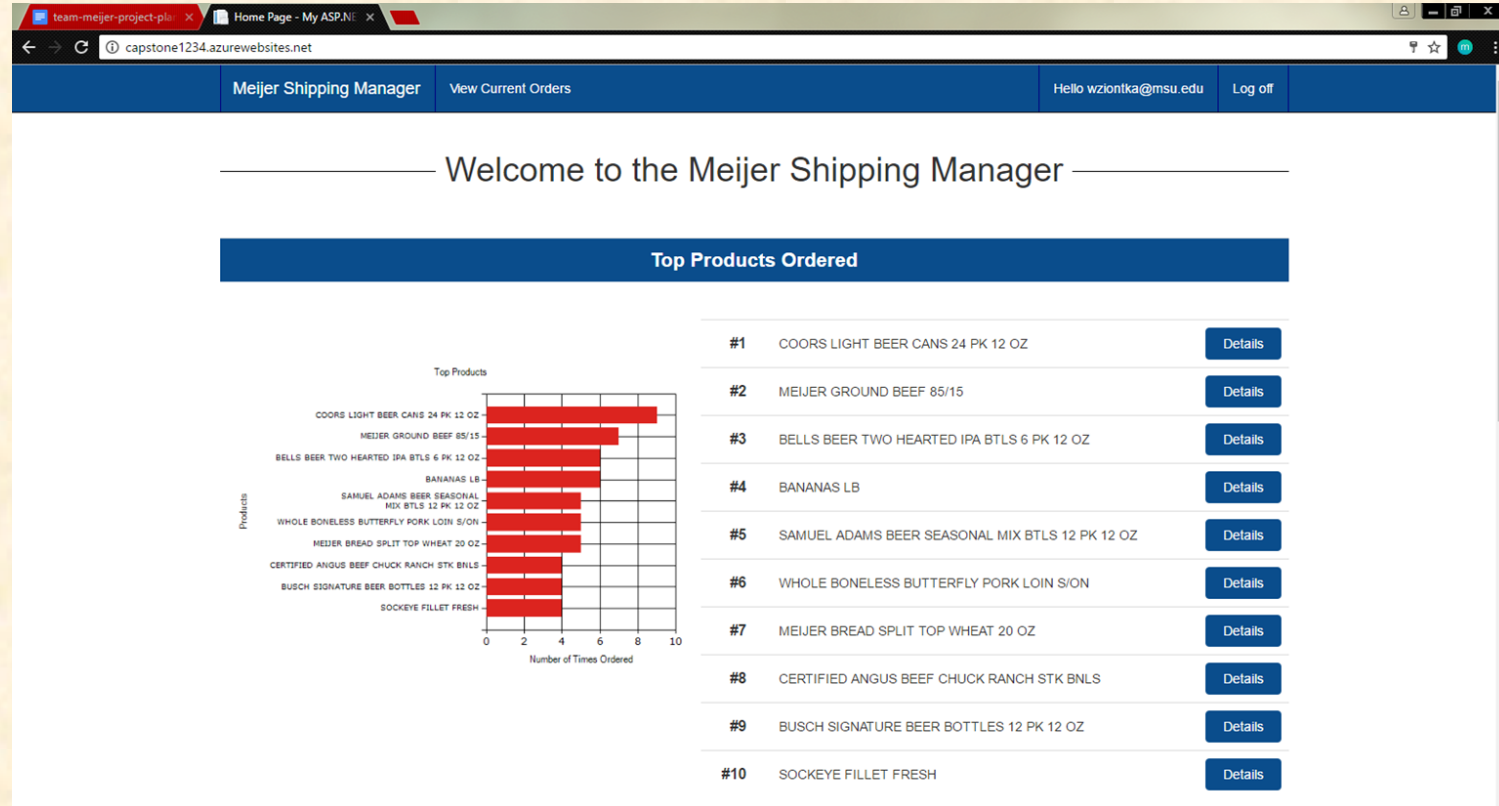




# Team Meijer Beta Presentation

# Team Meijer Beta Presentation

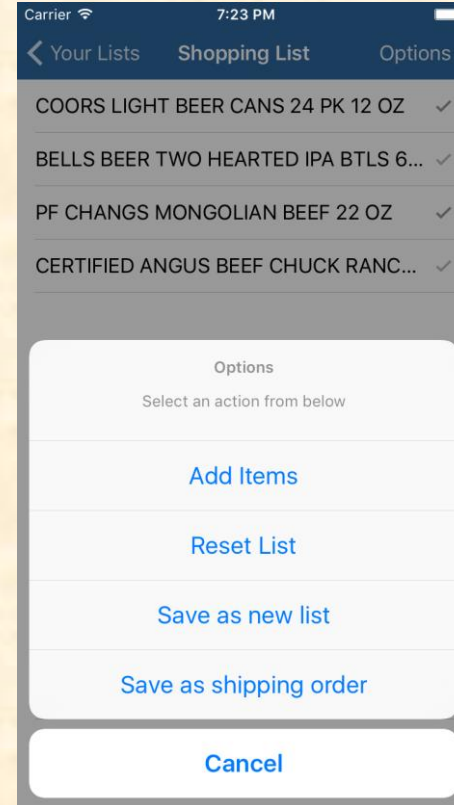
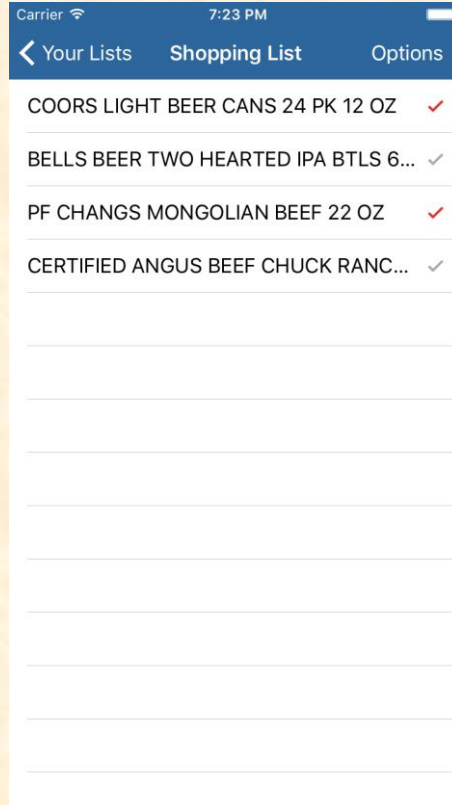
## Web App - Home Screen



# Team Meijer Beta Presentation

2.

## Mobile App - Shopping List





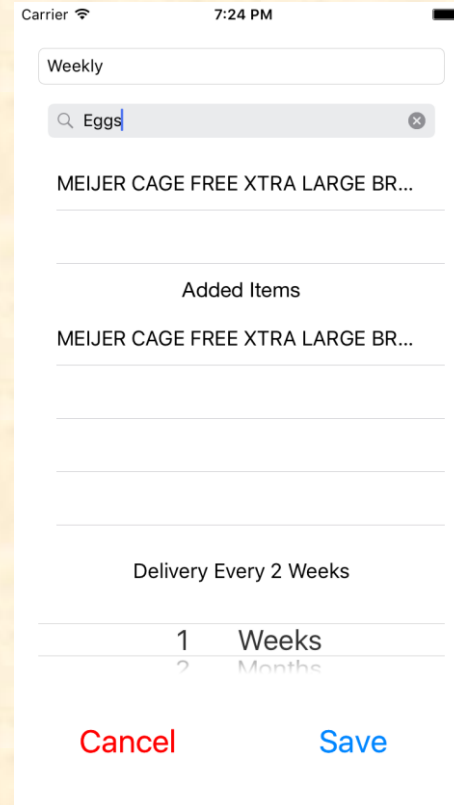


Team Meijer  
Beta Presentation



2.

# The Capstone Experience





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# *The Capstone Experience*

Team Mozilla

Department of Computer Science and Engineering  
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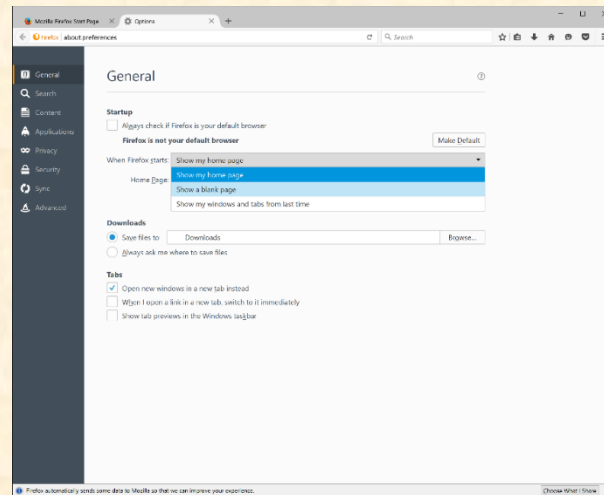
Download  
Firefox



# Team Mozilla Project Overview

## Improvements to Select Dropdown for Firefox

- Functionalities
  - Improve Firefox's Desktop <select> Dropdown
  - For Users Worldwide
- Features
  - Clarify Disabled States
  - Improve Readability
  - Increase Size of Items
  - Provide Search for Large Lists
  - Refactor for Firefox's New Multi-Process Architecture
- Technologies
  - CSS / HTML / JavaScript
  - JavaScript
  - XUL (XML User Interface Language)
  - C++
  - IRC
  - Mozilla's Bugzilla
  - Mercurial



Firefox®

Mountain View, California



## Team Mozilla

Jared Beach, Mark Golbeck, Tyler Maklebust, Miguel Wright, Fred Luo

# Team Mozilla Project Plan Presentation

a.

Screen Mockup

Option 1

Option 2

Option 3

**Group**

Option 4

Option 5

Option 6

**Disabled Group**

Option 7

Option 8

Option 9

Option 10

Option 11

Option 12





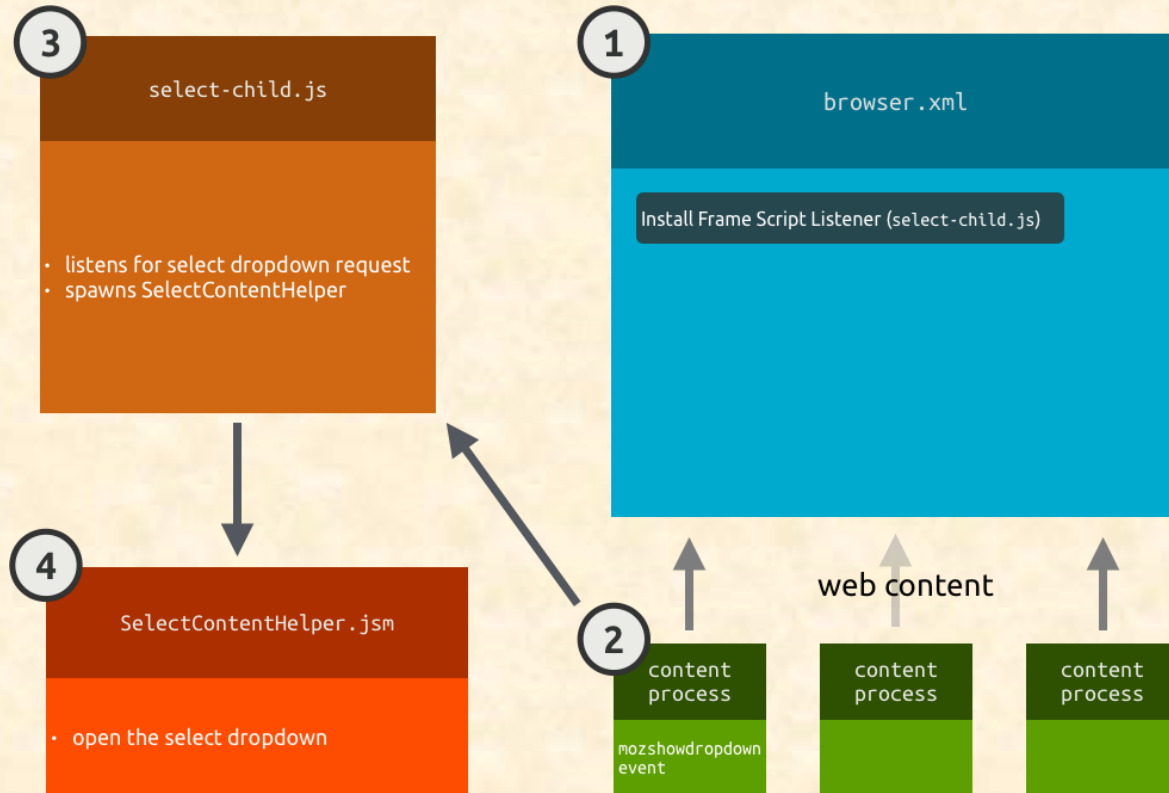


# Team Mozilla Project Plan Presentation

# Team Mozilla Project Plan Presentation

a.

## Architecture Diagram





# Team Mozilla Project Plan Presentation

# Team Mozilla Project Plan Presentation

a.

Screen Mockup

Option 1

Option 2

Option 3

**Group**

Option 4

Option 5

Option 6

**Disabled Group**

Option 7

Option 8

Option 9

Option 10

Option 11

Option 12

Option 13

Option 14

Option 15

Option 16

Option 17

Option 18

Option 19

Option 20

Option 21

**Group**

Option 4

Option 5

Option 6

**Disabled Group**

Option 7

Option 8

Option 9







# Team Mozilla Alpha Presentation

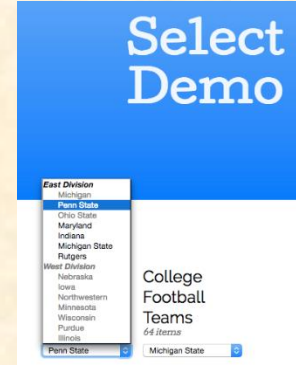
# Team Mozilla Alpha Presentation

2.

## Preferences

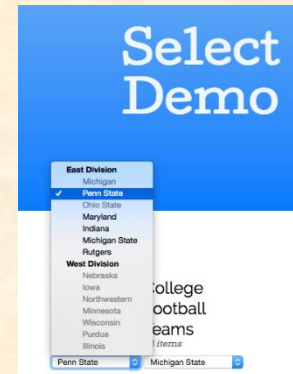
Search:

Preference Name	Status	Type	Value
dom.select_popup_in_parent.enabled	default	boolean	false



Search:

Preference Name	Status	Type	Value
dom.select_popup_in_parent.enabled	user set	boolean	true



# Team Mozilla Alpha Presentation

a.

Old and New Styling

<b><i>East Division</i></b>
Michigan
<b>Penn State</b>
Ohio State
Maryland
Indiana
Michigan State
Rutgers
<b><i>West Division</i></b>
Nebraska
Iowa
Northwestern
Minnesota
Wisconsin
Purdue
Illinois

<b>East Division</b>
Michigan
<b>Penn State</b>
Ohio State
Maryland
Indiana
Michigan State
Rutgers
<b>West Division</b>
Nebraska
Iowa
Northwestern
Minnesota
Wisconsin
Purdue
Illinois







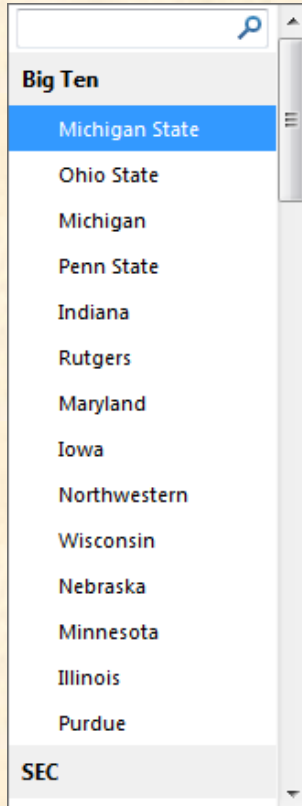
# Team Mozilla Alpha Presentation



# Team Mozilla Alpha Presentation

a.

Dropdown with Search

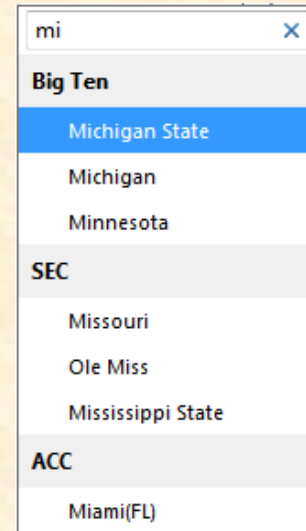


Search

**Big Ten**

- Michigan State
- Ohio State
- Michigan
- Penn State
- Indiana
- Rutgers
- Maryland
- Iowa
- Northwestern
- Wisconsin
- Nebraska
- Minnesota
- Illinois
- Purdue

**SEC**



mi

**Big Ten**

- Michigan State
- Michigan
- Minnesota

**SEC**

- Missouri
- Ole Miss
- Mississippi State

**ACC**

- Miami(FL)





# Team Mozilla Beta Presentation

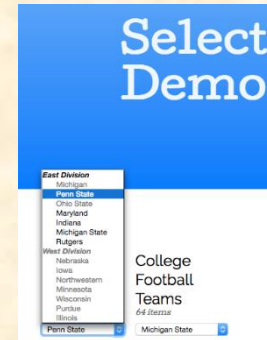
# Team Mozilla Beta Presentation

2.

## Backend Changes

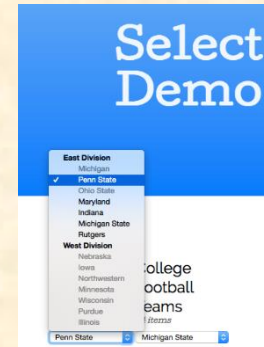
Runtime Preference turned off: Results in single-process dropdown implementation while running in single-process mode

Search:	dom.select_popup_in_parent.enabled			
Preference Name	Status	Type	Value	
dom.select_popup_in_parent.enabled	default	boolean	false	



Runtime Preference turned on: Results in multi-process dropdown implementation while running in single-process mode

Search:	dom.select_popup_in_parent.enabled			
Preference Name	Status	Type	Value	
dom.select_popup_in_parent.enabled	user set	boolean	true	



# Team Mozilla Beta Presentation

2.

Updated Styling of Dropdown

## Old Dropdown Styling:

<b><i>East Division</i></b>
Michigan
<b>Penn State</b>
Ohio State
Maryland
Indiana
Michigan State
Rutgers
<b><i>West Division</i></b>
Nebraska
Iowa
Northwestern
Minnesota
Wisconsin
Purdue
Illinois

## New Dropdown Styling:

<b>East Division</b>
Michigan
<b>Penn State</b>
Ohio State
Maryland
Indiana
Michigan State
Rutgers
<b>West Division</b>
Nebraska
Iowa
Northwestern
Minnesota
Wisconsin
Purdue
Illinois







# Team Mozilla Beta Presentation

# Team Mozilla Beta Presentation

2.

## Test Fixing & Rewriting

Linux opt	B Cpp GTest Jit1 Jit2 Mn Mn-e10s Wr X M(oth oth +27) M-e10s(5 5 bc2 <sup>2</sup> bc7 bc7 +24) R(+2) R-e10s(c) W(+5) W-e10s(+6) tc[tier 2](B)
Linux debug	B Cpp GTest Jit1 Jit2 Mn Mn-e10s Wr X1 X2 X3 X4 M(bc2 bc5 c3 c3 d16 <sup>2</sup> d17 mda +31) M-e10s(7 7 bc7 bc7 mda +18) R(+2) R-e10s(c) W(+10) W-e10s(+11) tc[tier 2](B)
Linux x64 opt	B Cpp GTest Jit1 Jit2 Mn Mn-e10s S Wr X M(oth oth +27) M-e10s(5 5 bc7 bc7 +24) R(+2) R-e10s(c) W(+5) W-e10s(+6) tc[tier 2](+6) tc(v) tc-Fxfr-l(en-US) tc-Fxfr-l-e10s(en-US) tc-Fxfr-r[tier 2](en-US) tc-Fxfr-r-e10s[tier 2](en-US) tc-M[tier 2](c3 bc6 +37) tc-M-e10s[tier 2](8 bc7 d16 <sup>2</sup> +30) tc-R[tier 2](Ru8 +14) tc-R-e10s[tier 2](Ru8 Ru8 +17) tc-W[tier 2](+14) tc-W-e10s[tier 2](+14) tc-X[tier 2](+8) tc-e10s[tier 2](Mn)
Linux x64 asan	tc(+7) tc-Fxfr-l(en-US) tc-Fxfr-l-e10s(en-US) tc-Fxfr-r[tier 2](en-US) tc-Fxfr-r-e10s[tier 2](en-US) tc-M(3 +37) tc-M-e10s(bc7 d16 <sup>2</sup> d16 d10 bc4 +29) tc-R(Ru8 +14) tc-R-e10s(Ru8 Ru8 +17) tc-X(+8) tc-e10s(Mn)
Linux x64 debug	S tc(Mn <sup>2</sup> +5) tc-Fxfr-l(en-US) tc-Fxfr-l-e10s(en-US) tc-Fxfr-r[tier 2](en-US) tc-Fxfr-r-e10s[tier 2](en-US) tc-M(c3 +37) tc-M-e10s(8 bc7 +21) tc-R(Ru8 +14) tc-R-e10s(Ru8 Ru8 +17) tc-W(+14) tc-W-e10s(+14) tc-X(+10) tc-e10s(Mn)
OS X 10.7 opt	B S tc[tier 2](B)
OS X 10.7 debug	B S tc[tier 2](B)
OS X 10.10 opt	Cpp GTest Mn Mn-e10s Wr X M(oth oth +27) M-e10s(4 4 bc7 bc7 +24) R(+3) R-e10s(+2) W(+5) W-e10s(+8)
OS X 10.10 debug	Cpp GTest Mn Mn-e10s Wr X M(oth oth +27) M-e10s(4 4 bc7 bc7 d12 d12 +23) R(+3) R-e10s(+2) W(+10) W-e10s(+11)
Windows XP opt	B
Windows XP debug	B
Windows 7 opt	Jit M(c3 oth oth c1) M-e10s(+2) R(+4) R-e10s(R-e10s)
Windows 7 debug	Jit M(oth oth c1) M-e10s(+2) R(+4) R-e10s(R-e10s)
Windows 7 VM opt	Cpp GTest Jit Mn Mn-e10s Wr X M(bc5 +23) M-e10s(1 4 4 bc7 bc7 +19) R(+2) R-e10s(c) W(+5)

Before – Orange/Red blocks are failed tests

Linux opt	B Cpp GTest Jit1 Jit2 Mn Mn-e10s Wr X M(+28) M-e10s(+26) R(+2) R-e10s(c) W(+5) W-e10s(+6) tc[tier 2](B)
Linux debug	B Cpp GTest Jit1 Jit2 Mn Mn-e10s Wr X1 X2 X3 X4 M(+34) M-e10s(+20) R(+2) R-e10s(c) W(+10) W-e10s(+10) tc[tier 2](B)
Linux x64 opt	B Cpp GTest Jit1 Jit2 Mn Mn-e10s S Wr X M(+28) M-e10s(+26) R(+2) R-e10s(c) W(+5) W-e10s(+6) tc[tier 2](+6) tc(v) tc-Fxfr-l(en-US) tc-Fxfr-l-e10s(en-US) tc-Fxfr-r[tier 2](en-US) tc-Fxfr-r-e10s[tier 2](en-US) tc-M[tier 2](+37) tc-M-e10s[tier 2](+33) tc-R[tier 2](+14) tc-R-e10s[tier 2](+19) tc-W[tier 2](+14) tc-W-e10s[tier 2](+14) tc-X[tier 2](+8) tc-e10s[tier 2](Mn)
Linux x64 asan	tc(+7) tc-Fxfr-l(en-US) tc-Fxfr-l-e10s(en-US) tc-Fxfr-r[tier 2](en-US) tc-Fxfr-r-e10s[tier 2](en-US) tc-M(+36) tc-M-e10s(+33) tc-R(+15) tc-R-e10s(+19) tc-X(+8) tc-e10s(Mn)
Linux x64 debug	S tc(+6) tc-Fxfr-l(en-US) tc-Fxfr-l-e10s(en-US) tc-Fxfr-r[tier 2](en-US) tc-Fxfr-r-e10s[tier 2](en-US) tc-M(+37) tc-M-e10s(+22) tc-R(+15) tc-R-e10s(+19) tc-W(+13) tc-W-e10s(+14) tc-X(+10) tc-e10s(Mn)
OS X 10.7 opt	B S tc[tier 2](B)
OS X 10.7 debug	B S tc[tier 2](B)
OS X 10.10 opt	Cpp GTest Jit Mn Mn-e10s Wr X M(+28) M-e10s(+26) R(+3) R-e10s(+2) W(+5) W-e10s(+6)
OS X 10.10 debug	Cpp GTest Jit Mn Mn-e10s Wr X M(+28) M-e10s(+26) R(+3) R-e10s(+2) W(+10) W-e10s(+11)
Windows XP opt	B
Windows XP debug	B
Windows 7 opt	Jit M(+2) M-e10s(+2) R(+4) R-e10s(R-e10s)
Windows 7 debug	Jit M(+2) M-e10s(+2) R(+4) R-e10s(R-e10s)
Windows 7 VM opt	Cpp GTest Jit Mn Mn-e10s Wr X M(+22) M-e10s(+21) R(+2) R-e10s(c) W(+5) W-e10s(+6) tc[tier 2](Cp)
Windows 7 VM debug	Cpp GTest Jit Mn Mn-e10s Wr X M(+22) M-e10s(+21) R(+2) R-e10s(c) W(+10) W-e10s(+11) tc[tier 2](Cp)
Windows 2012 opt	tc[tier 2](B)
Windows 2012 debug	tc[tier 2](B)
Gecko Decision Task opt	D

After – Green blocks are passed tests



Team Mozilla  
Design Day



MICHIGAN STATE  
UNIVERSITY

# *The Capstone Experience*

Team MSUFCU

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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





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Forgot Password?

Routing Number

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SWIFT Code

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Loans

Home Loans

Savings

Business

Earn 50% More Cash Back While

# Team MSUFCU Project Overview

## Member Ratings and Reviews

- Functionalities
  - Add Ratings and Reviews Features
  - Of MSUFCU Products and Services
  - By MSUFCU Members
- Features
  - Provide Ability to
    - Rate Numerically Using Scale of 1 to 5
    - Write Comments By Username or Anonymously
  - Model After Amazon and iTunes
  - Support Multiple Platforms
    - Web App
    - Native Apple iOS and Google Android Apps
- Technologies
  - CSS / HTML / JavaScript / PHP
  - Apple iPads and iPhones (iOS) / Swift or Objective-C
  - Google Android Tablets and Phones / Java
  - WebGL
  - MySQL
  - Encryption Based on SQL Standards







## Team MSUFCU

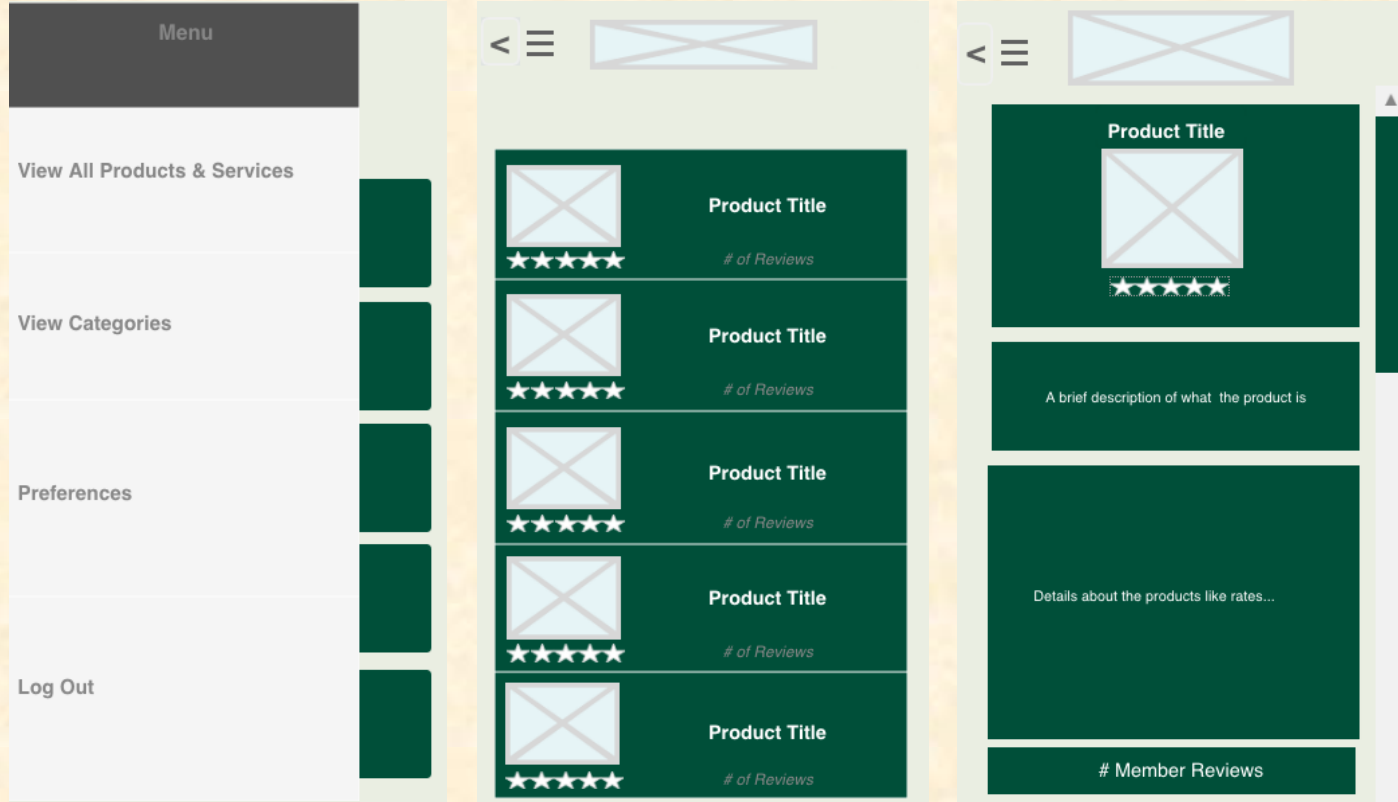
Mitch Frisbie, Joey Hollopter, Cameron Holmes, Mike Sagan



# Team MSUFCU Project Plan Presentation

2.

## Screen Mockup



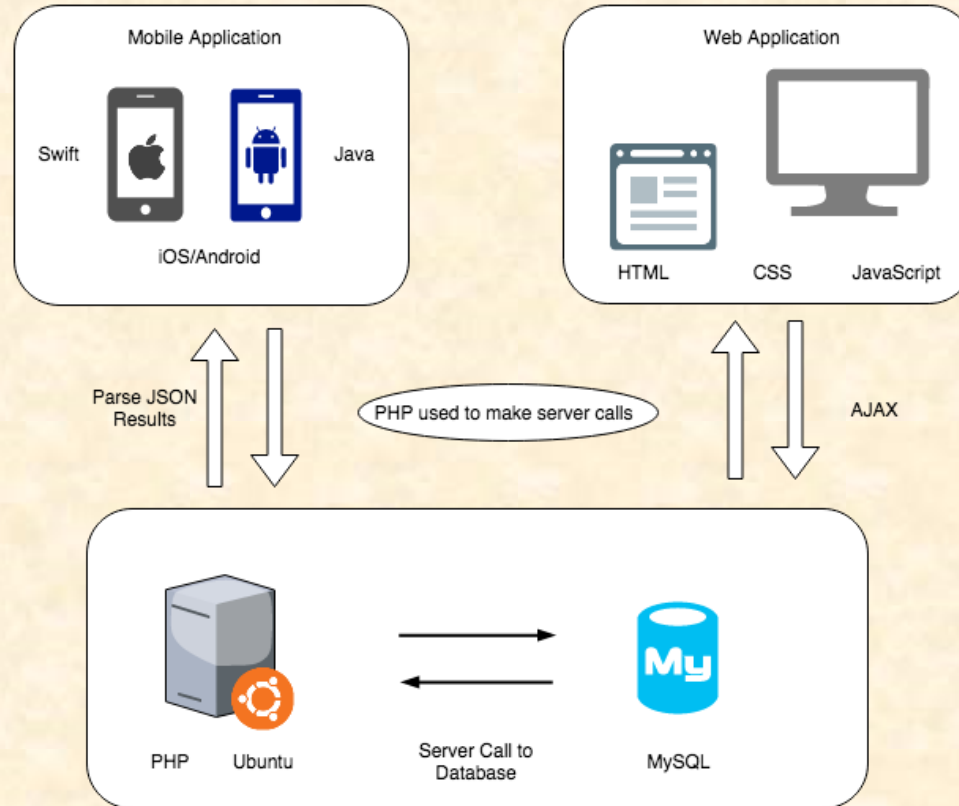


# Team MSUFCU Project Plan Presentation

# Team MSUFCU Project Plan Presentation

2.

## Architecture Diagram





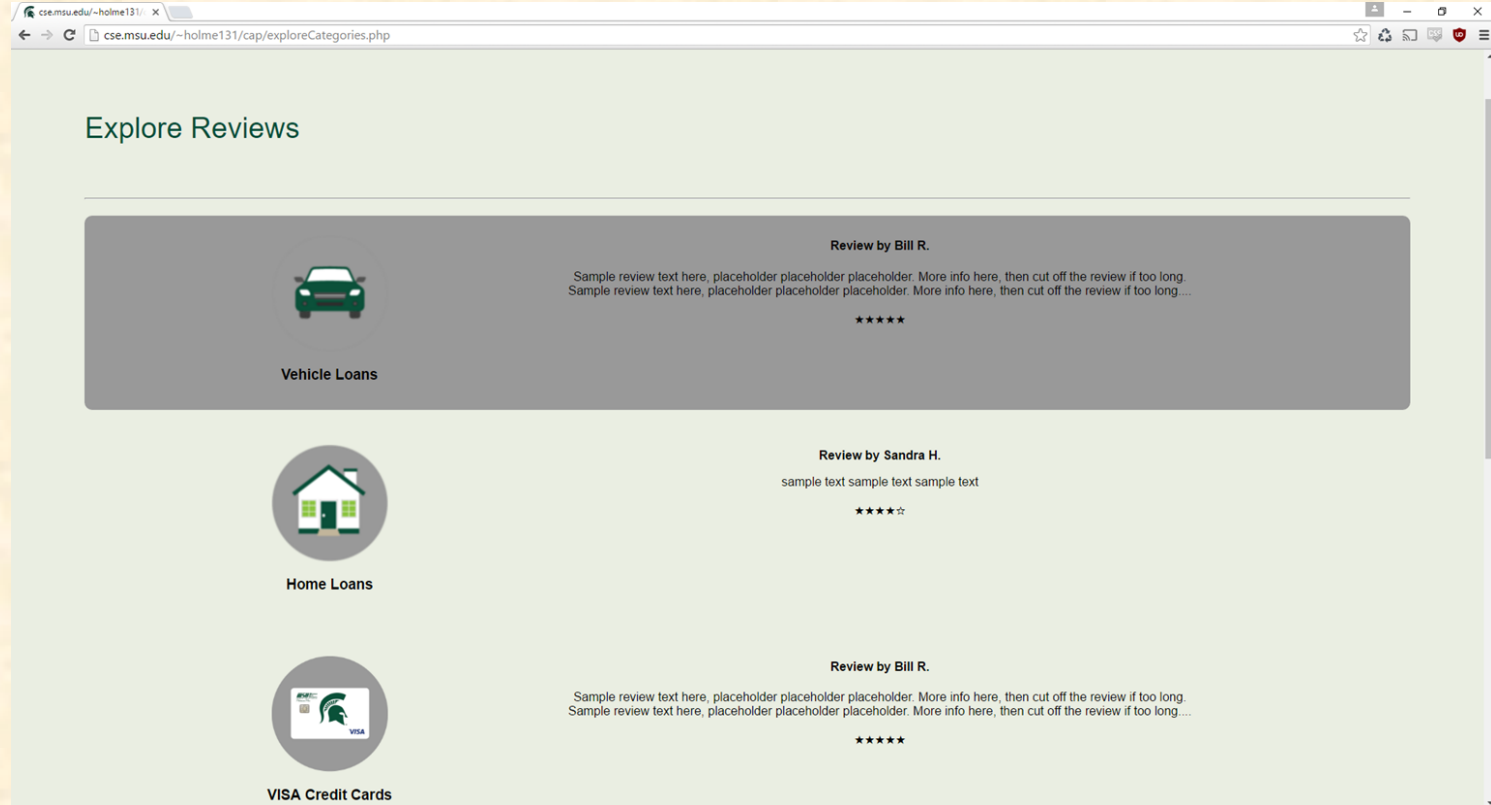
Team MSUFCU  
Project Plan Presentation



# Team MSUFCU Project Plan Presentation

2.

## Screen Mockup



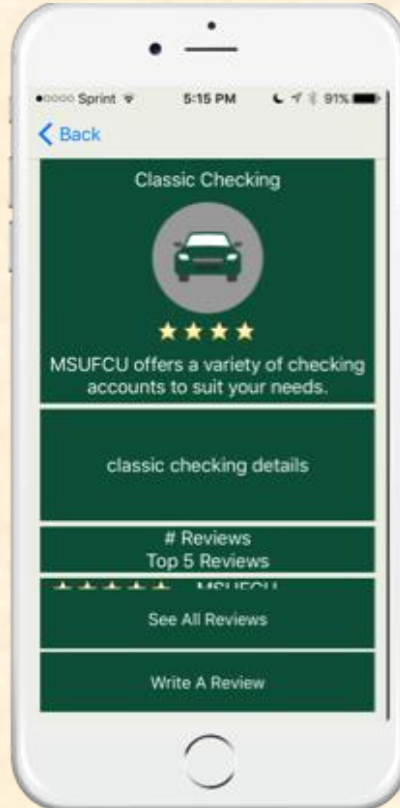


# Team MSUFCU Alpha Presentation

# Team MSUFCU Alpha Presentation

2.

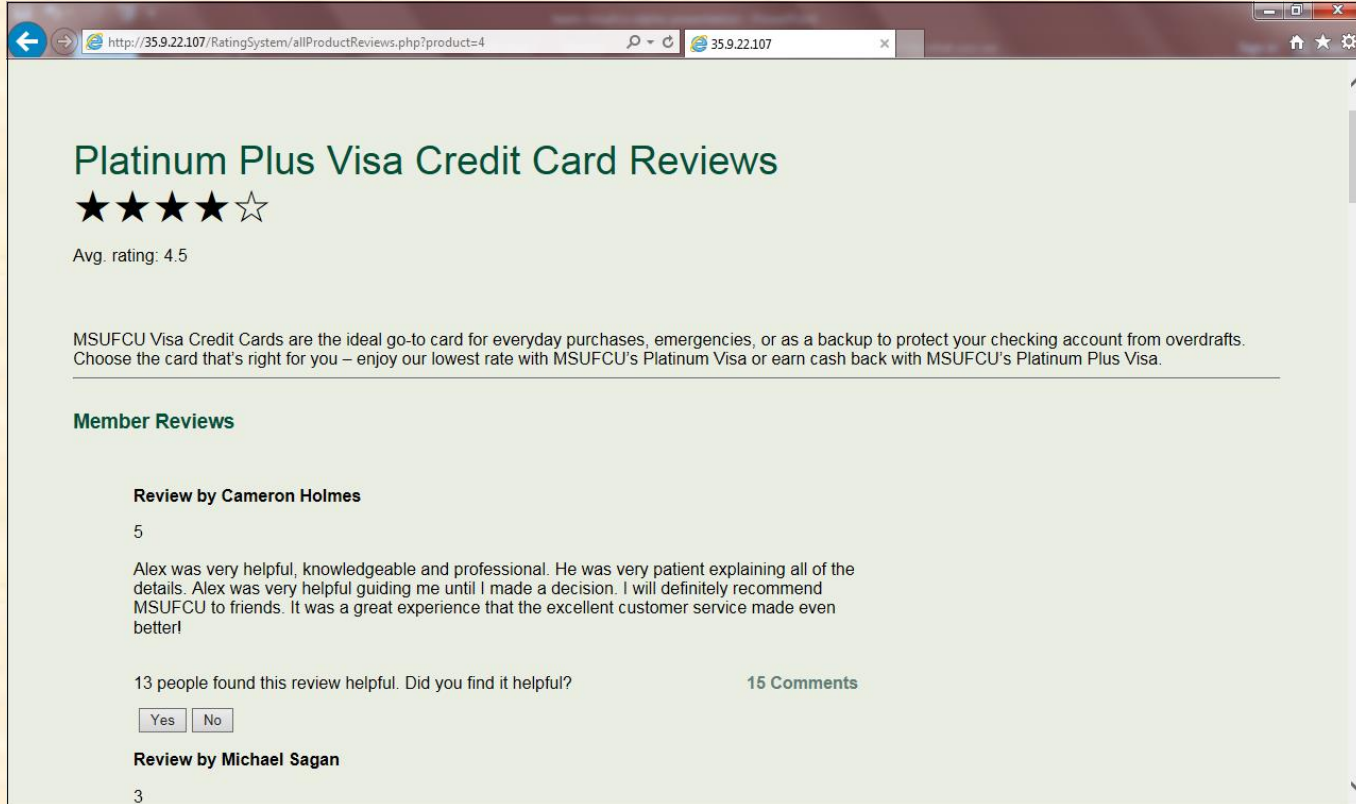
## iPhone/iPad Product Overview



# Team MSUFCU Alpha Presentation

2.

Web App: Product Top Reviews



The screenshot shows a web browser window with the URL `http://35.9.22.107/RatingSystem/allProductReviews.php?product=4`. The page title is "Platinum Plus Visa Credit Card Reviews". Below the title is a 4.5-star rating (four full stars and one half star) and the text "Avg. rating: 4.5". A paragraph of text describes the MSUFCU Visa Credit Cards as ideal for everyday purchases, emergencies, or as a backup to protect a checking account from overdrafts. It mentions the lowest rate with the Platinum Visa and cash back with the Platinum Plus Visa. Below this is a section titled "Member Reviews". The first review is by Cameron Holmes, who gave a 5-star rating and wrote a positive review about Alex's helpfulness. Below the review, it says "13 people found this review helpful. Did you find it helpful?" with "Yes" and "No" buttons. To the right of the review is a link for "15 Comments". The second review is by Michael Sagan, who gave a 3-star rating.

Platinum Plus Visa Credit Card Reviews

★★★★☆

Avg. rating: 4.5

MSUFCU Visa Credit Cards are the ideal go-to card for everyday purchases, emergencies, or as a backup to protect your checking account from overdrafts. Choose the card that's right for you – enjoy our lowest rate with MSUFCU's Platinum Visa or earn cash back with MSUFCU's Platinum Plus Visa.

**Member Reviews**

**Review by Cameron Holmes**

5

Alex was very helpful, knowledgeable and professional. He was very patient explaining all of the details. Alex was very helpful guiding me until I made a decision. I will definitely recommend MSUFCU to friends. It was a great experience that the excellent customer service made even better!

13 people found this review helpful. Did you find it helpful?

**Review by Michael Sagan**

3





# Team MSUFCU Alpha Presentation

# Team MSUFCU Alpha Presentation

2.

## Android Category Listing





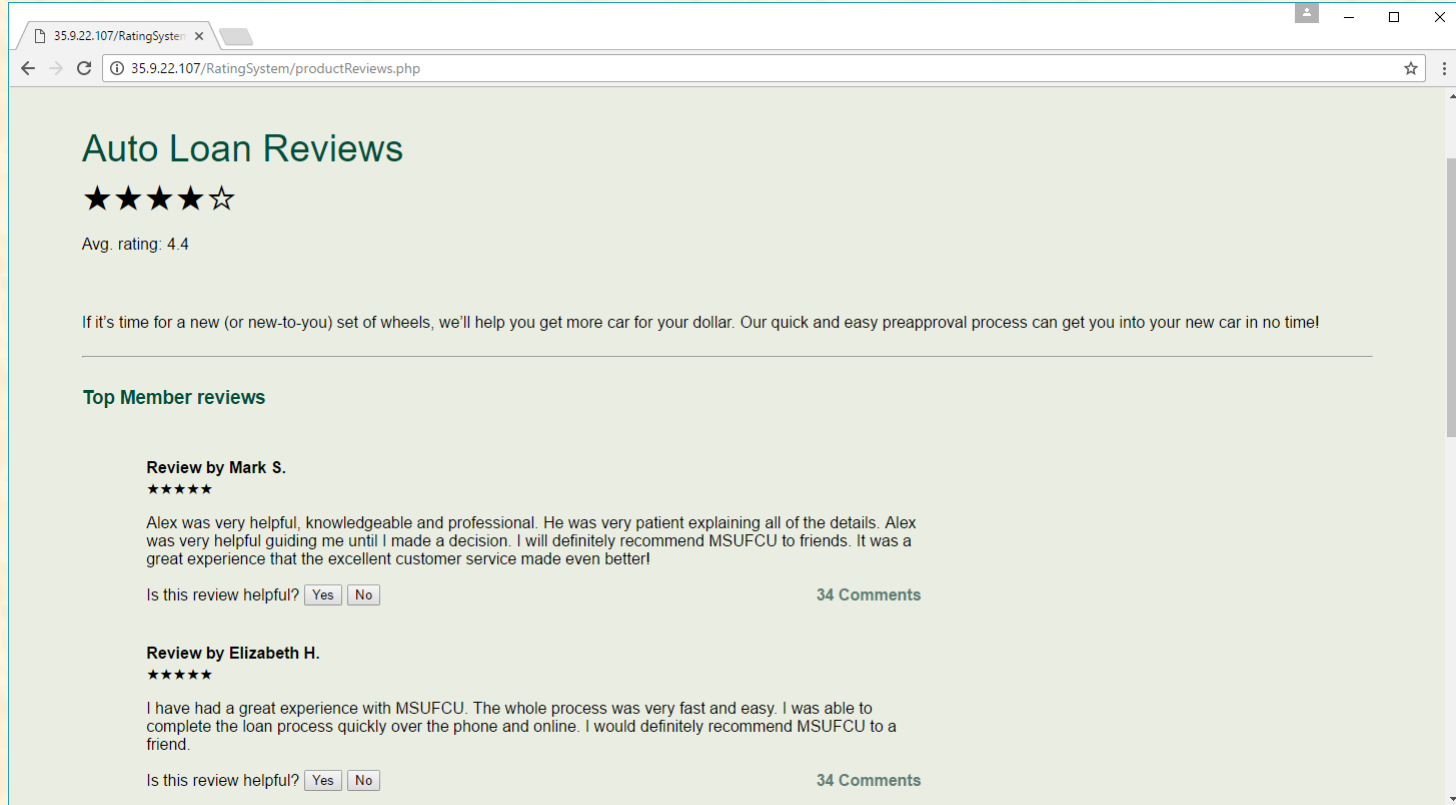
Team MSUFCU  
Beta Presentation



# Team MSUFCU Beta Presentation

2.

Web



The Capstone Experience

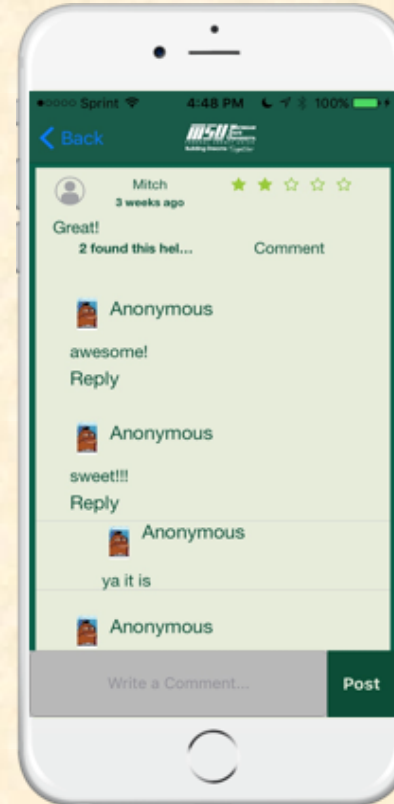
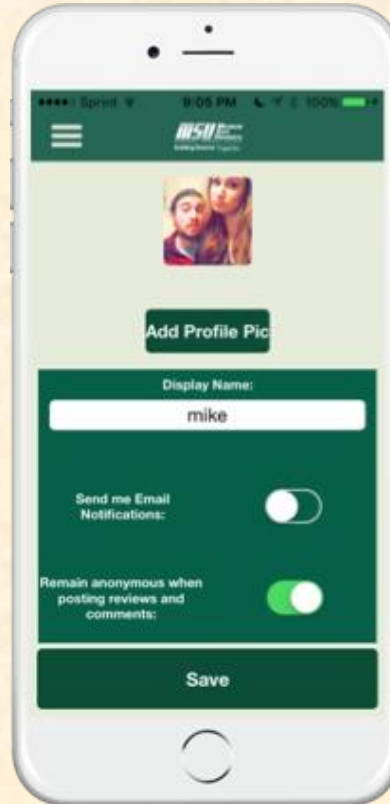




# Team MSUFCU Beta Presentation

2.

Apple iPhone



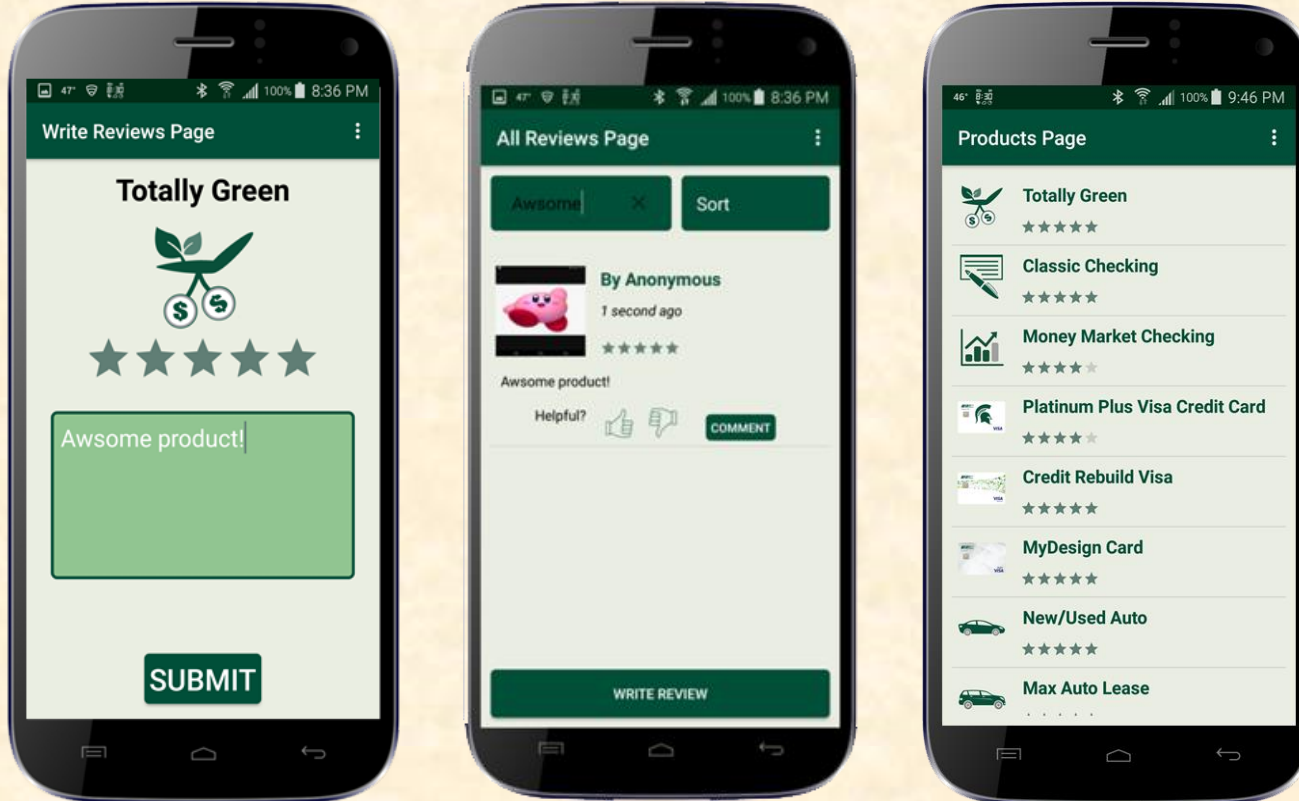


Team MSUFCU  
Beta Presentation

# Team MSUFCU Beta Presentation

2.

Google Android



The Capstone Experience







Team MSUFCU  
Design Day



MICHIGAN STATE  
UNIVERSITY

# *The Capstone Experience*

## Team Quicken Loans

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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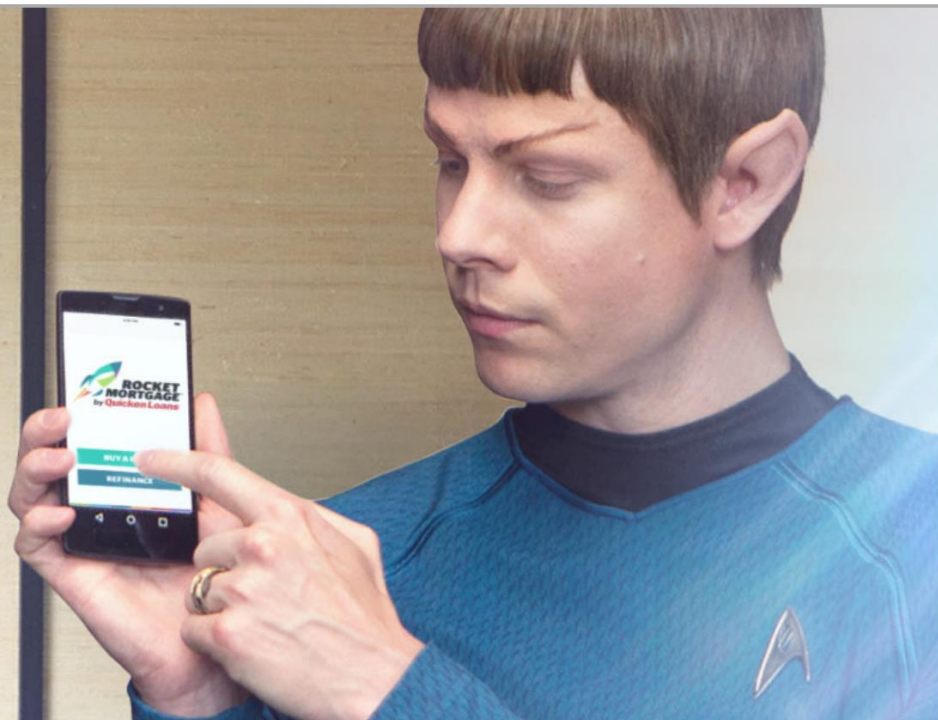
Start Rocket Mortgage



**ROCKET MORTGAGE™**

**PUSH BUTTON GET MORTGAGE**

STAR TREK  
**BEYOND**  
NOW IN THEATERS



# Team Quicken Loans Project Overview

## Pharos: Hiring Process Automation

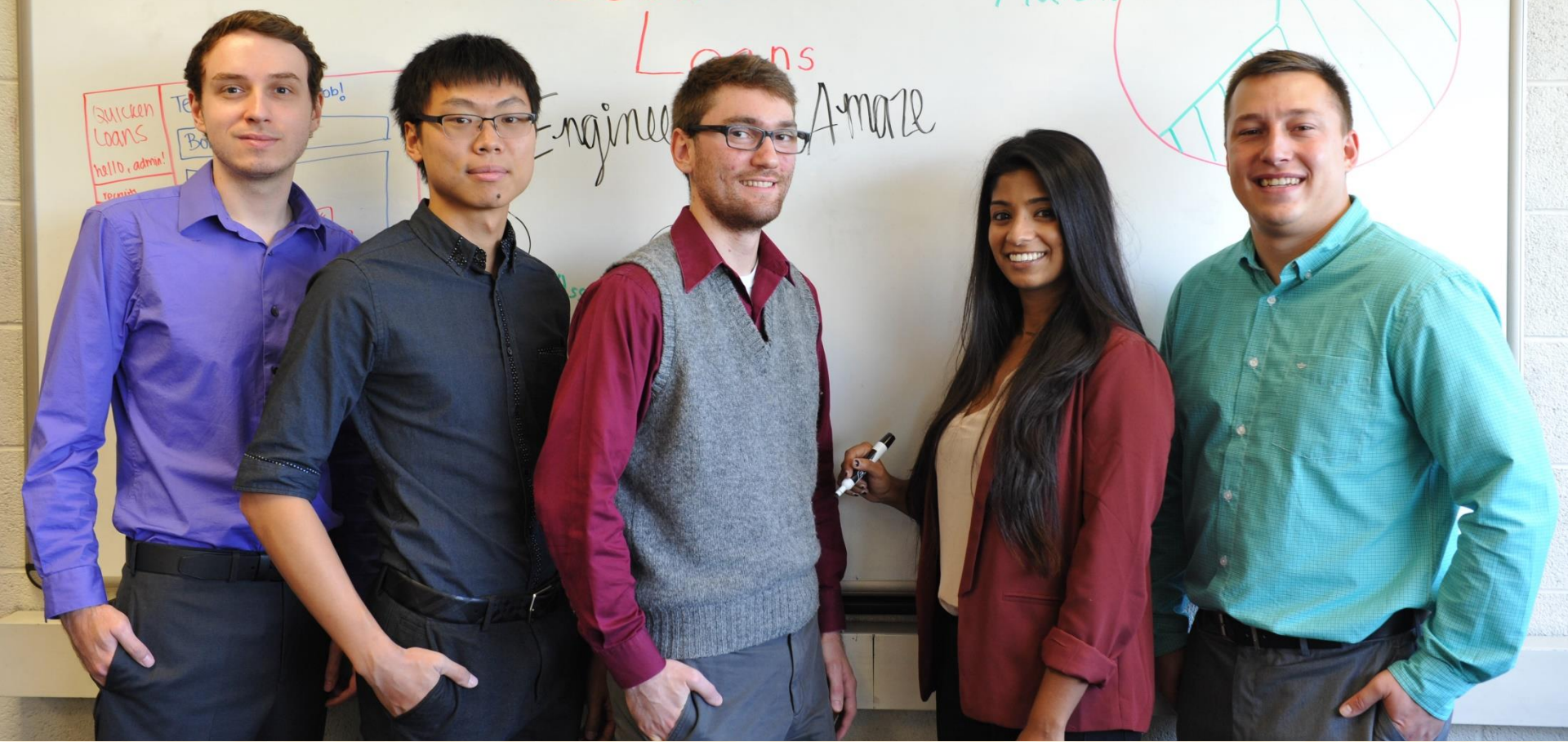
- Functionalities
  - Build Intelligence and Personality Test App
  - For Team Member Selection Process
  - To Minimize Subjectivity
- Features
  - Support Timed and Untimed Tests
  - Present Results Textually and Graphically
  - Align Test Outcomes with Internal Roles
  - Leverage
    - Data Science and Business Intelligence
    - Progressive Random Matrices
- Technologies
  - CSS / HTML
  - JavaScript / AngularJS
  - Microsoft C# / .NET
  - SQL Server
  - GitHub



**Quicken®Loans®**  
Engineered to **Amaze™**  
Detroit, Michigan







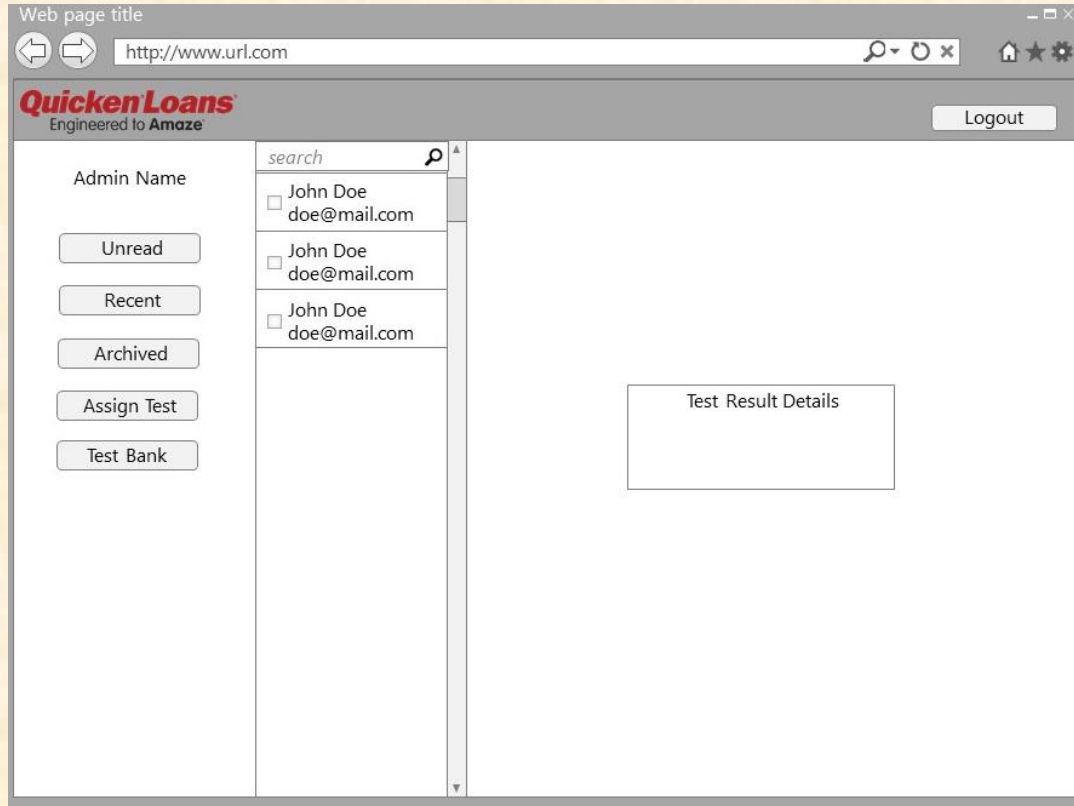
## Team Quicken Loans

Andrew Davis, Tom Wang, Paul Lapczynski, Sonu Chinta, Dan Thompson

# Team Quicken Loans Project Plan Presentation

a.

Screen Mockup



The mockup shows a web browser window with the address bar displaying 'http://www.url.com'. The page header features the 'Quicken Loans' logo with the tagline 'Engineered to Amaze' and a 'Logout' button. The main content area is divided into three sections. On the left, under the heading 'Admin Name', there is a vertical stack of buttons: 'Unread', 'Recent', 'Archived', 'Assign Test', and 'Test Bank'. In the center, there is a search bar with the placeholder text 'search' and a magnifying glass icon. Below the search bar is a list of three entries, each consisting of a checkbox and the text 'John Doe doe@mail.com'. On the right, there is a large rectangular box labeled 'Test Result Details'.

Admin Name	
<input type="checkbox"/>	John Doe doe@mail.com
<input type="checkbox"/>	John Doe doe@mail.com
<input type="checkbox"/>	John Doe doe@mail.com

Test Result Details





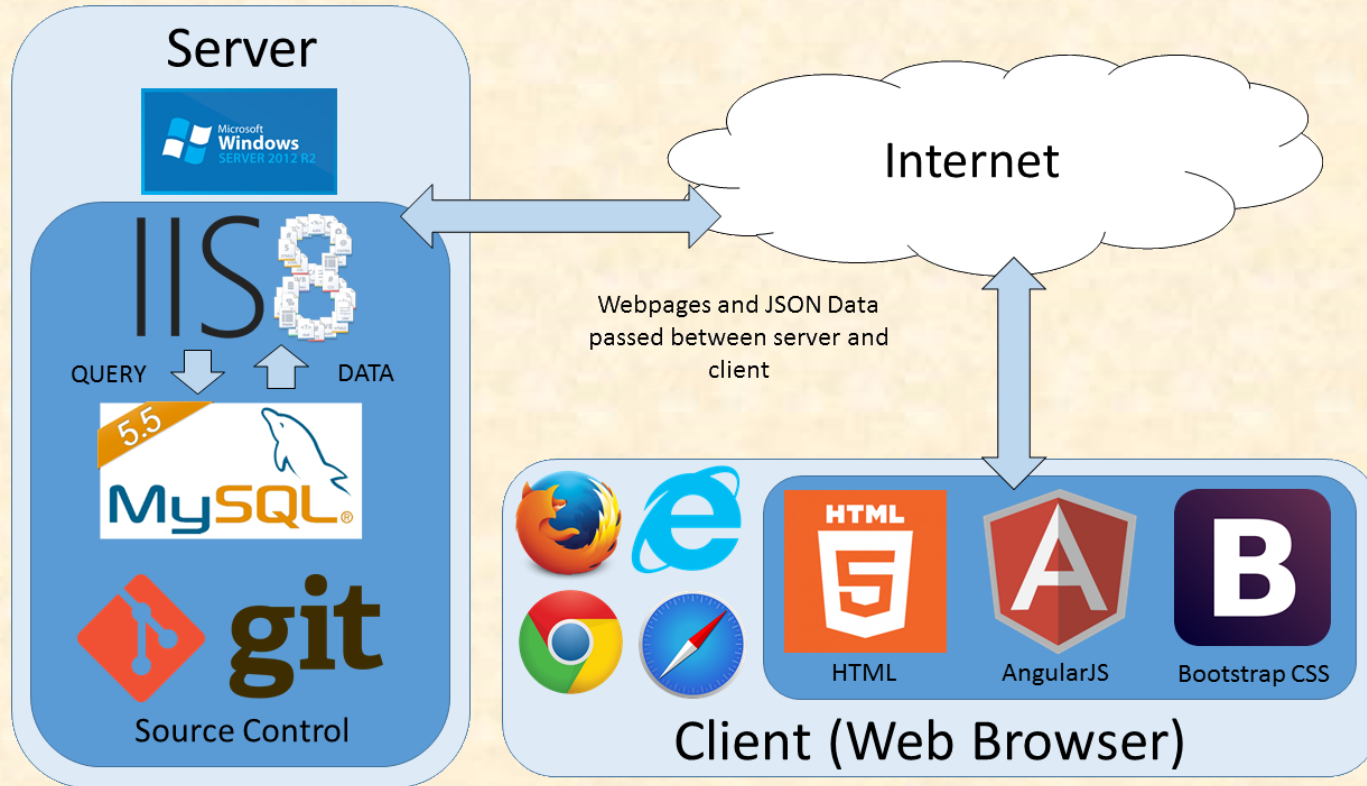
# Team Quicken Loans Project Plan Presentation



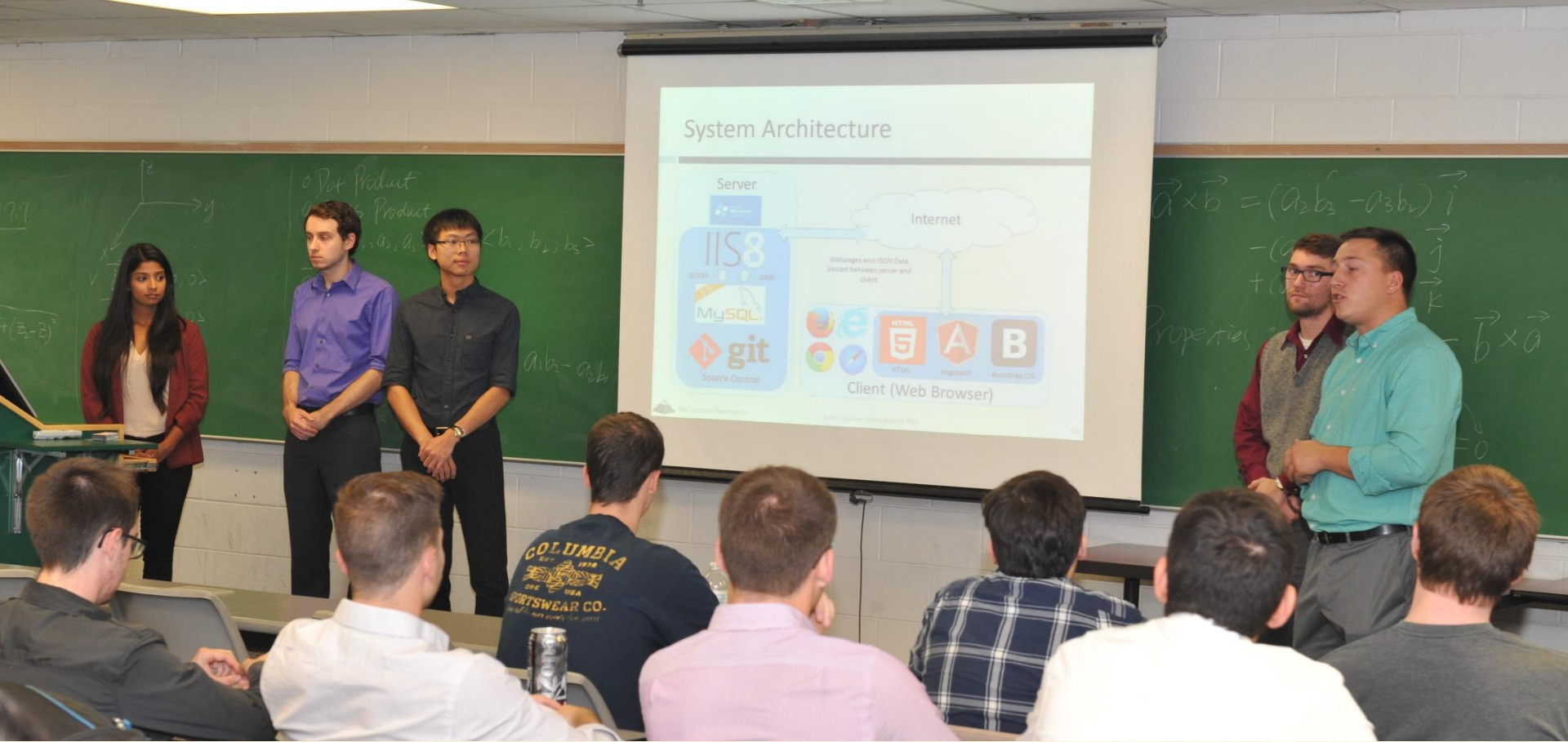
# Team Quicken Loans Project Plan Presentation

a.

## Architecture Diagram





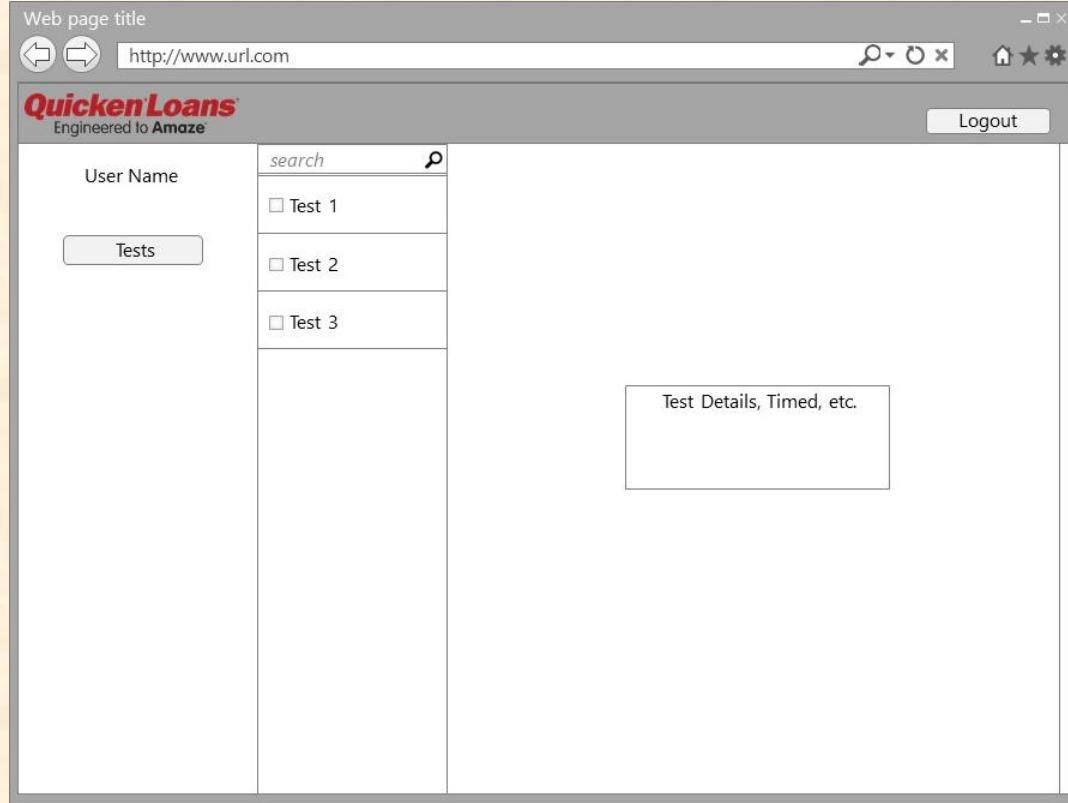


# Team Quicken Loans Project Plan Presentation

# Team Quicken Loans Project Plan Presentation

a.

Screen Mockup



The mockup shows a web browser window with the address bar set to `http://www.url.com`. The page header features the **Quicken Loans** logo with the tagline "Engineered to Amaze" and a **Logout** button. The main content area is divided into three sections: a left sidebar with a "User Name" label and a "Tests" button; a central column containing a search bar (placeholder: "search") and a list of three test items, each with a checkbox and a label ("Test 1", "Test 2", "Test 3"); and a large right-hand area containing a box labeled "Test Details, Timed, etc."

User Name	search	
Tests	<input type="checkbox"/> Test 1	
	<input type="checkbox"/> Test 2	
	<input type="checkbox"/> Test 3	
	Test Details, Timed, etc.	





# Team Quicken Loans Alpha Presentation

# Team Quicken Loans Alpha Presentation

2.

Recruit – Dashboard

The screenshot displays a web browser window with the URL [www.quickenloans.psychometrics.com](http://www.quickenloans.psychometrics.com). The left sidebar features the Quicken Loans logo and the name Randolph Warner, with buttons for Tests and Logout. The main content area shows a 'General Personality Test' section. This section includes a description: 'This is a test that let's us get to you know a little better!'. Below this is a 'Personality Test' box containing instructions: 'Answer each question on a scale from Very Accurate to very Inaccurate. Please answer as honestly as possible!', 'One Page? Yes', and 'Time Limit: 0'. A 'Start Test' button is located at the bottom of this box. The same test interface is repeated twice more on the page.

The Capstone Experience

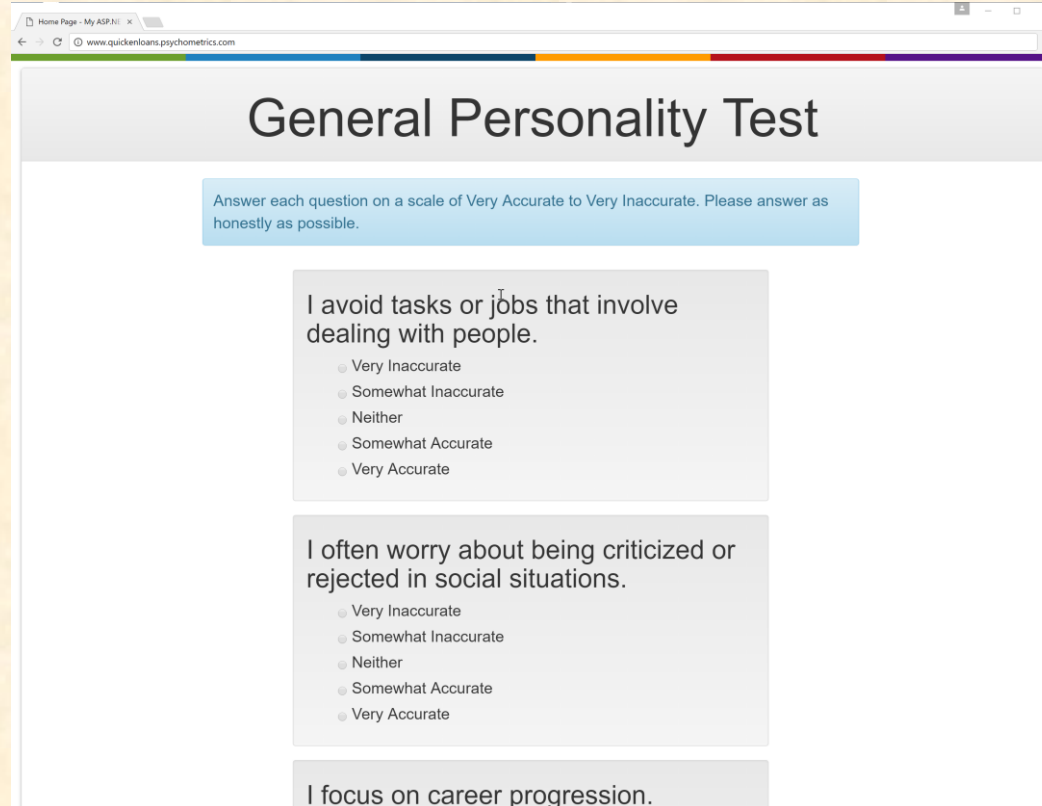




# Team Quicken Loans Alpha Presentation

2.

Recruit – Test



Home Page - My ASP.NET - x

www.quickenloans.psychometrics.com

## General Personality Test

Answer each question on a scale of Very Accurate to Very Inaccurate. Please answer as honestly as possible.

I avoid tasks or jobs that involve dealing with people.

- ☐ Very Inaccurate
- ☐ Somewhat Inaccurate
- ☐ Neither
- ☐ Somewhat Accurate
- ☐ Very Accurate

I often worry about being criticized or rejected in social situations.

- ☐ Very Inaccurate
- ☐ Somewhat Inaccurate
- ☐ Neither
- ☐ Somewhat Accurate
- ☐ Very Accurate

I focus on career progression.



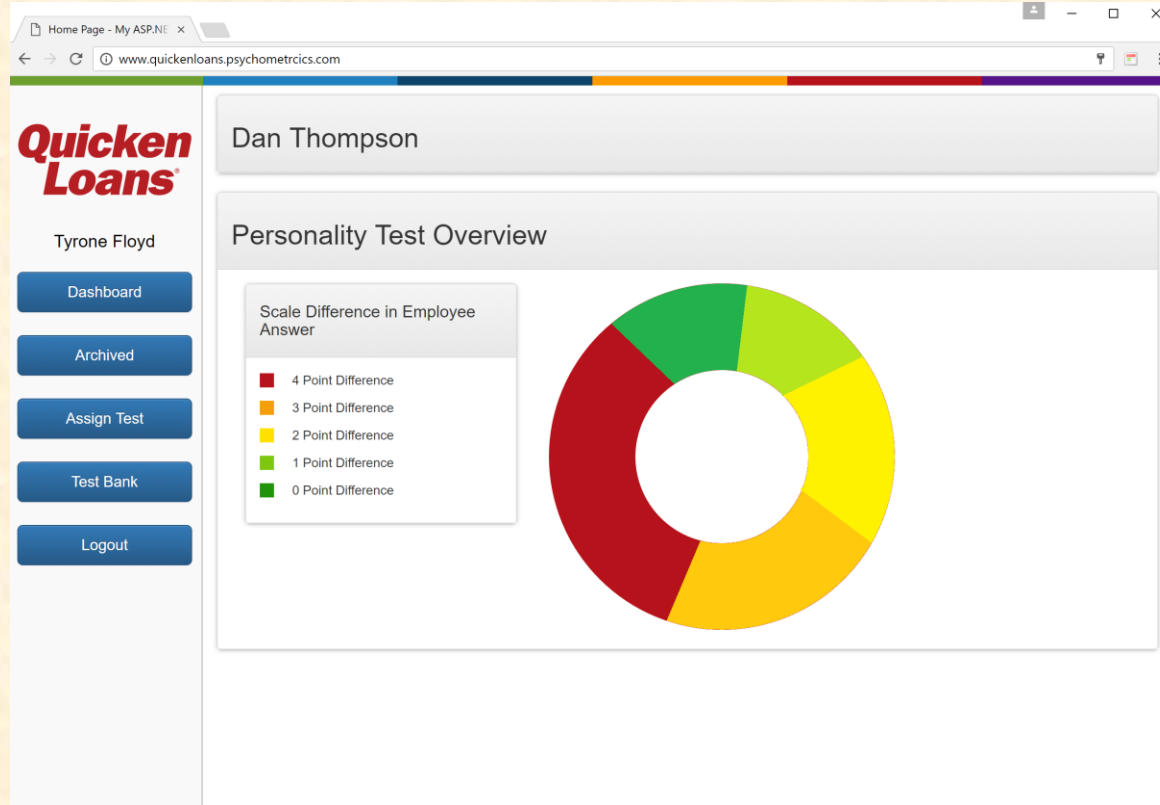


# Team Quicken Loans Alpha Presentation

# Team Quicken Loans Alpha Presentation

2.

Administrator – View Results





## Team Quicken Loans Beta Presentation



# Team Quicken Loans Beta Presentation

2.

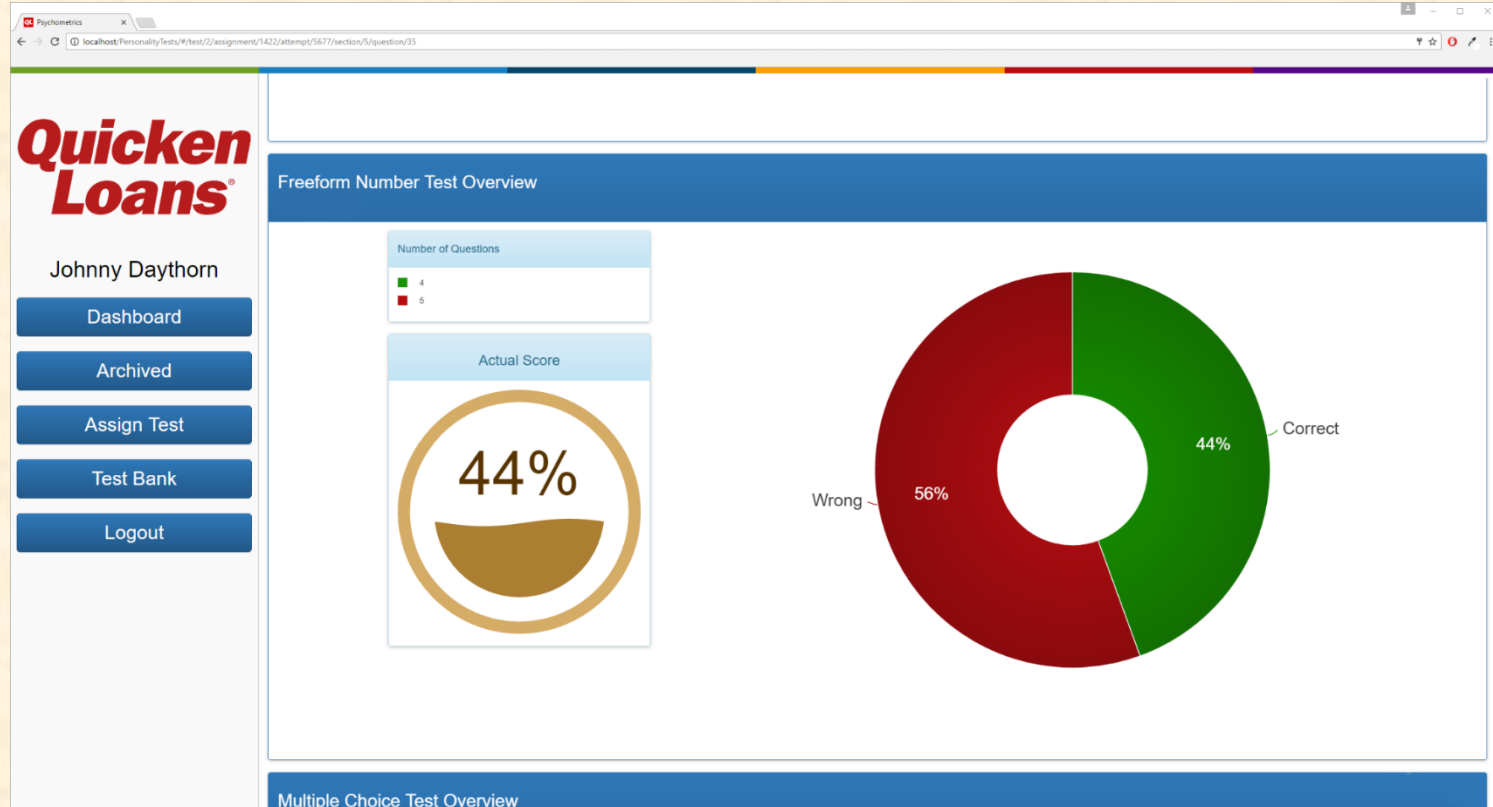
## Test Configuration

The screenshot displays the 'Test Configuration' interface within a web browser. The browser's address bar shows 'localhost/Personality/Tests/#/admin'. The interface is divided into a left sidebar and a main content area. The sidebar features the 'Quicken Loans' logo and a user profile for 'Paul Admin'. Below the profile are five buttons: 'Dashboard', 'Archived', 'Assign Test', 'Test Bank', and 'Logout'. The main content area is titled 'Test Configuration' and contains three panels: 'Test Description', 'Sections', and 'Questions'. The 'Test Description' panel has input fields for 'Name' (containing 'Recruit Examination') and 'Description' (with a placeholder 'Enter description...'), and a green 'Save' button. The 'Sections' panel includes an 'Add Section' button and a form for a new section with fields for 'Name' (placeholder 'Enter name...'), 'Instructions' (placeholder 'Enter instructions...'), 'Question Type' (a dropdown menu with 'Placeholder' selected), and 'Time Limit' (three input fields for H, M, and S, each containing '0'). A 'Select Section' button is at the bottom of this panel. The 'Questions' panel has a 'Section:' header, a 'Question Text' input field (placeholder 'Enter question text...'), and an 'Add Question' button. The interface uses a blue and white color scheme with a multi-colored header bar.

# Team Quicken Loans Beta Presentation

2.

## Results Overview: Personality



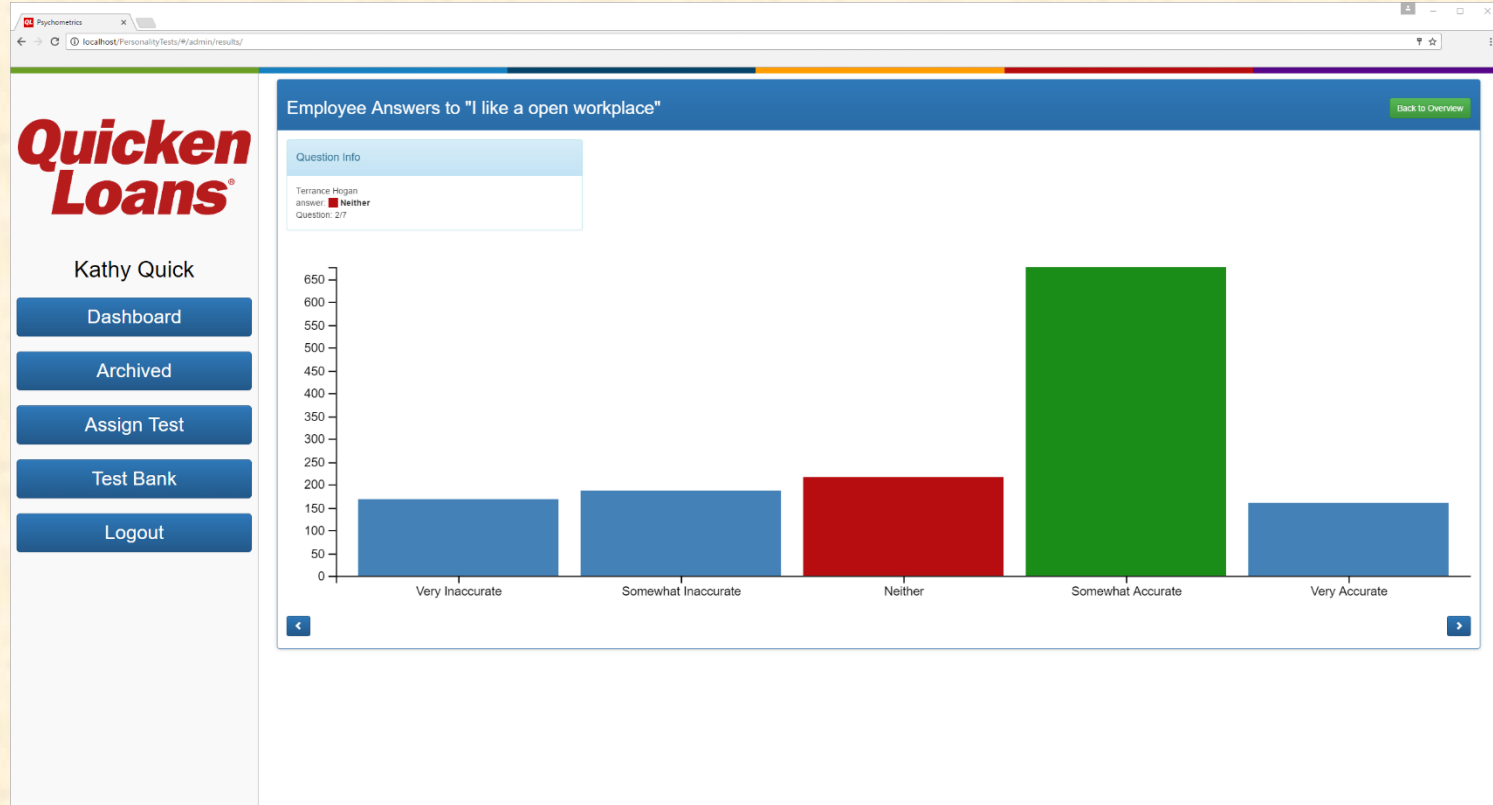


## Team Quicken Loans Beta Presentation

# Team Quicken Loans Beta Presentation

2.

## Question Details







Team Quicken Loans  
Design Day

MICHIGAN STATE  
UNIVERSITY

# *The Capstone Experience*

Team Rook

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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

The logo for Rook Security features a stylized icon on the left, resembling a rook chess piece, composed of dark grey and black geometric shapes. To the right of the icon, the word "ROOK" is written in a large, bold, dark grey sans-serif font. Below "ROOK", the word "SECURITY" is written in a smaller, bold, dark grey sans-serif font. A small "TM" trademark symbol is located to the upper right of the "ROOK" text.

**ROOK**<sup>TM</sup>  
**SECURITY**



[HOME](#)

[WHO WE ARE](#)

[WHAT WE DO](#)

[RESOURCES](#)

[CAREERS](#)

[CONTACT](#)



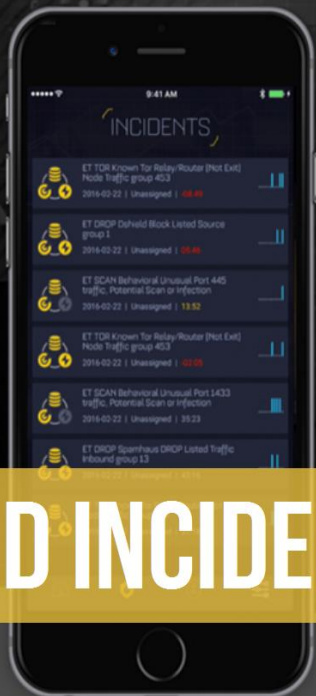
# WAR ROOM™

## THE ONE-CLICK FORCE MULTIPLIER

Extending the FORCE+ platform, War Room™ provides real-time incident and crisis management for your entire team.



# UNIFIED INCIDENT MANAGEMENT





# Team Rook Project Overview

## Anomaly Detection Suite v2.0

- Functionalities
  - Enhance Rook's Anomaly Detection Suite (ADS)
  - By
    - Adding Features to the Windows Agent
    - Creating a Linux-Based Agent
    - Creating an Apple OS X Agent
    - Building a Web Management Console
- Features
  - Improve Performance of Windows Agent
  - Design and Build New Agents
    - For Linux and Apple OS X
    - Based on Windows Agent Features
  - Add Encryption to Communication and Storage
  - Support Remote Updates
- Technologies
  - Operating Systems
    - Ubuntu Linux
    - Microsoft Windows x64 (7, 8 & 10)
    - Apple OS X (10.0 – 10.11)
  - PCAP Library (Packet Capture)
  - PF\_RING (Kernel Module for NIC Polling)
  - React.js (Management Console)
  - MySQL, SQLite
  - Machine Learning
  - Suricata (Network Monitoring Engine)
  - C (Agent/Server)



**ROOK**  
**SECURITY**  
Indianapolis, Indiana

The Capstone Experience





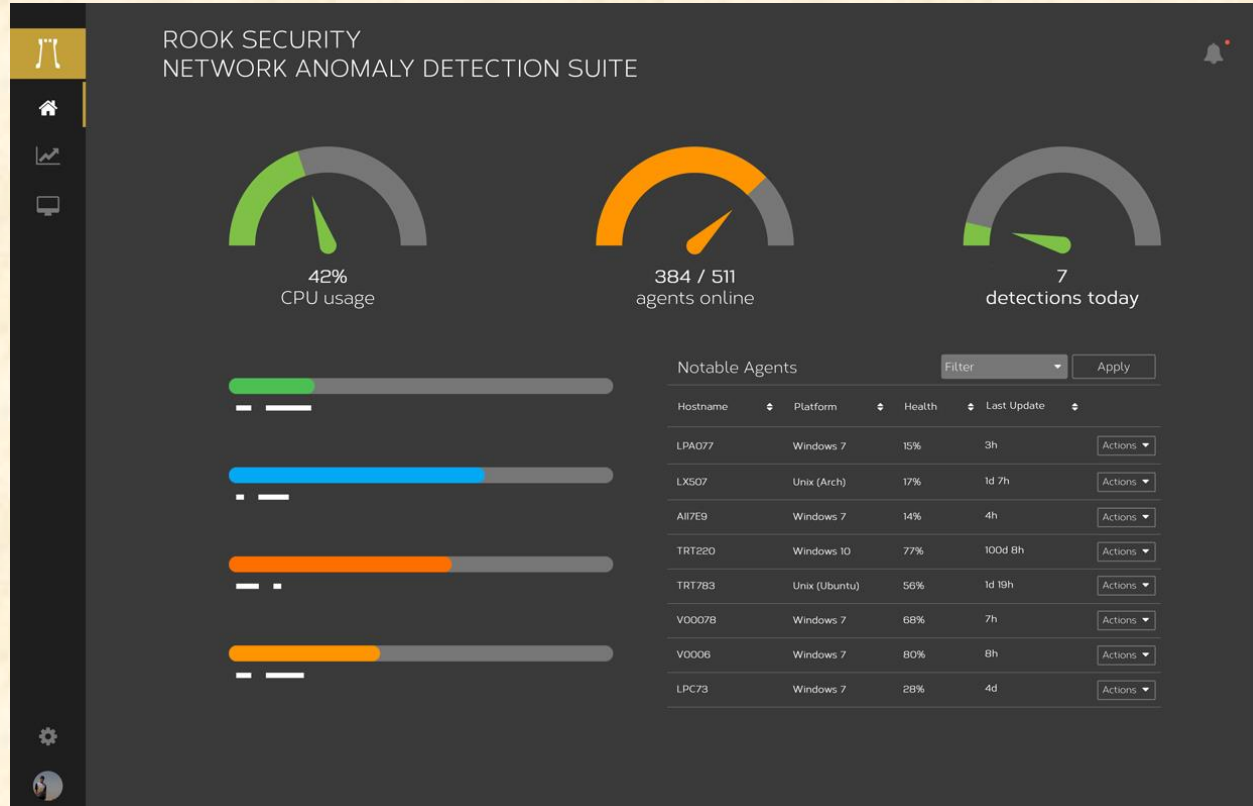
## Team Rook

Zach Rosenthal, Grant Levene, Brian Harazim, Cam Gibson, Andrew Werner

# Team Rook Project Plan Presentation

2.

Screen Mockup







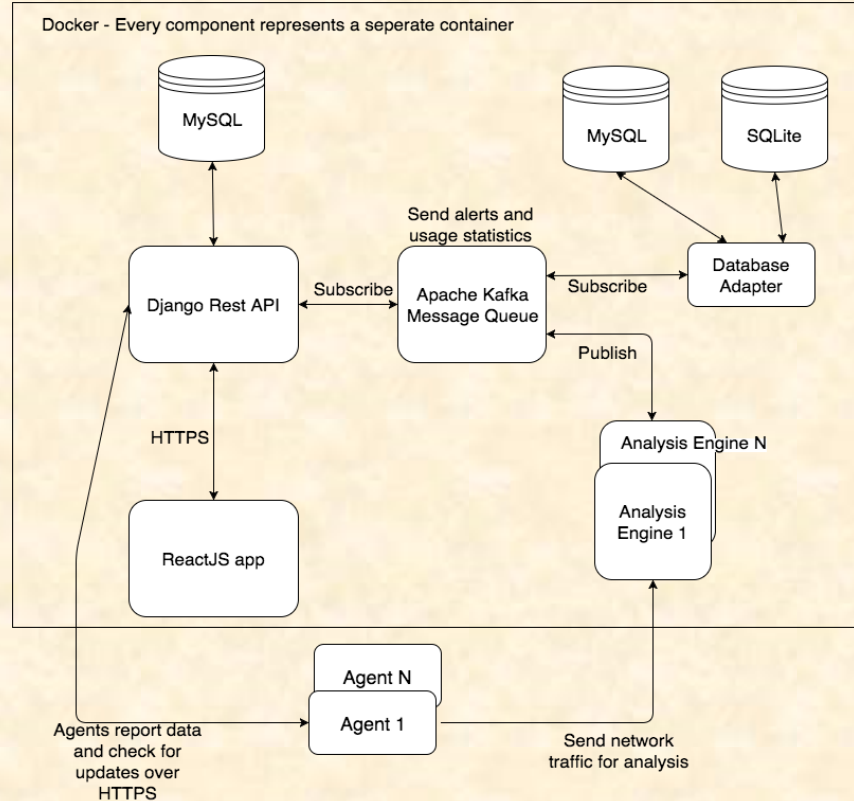
# Team Rook Project Plan Presentation

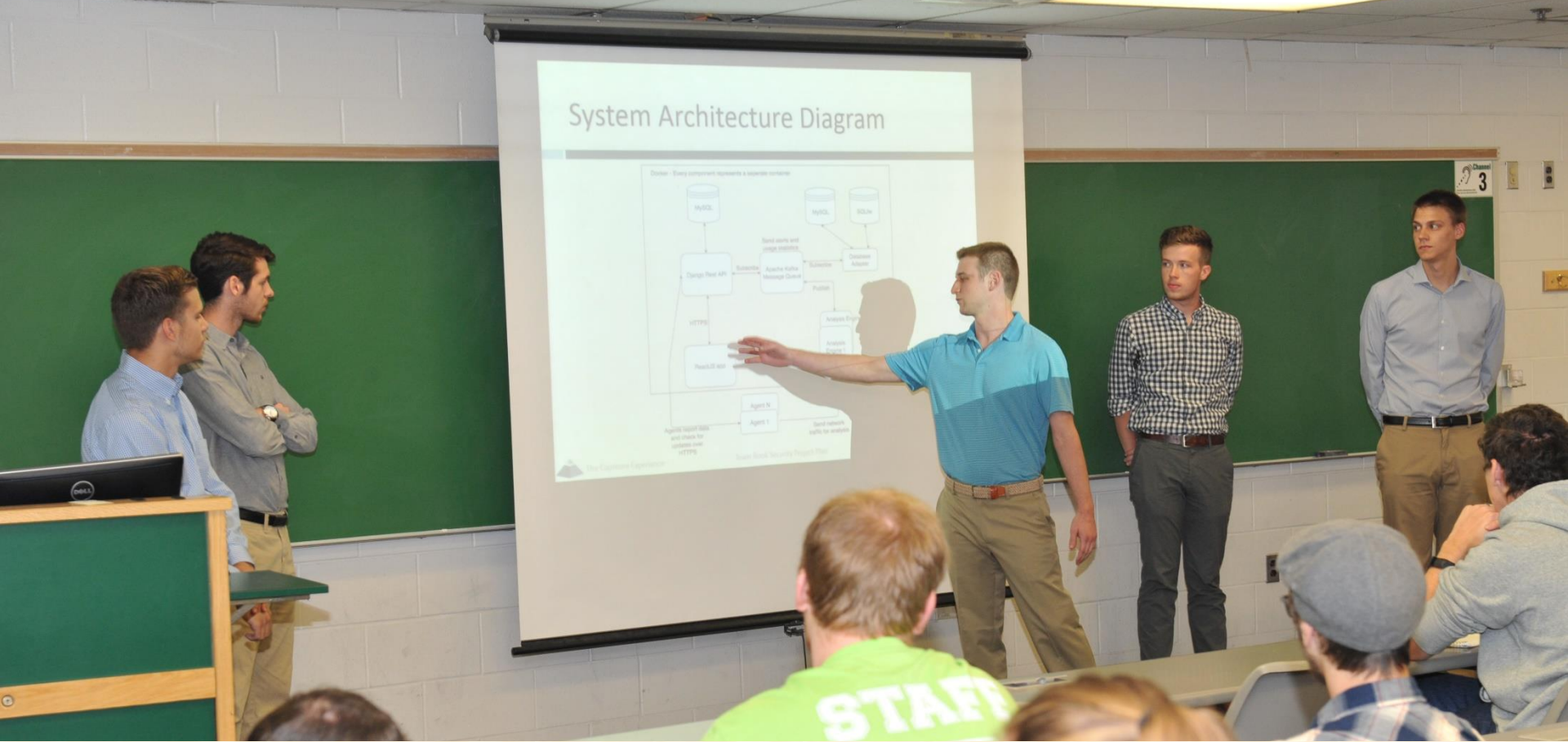


# Team Rook Project Plan Presentation

2.

## Architecture Diagram



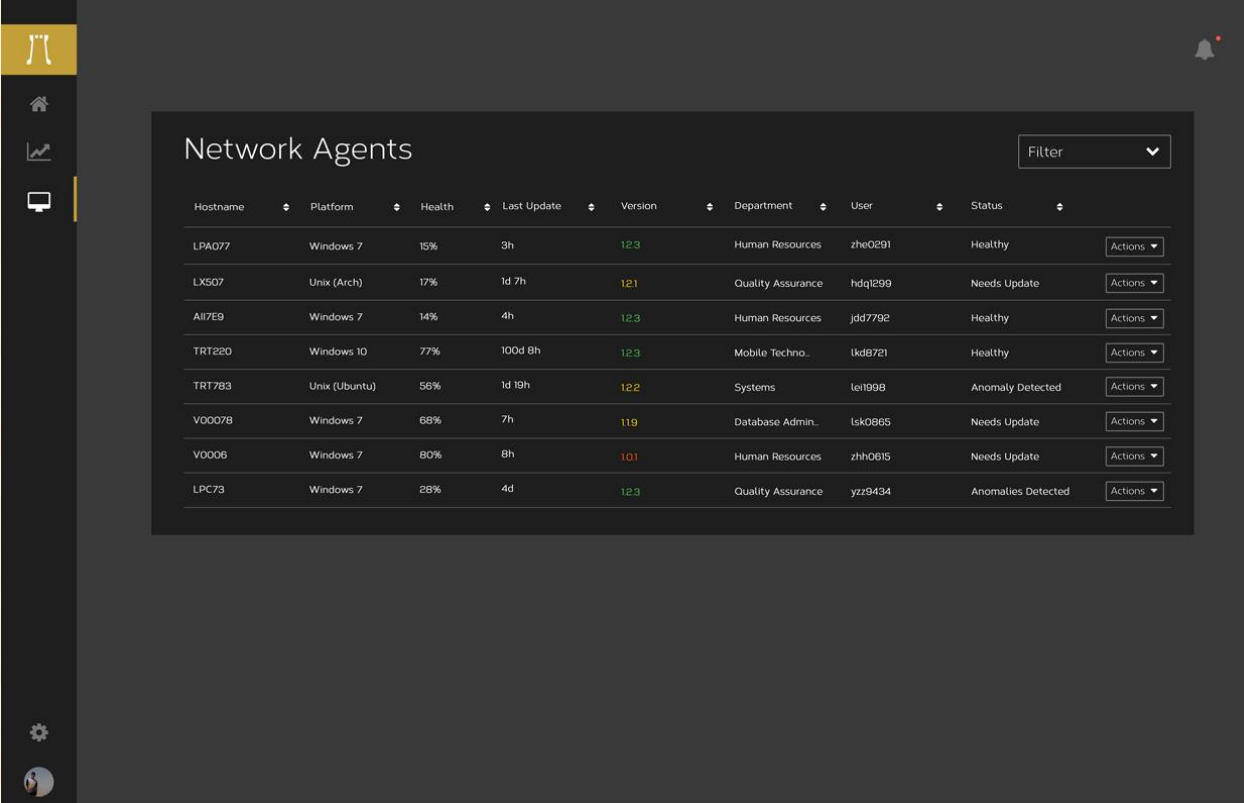


# Team Rook Project Plan Presentation

# Team Rook Project Plan Presentation

a.

Screen Mockup



Hostname	Platform	Health	Last Update	Version	Department	User	Status	
LPA077	Windows 7	15%	3h	12.3	Human Resources	zhe0201	Healthy	Actions
LX507	Unix (Arch)	17%	1d 7h	12.1	Quality Assurance	hdq1299	Needs Update	Actions
All7E9	Windows 7	14%	4h	12.3	Human Resources	jdd7792	Healthy	Actions
TRT220	Windows 10	77%	100d 8h	12.3	Mobile Techno..	lkd8721	Healthy	Actions
TRT783	Unix (Ubuntu)	56%	1d 19h	12.2	Systems	lei1998	Anomaly Detected	Actions
V00078	Windows 7	68%	7h	11.9	Database Admin..	lsk0865	Needs Update	Actions
V0006	Windows 7	80%	8h	10.1	Human Resources	zhb0615	Needs Update	Actions
LPC73	Windows 7	28%	4d	12.3	Quality Assurance	yyz3434	Anomalies Detected	Actions



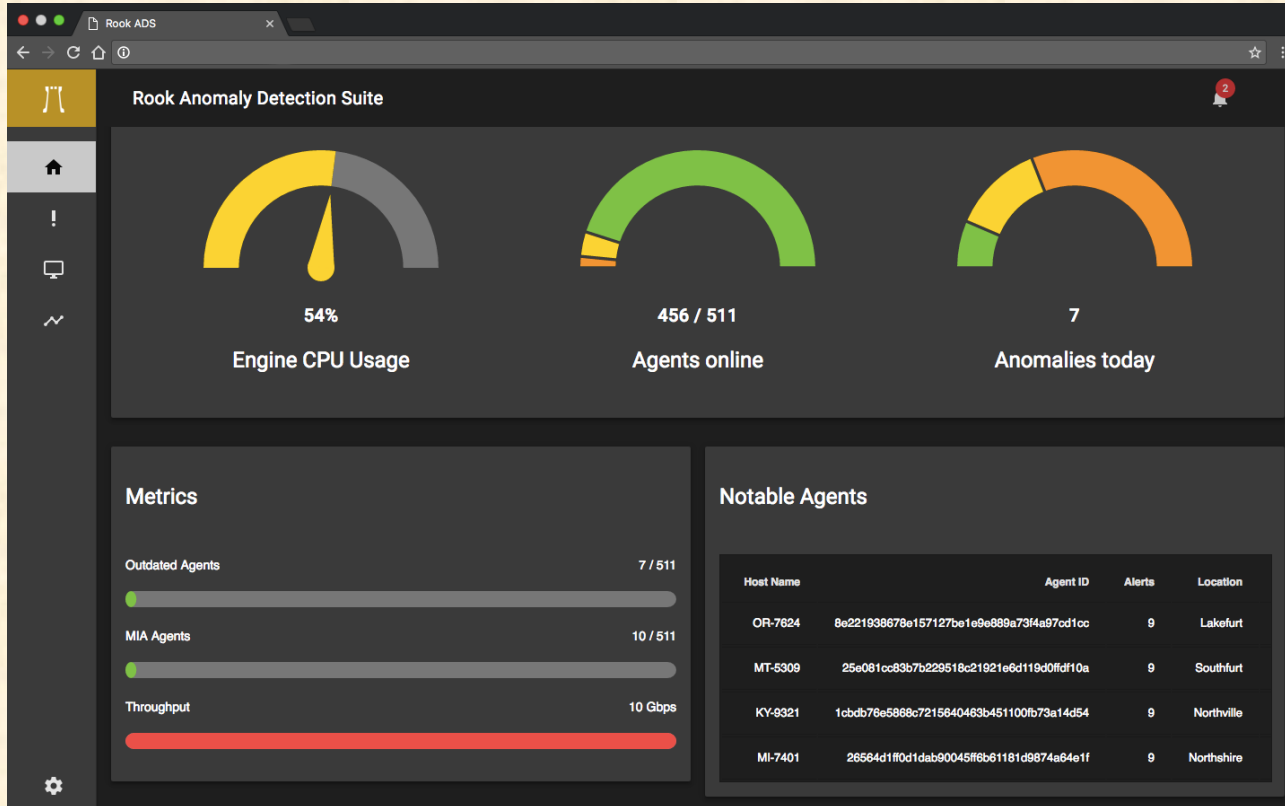
# Team Rook Alpha Presentation



# Team Rook Alpha Presentation

2.

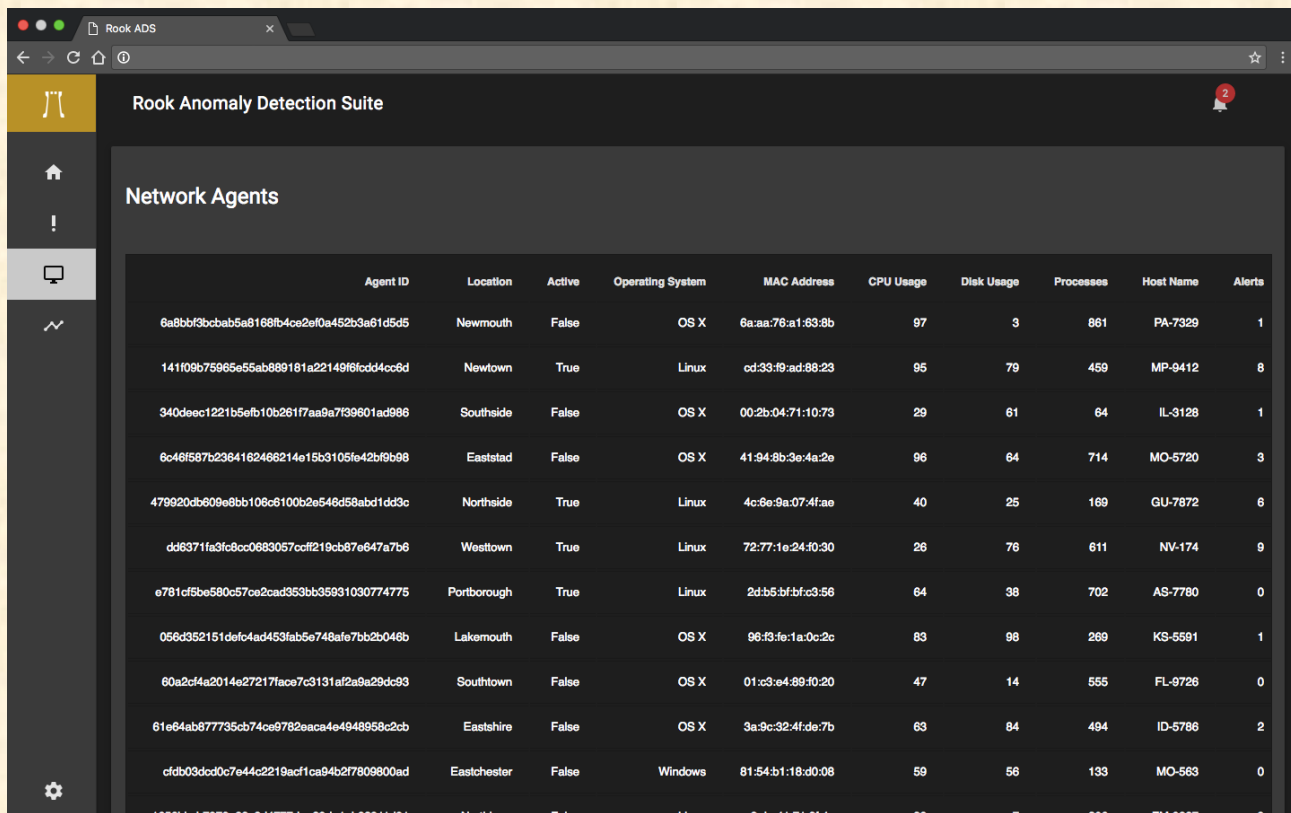
Dashboard: Home Page



The Capstone Experience

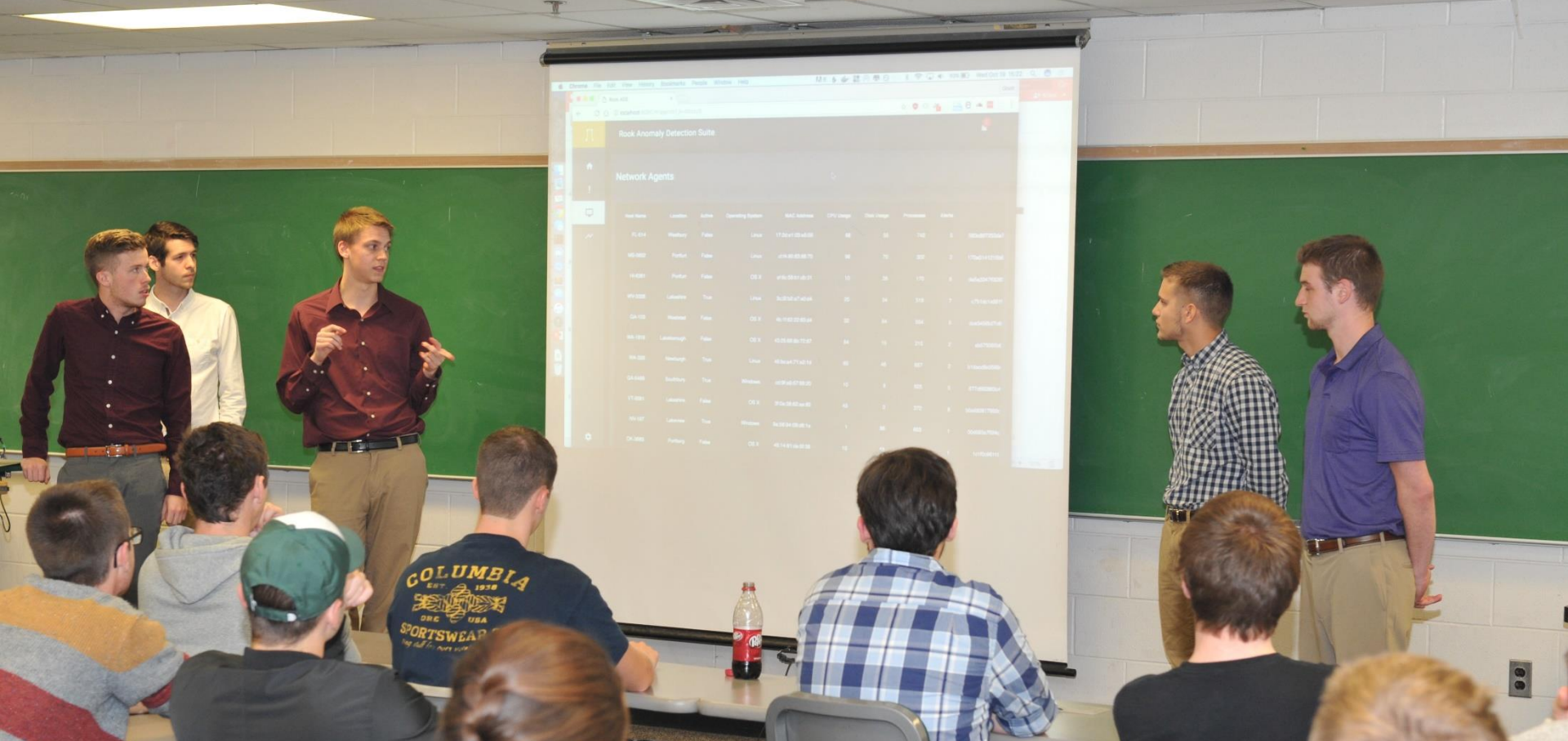
# Team Rook Alpha Presentation

Dashboard: Agent Management



The screenshot shows a web browser window with the title 'Rook ADS'. The dashboard is titled 'Rook Anomaly Detection Suite' and features a sidebar with navigation icons. The main content area is titled 'Network Agents' and displays a table with 11 columns: Agent ID, Location, Active, Operating System, MAC Address, CPU Usage, Disk Usage, Processes, Host Name, and Alerts. There are 12 rows of agent data.

Agent ID	Location	Active	Operating System	MAC Address	CPU Usage	Disk Usage	Processes	Host Name	Alerts
6a8bbf3bcab5a8168fb4ce2e0a452b3a61d5d5	Newmouth	False	OS X	6a:aa:76:a1:83:8b	97	3	881	PA-7329	1
141109b75965e55ab889181a22149f8fcd4cc6d	Newtown	True	Linux	cd:33:f9:ad:88:23	95	79	459	MP-9412	8
340deec1221b5efb10b261f7aa9a7f39601ad986	Southside	False	OS X	00:2b:04:71:10:73	29	61	64	IL-3128	1
6c46f587c2364162468214e15b3105fe42bfb98	Eaststad	False	OS X	41:94:8b:3e:4a:2e	98	64	714	MO-5720	3
479920db60e8bb106e6100b2e548d58abd1dd3c	Northside	True	Linux	4c:8e:9a:07:4f:ae	40	25	169	GU-7872	6
dd6371fa3fc8cc0683057ccff219cb87e647a7b6	Westtown	True	Linux	72:77:1e:24:f0:30	26	76	611	NV-174	9
e781cf5be580c57ce2cad353bt35931030774775	Portborough	True	Linux	2d:b5:bf:bf:c3:56	64	38	702	AS-7780	0
056d352151defc4ad453fab5e748afe7bb2b048b	Lakemouth	False	OS X	96:f3:fe:1a:0c:2c	83	98	269	KS-5591	1
60a2cf4a2014e27217face7c3131af2a9a29dc93	Southtown	False	OS X	01:c3:e4:89:f0:20	47	14	555	FL-9726	0
61e64ab677735cb74cc9782eaca4e4948958c2cb	Eastshire	False	OS X	3a:9c:32:4f:de:7b	63	84	494	ID-5786	2
c1db03dcd0c7e44c2219acf1ca94b2f7809800ad	Eastchester	False	Windows	81:54:b1:18:d0:08	59	56	133	MO-563	0
1858b1b13022a32c24f3774ce0d4e1b1b0091f101	Northbury	False	Linux	c9:2e:14:34:0f:1e	29	7	208	FL-0827	0



# Team Rook Alpha Presentation

# Team Rook Alpha Presentation

2.

## Performance Statistics

```
CPU: Intel Core/i7, speed 2792.93 MHz (estimated)
Counted CPU CLK / HALTED events (Clock cycles when not halted) with a unit mask of 0x00 (No unit mask) count 100000
-----
%      image name      app name      symbol name
-----
435595  81.7770  libsqlite3.so.0.8.6  analyze      /usr/lib/x86_64-linux-gnu/libsqlite3.so.0.8.6
435595  100.000  libsqlite3.so.0.8.6  analyze      /usr/lib/x86_64-linux-gnu/libsqlite3.so.0.8.6 [self]
-----
65420  12.2817  libc-2.19.so        analyze      /lib/x86_64-linux-gnu/libc-2.19.so
65420  100.000  libc-2.19.so        analyze      /lib/x86_64-linux-gnu/libc-2.19.so [self]
-----
7589   1.4247  libpthread-2.19.so   analyze      pthread_mutex_unlock
7589   100.000  libpthread-2.19.so   analyze      pthread_mutex_unlock
-----
7209   1.3534  libmysqldclient.so.18.0.0 analyze      /usr/lib/x86_64-linux-gnu/libmysqldclient.so.18.0.0
7209   100.000  libmysqldclient.so.18.0.0 analyze      /usr/lib/x86_64-linux-gnu/libmysqldclient.so.18.0.0 [self]
-----
7013   1.3166  libpthread-2.19.so   analyze      pthread_mutex_lock
7013   100.000  libpthread-2.19.so   analyze      pthread_mutex_lock
```

%	image name	app name
81.7770	libsqlite3.so.0.8.6	analyze
100.000	libsqlite3.so.0.8.6	analyze

%	self	total	name
time	us/call	us/call	
66.67	32.37	32.37	Many SQLite Query

Each sample counts as 0.01 seconds.

%	cumulative	self	calls	self	total	name
time	seconds	seconds		us/call	us/call	
66.67	0.02	0.02	618	32.37	32.37	
0.00	0.03	0.00	50195	0.00	0.00	test_result
0.00	0.03	0.00	12360	0.00	0.00	
0.00	0.03	0.00	3974	0.00	0.00	
0.00	0.03	0.00	3703	0.00	0.00	check_ip
0.00	0.03	0.00	3471	0.00	0.00	
0.00	0.03	0.00	3315	0.00	0.00	
0.00	0.03	0.00	3020	0.00	0.00	
0.00	0.03	0.00	2016	0.00	0.00	socket_tcp_open
0.00	0.03	0.00	1486	0.00	0.00	
0.00	0.03	0.00	919	0.00	0.00	
0.00	0.03	0.00	618	0.00	0.00	
0.00	0.03	0.00	618	0.00	0.00	





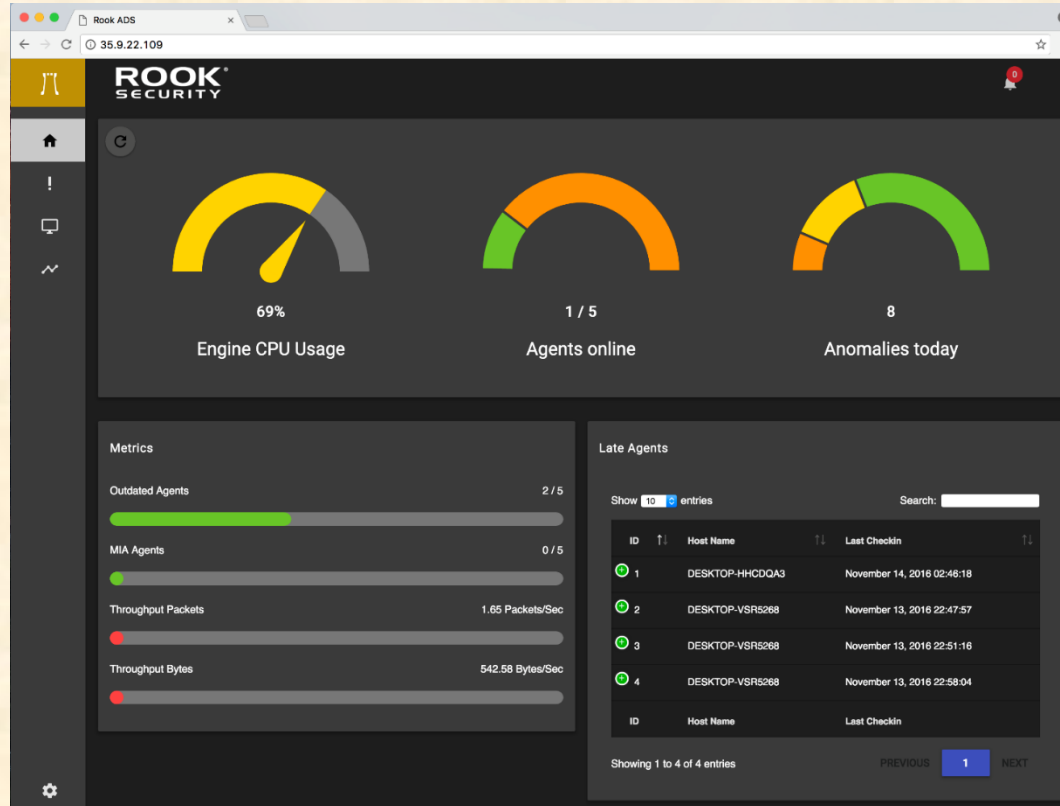


# Team Rook Beta Presentation

# Team Rook Beta Presentation

2.

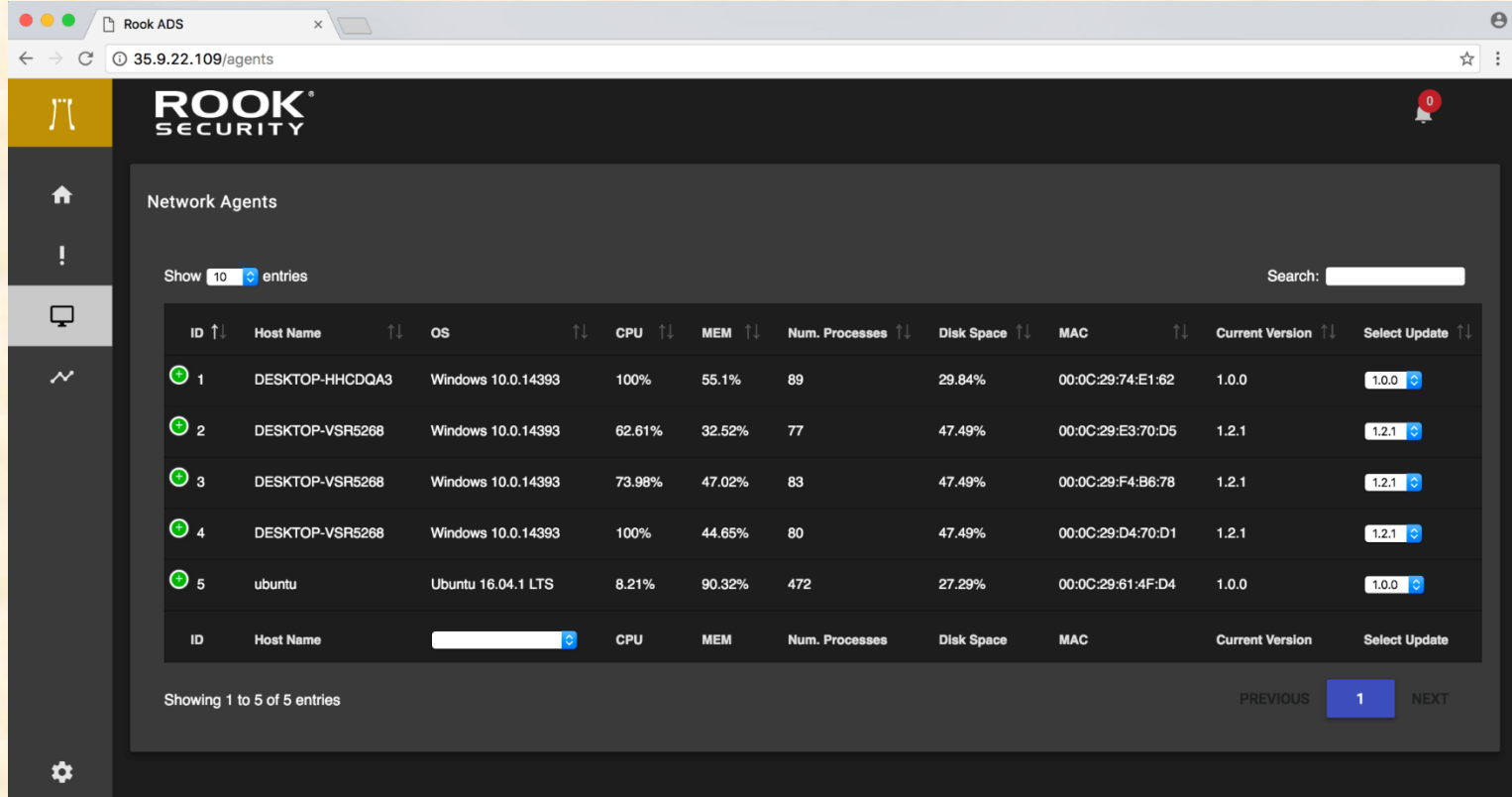
Dashboard: Home Page



The Capstone Experience

# Team Rook Beta Presentation

## Dashboard: Agent Management



The screenshot displays the Rook Security Agent Management dashboard. The interface includes a sidebar with navigation icons (home, alert, monitor, and a graph) and a main content area. The main area is titled "Network Agents" and features a table of agent information. The table has columns for ID, Host Name, OS, CPU, MEM, Num. Processes, Disk Space, MAC, Current Version, and Select Update. There are 5 entries listed, with the first four being Windows machines and the last one being an Ubuntu machine. The "Select Update" column shows dropdown menus for each agent, indicating the current version and the available update. The dashboard also includes a search bar and a pagination control at the bottom.

ROOK SECURITY

Network Agents

Show 10 entries Search:

ID	Host Name	OS	CPU	MEM	Num. Processes	Disk Space	MAC	Current Version	Select Update
1	DESKTOP-HHCDQA3	Windows 10.0.14393	100%	55.1%	89	29.84%	00:0C:29:74:E1:82	1.0.0	1.0.0
2	DESKTOP-VSR5268	Windows 10.0.14393	62.61%	32.52%	77	47.49%	00:0C:29:E3:70:D5	1.2.1	1.2.1
3	DESKTOP-VSR5268	Windows 10.0.14393	73.98%	47.02%	83	47.49%	00:0C:29:F4:B6:78	1.2.1	1.2.1
4	DESKTOP-VSR5268	Windows 10.0.14393	100%	44.65%	80	47.49%	00:0C:29:D4:70:D1	1.2.1	1.2.1
5	ubuntu	Ubuntu 16.04.1 LTS	8.21%	90.32%	472	27.29%	00:0C:29:61:4F:D4	1.0.0	1.0.0

Showing 1 to 5 of 5 entries

PREVIOUS 1 NEXT





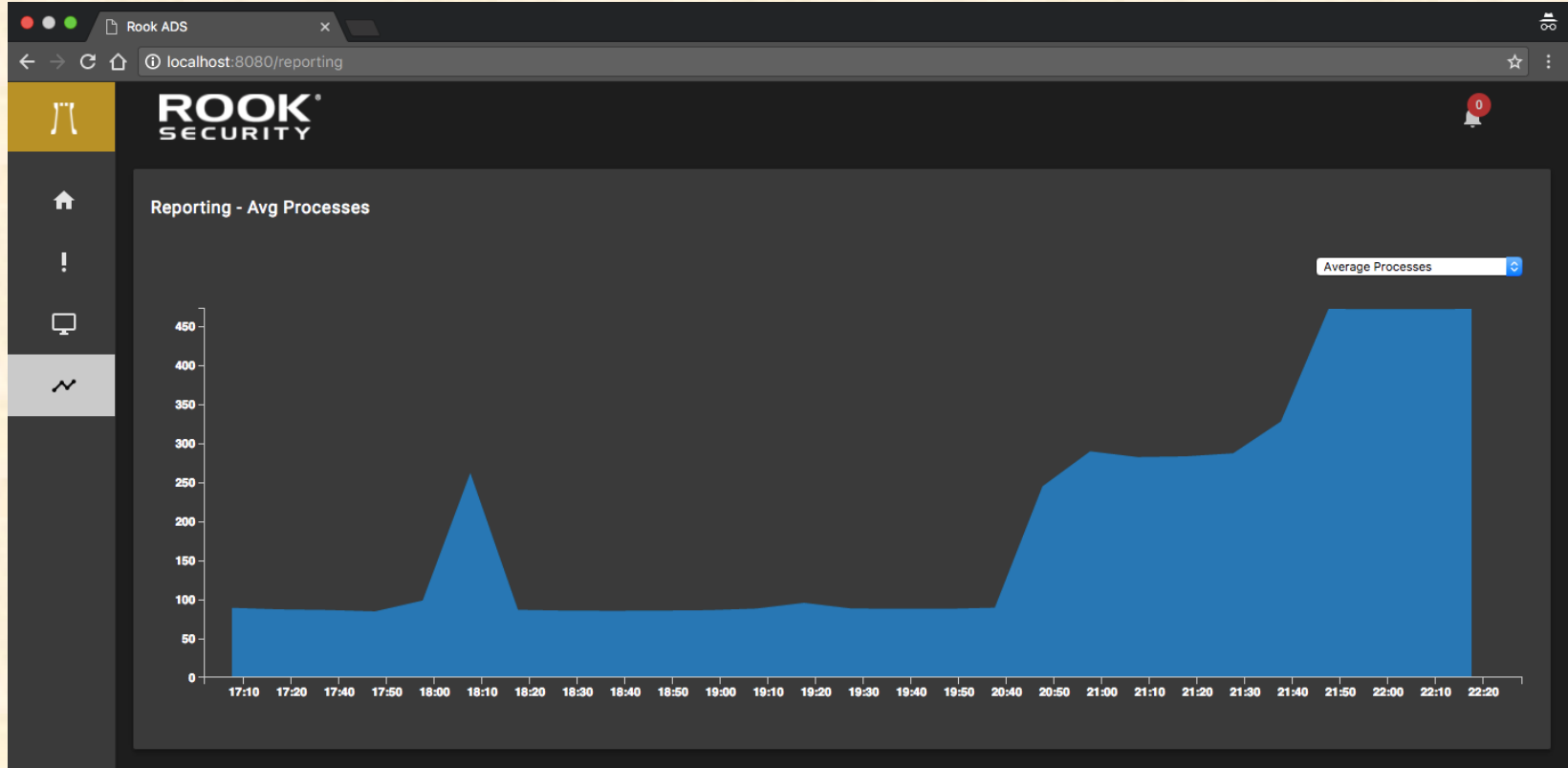
# Team Rook Beta Presentation



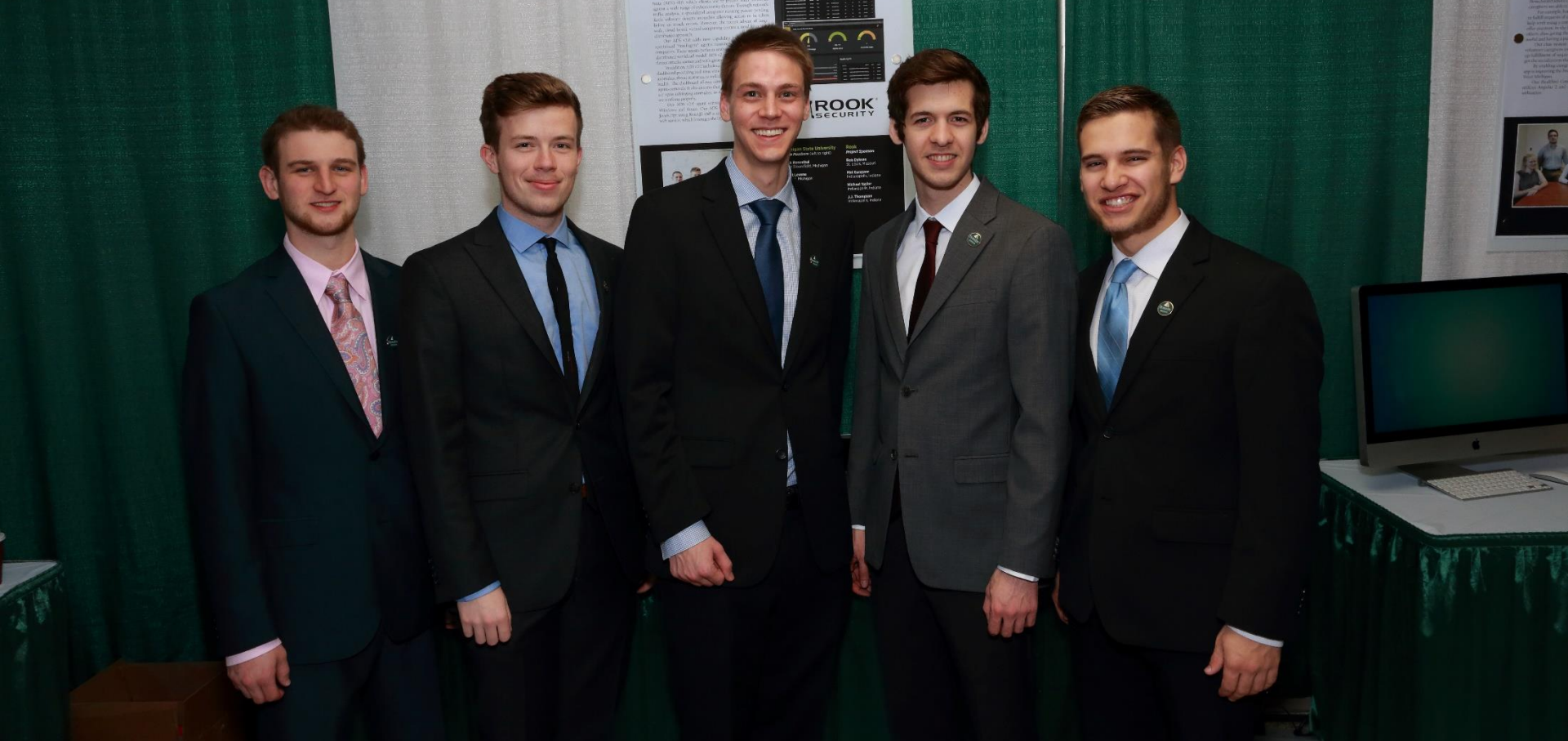
# Team Rook Beta Presentation

a.

Dashboard: Reporting



The Capstone Experience



Team Rook  
Design Day

MICHIGAN STATE  
UNIVERSITY

# *The Capstone Experience*

## Team Spectrum Health

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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

**SPECTRUM HEALTH**







FOR CLINICIANS

FOR THE MEDIA

FOR SUPPLIERS

FOR JOB SEEKERS

RESEARCH & CLINICAL TRIALS

MyHealth Log In



Search



Advanced Search



Who We Are

Patients & Visitors

Medical Services

Quality

Locations

Online Services

Health Information

Find a Doctor

One of the Best in the U.S.

We are one of the top children's hospitals for care in cancer, nephrology and urology. ▶



MyHealth

Manage your health information from a secure online account.

Enroll

Sign-in

Locations

Select Type of Location



Excellence Recognized

SEARCH COMPARE

Find a Doc



Nationally Recognized

# Team Spectrum Health Project Overview

## Healthier Communities Time Banking

- Functionalities
  - Create Online Community Connecting
  - Homebound People in Need
  - With Volunteer Helpers
- Features
  - Create and Edit User Profiles
  - Request Services Needed
  - List Assets and Resources Offered
  - Track Accomplishments
  - “Bank” Volunteer Time
  - Gamify with Badging and Leader Boards
- Technologies
  - Progressive Web Apps
  - CSS / HTML
  - JavaScript / TypeScript
  - Microsoft Entity Framework
  - Microsoft C# / .NET
  - Microsoft SQL Server



**SPECTRUM HEALTH**

Grand Rapids, Michigan





## Team Spectrum Health

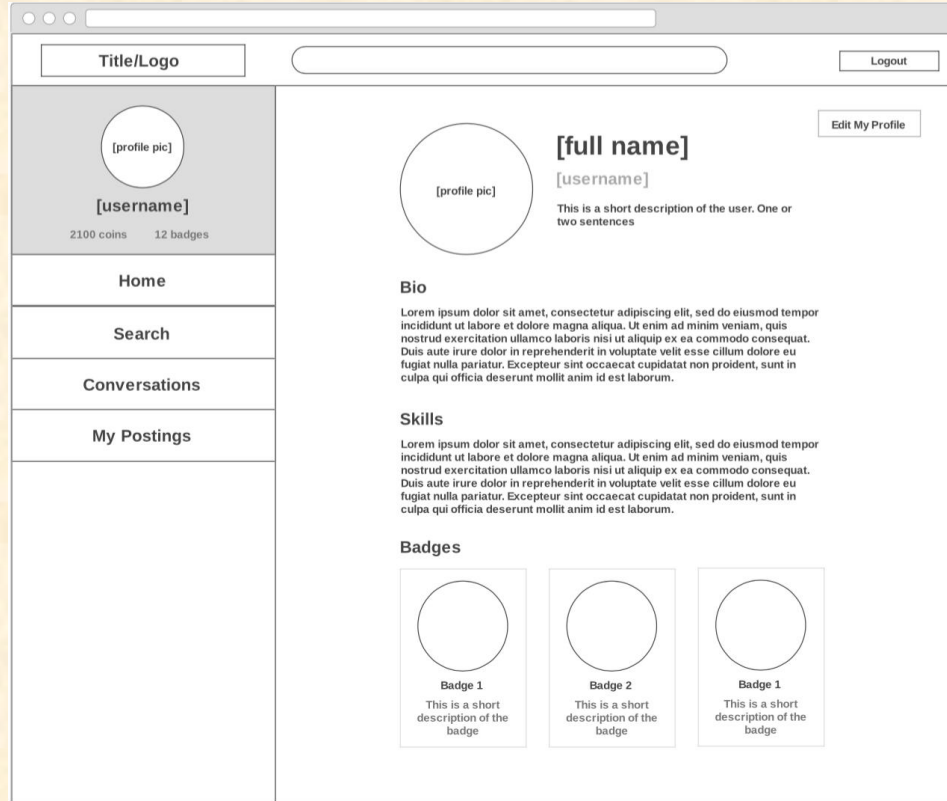
Courtney Irwin, Liam McGrath, Caleb Eckman, Halle Dymowski, Shirley Li



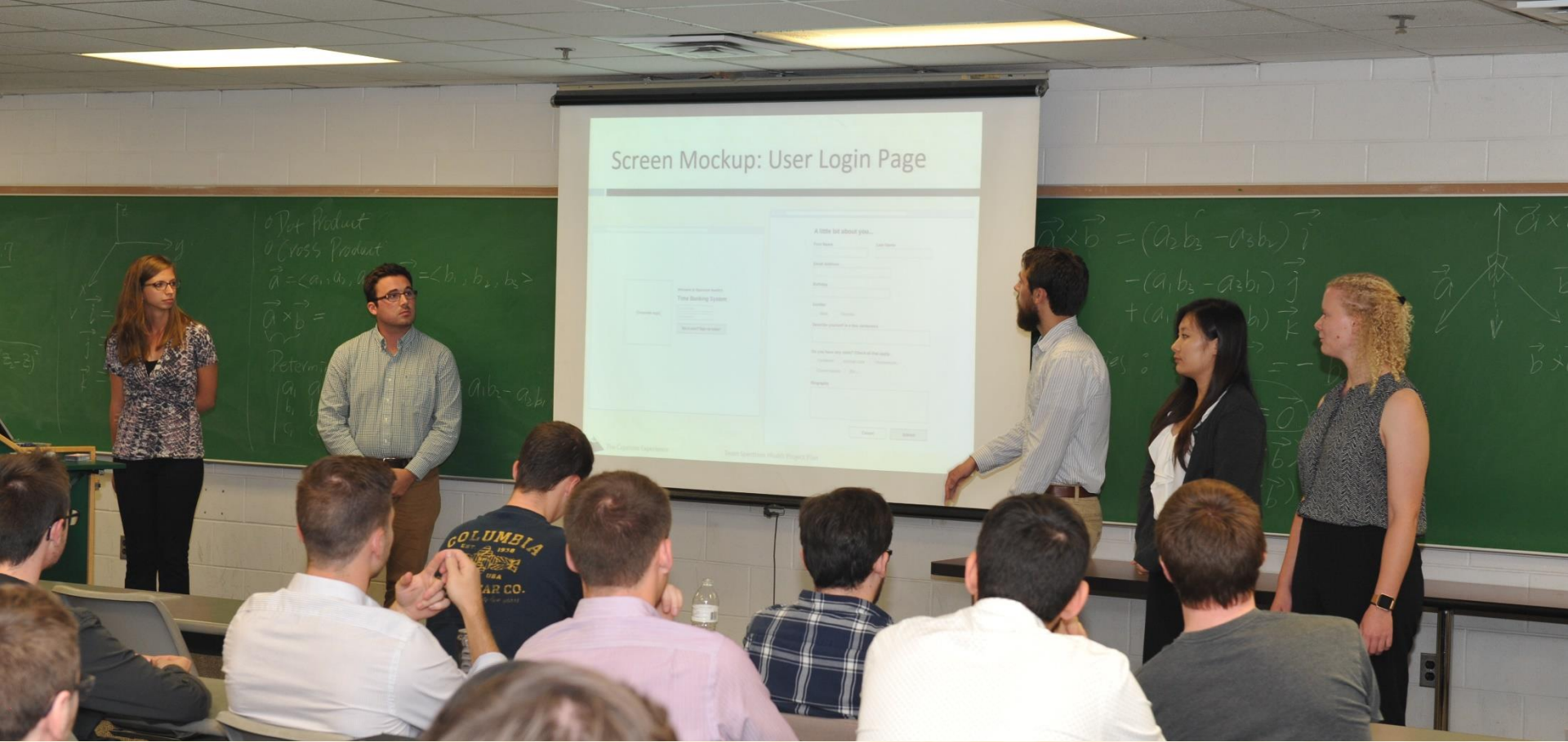
# Team Spectrum Health Project Plan Presentation

2.

## Screen Mockup







## Screen Mockup: User Login Page

A quick test about you...

First Name:  Last Name:

Email Address:

Phone:

Gender: ☐ Male ☐ Female

Security question (How did you get to school?)

What year did you start? (Select from dropdown)

Location:  (dropdown)

Comments:

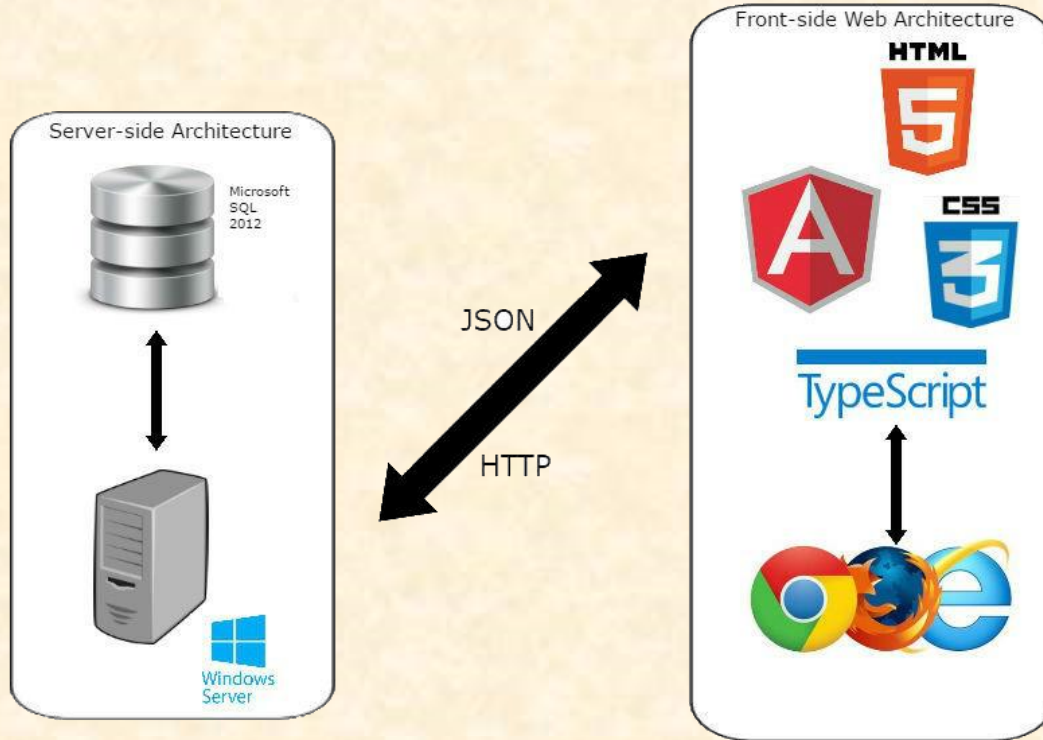
Remember Me: ☐

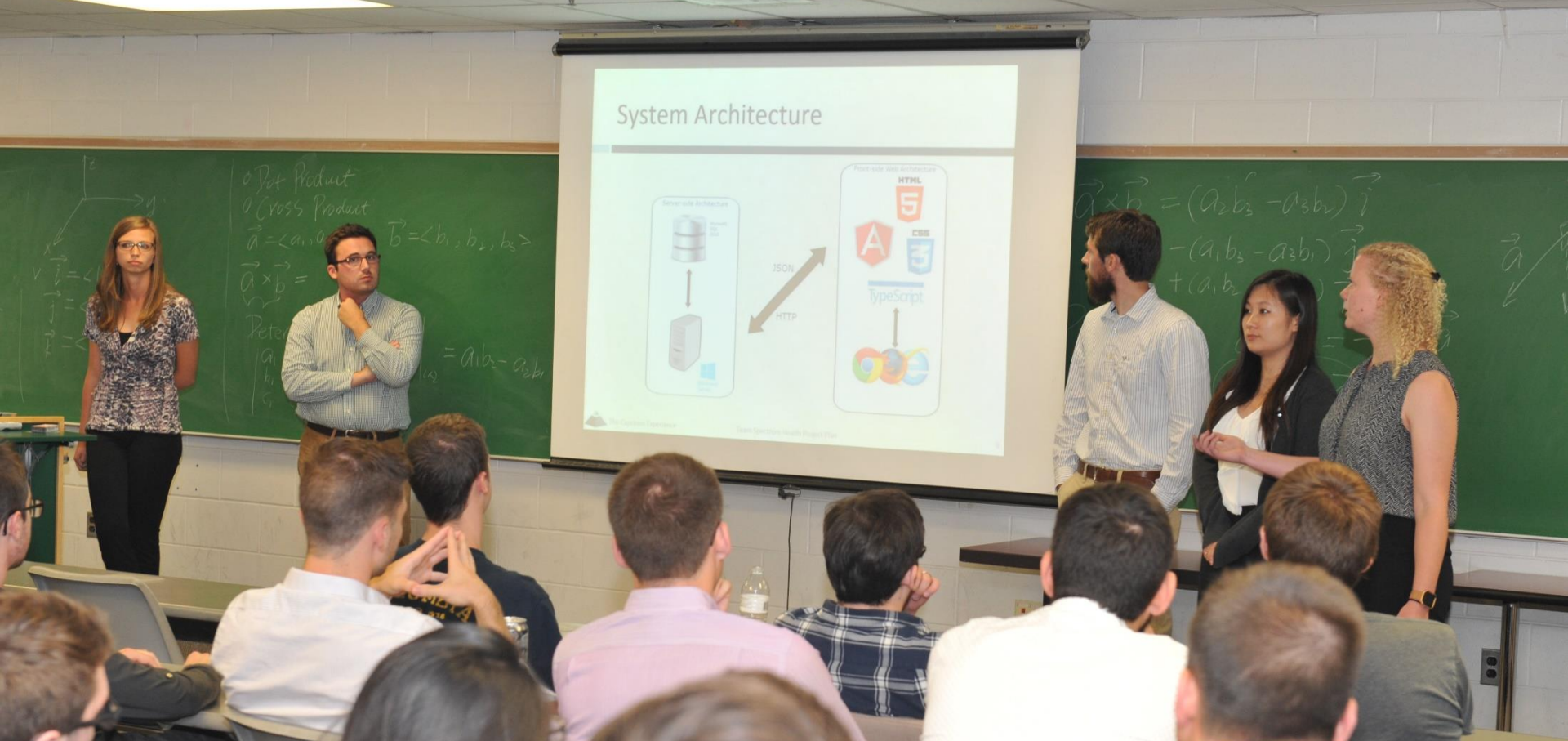
Team Spectrum Health  
Project Plan Presentation

# Team Spectrum Health Project Plan Presentation

a.

## Architecture Diagram





## System Architecture

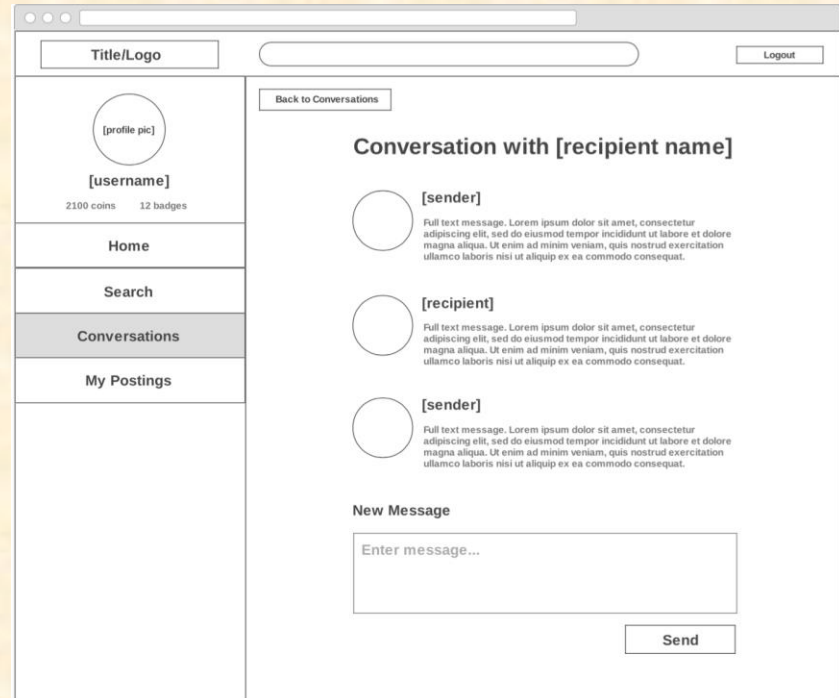
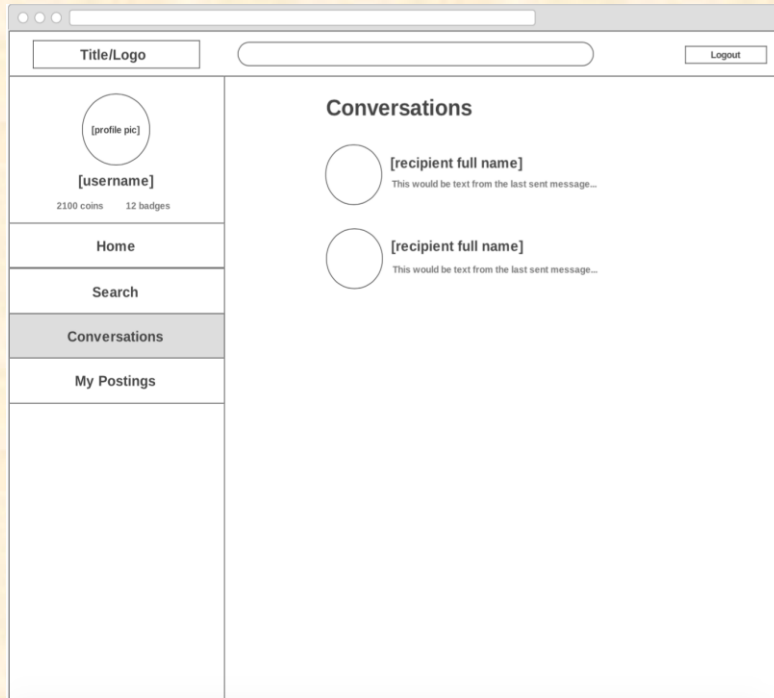


Team Spectrum Health  
Project Plan Presentation

# Team Spectrum Health Project Plan Presentation

2.

## Screen Mockups







# Team Spectrum Health Alpha Presentation

# Team Spectrum Health Alpha Presentation

a.

Profile Page

Spectrum Health Time Banking

Logout



johnny1243

1200 Coins | 47 Badges

Home

Search

Conversations

My Postings



Johnny White

johnny1243

Father of four who enjoys hiking and fishing in my spare time.

## Skills

Gardening

Car Maintenance

Woodworking

Animal Care

Yardwork

Conversation

Cooking

Child Care

## Bio

I grew up on a small farm in southern New Hampshire. I spent most of my childhood tending to animals on my family's farm and doing chores around the house.

I went to school and got a mechanical engineering degree and worked in the auto industry for seven years. It was at this job that I met my lovely wife, Catherine. After our marriage we decided to move to Connecticut and start our very own contracting company.

The Capstone Experience




# Team Spectrum Health Alpha Presentation

2.

## User Postings Page


**Spectrum Health Time Banking**

Logout



**johnny1243**  
1200 Points | 3 Badges

- Home
- Search
- Conversations
- My Postings



### Need help with my taxes

Time span: 1 hours


I'm pretty unsure about how to get my taxes submitted correctly. Does anyone have experience?

Accounting

Points: **100**

Edit post

Remove post



### New House Addition

Time span: 12 hours

I'm adding a master bathroom in my house and need an extra set of hands. If someone has plumbing experience that would be a plus.

Home Improvement Woodworking Plumbing Electrical Work

Points: **1200**

Edit post

Remove post







# Team Spectrum Health Alpha Presentation




# Team Spectrum Health Alpha Presentation

a.

Conversation Page

Spectrum Health Time Banking

Logout



johnny1243

1200 Points | 3 Badges

Home


Search

Conversations

My Postings


[Back to Conversations](#)

Conversation with Sara Johnson




Johnny White

Hello! I noticed your posting for some yardwork, and was hoping that I would be able to help you out with it.




Sara Johnson

Wow thanks for getting in touch with me. I can't believe it's fall already, my yard is COVERED in leaves.



Johnny White

I can't believe it either. I just got my own yard done.



Sara Johnson

That's great! When are you available this week?

The Capstone Experience



# Team Spectrum Health Beta Presentation


# Team Spectrum Health Beta Presentation

a.

## Task Information Page

**Spectrum Health Time Banking**


Logout



**johnny1243**  
1300 Points | 1 Badge

- Home
- Search
- Message
- Listings

[Back to Requests page](#)



**Lawn Mowing**  
Time span: 1 hours

I am going to be on vacation for 3 weeks, I would love it if someone could mow my lawn while I am away!

Yardwork

Home Improvement

Points: **100**

Open

Requested

Confirmed

Completed

[Sara Johnson](#) completed your request!

The Capstone Experience


# Team Spectrum Health Beta Presentation

e.

Conversations Page

**Spectrum Health Time Banking**


Logout





**johnny1243**  
1300 Points | 1 Badge


- Home
- Search
- Message
- Listings

### My Conversations

**Sara Johnson**

**Tony Davis**

**Amina Nadir**

**Julie Murray**





## Team Spectrum Health Beta Presentation


# Team Spectrum Health Beta Presentation

a.

## My Tasks Page

**Spectrum Health Time Banking**

Logout



**johnny1243**  
1300 Points | 1 Badge

Home

Search


Message

Listings

My Requests

My Tasks


**Pending Tasks** - Tasks which need to be accepted by the requester




**Help with Furniture Assembly**  
I received some new furniture from my friend in the mail, but it requires some assembly and ...  
300 points | 3 hours

**Confirmed Tasks** - You're confirmed to help with this task

**Completed Tasks** - Tasks you've completed for others

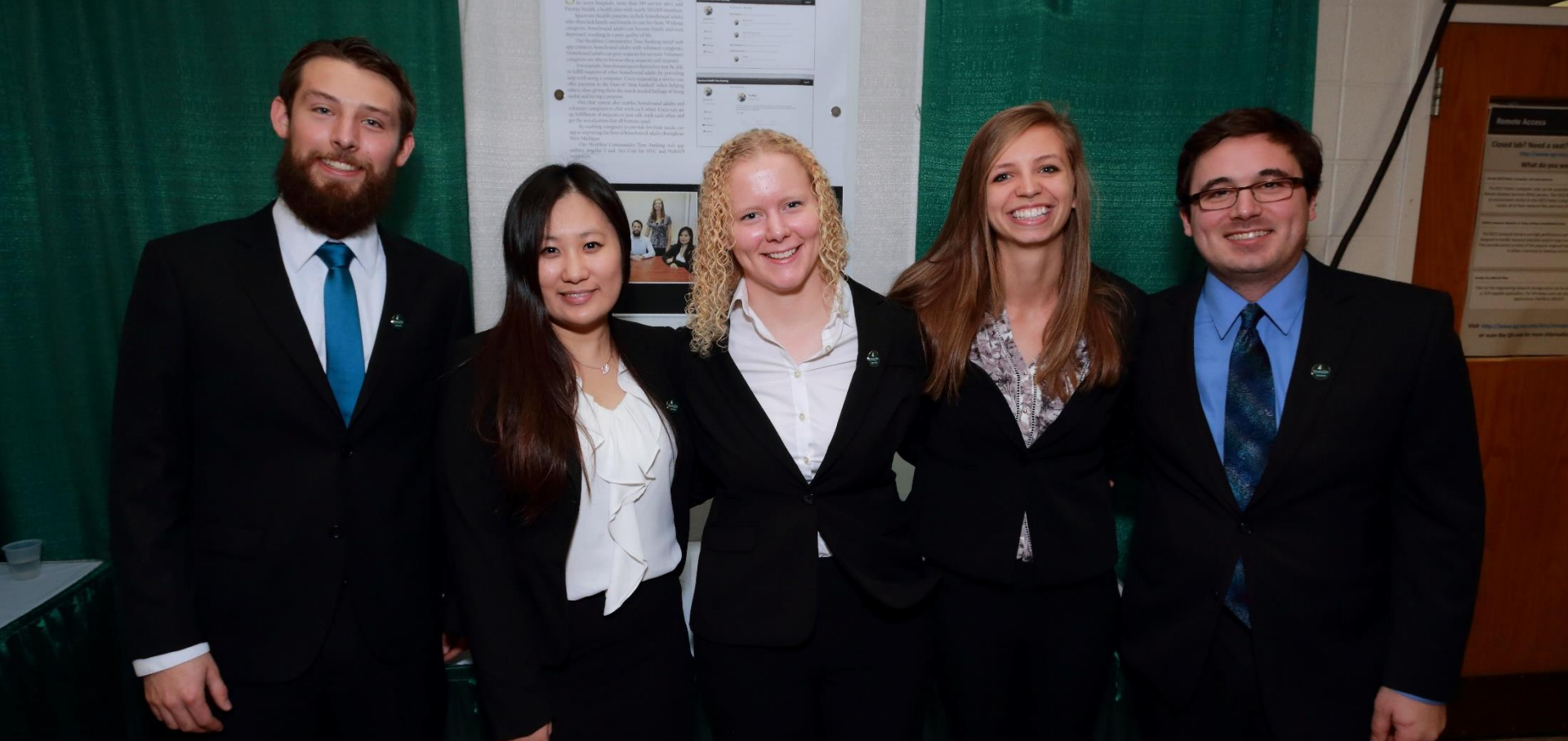


**Taxes**  
I need help doing my taxes  
100 points | 1 hours



**Yardwork**  
The weather is changing and I would like some help raking leaves in my yard  
0 points | 0 hours

The Capstone Experience



Team Spectrum Health  
Design Day

MICHIGAN STATE  
UNIVERSITY

# *The Capstone Experience*

Team Symantec

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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





**Symantec**



Call 1-888-821-1799

# Eliminate the Password

Improve ease of use without sacrificing security



*Single sign-on with strong authentication*

*Identity-based Access Control*

*User Directory*

Request a Call

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

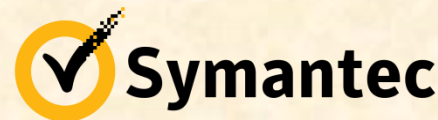
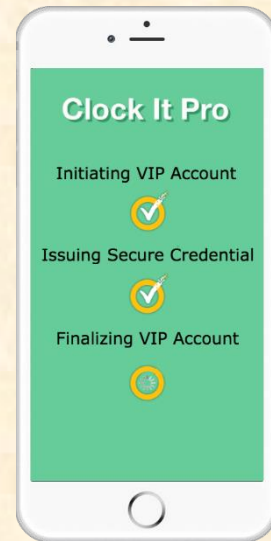
To all cloud-based apps

# Team Symantec

## Project Overview

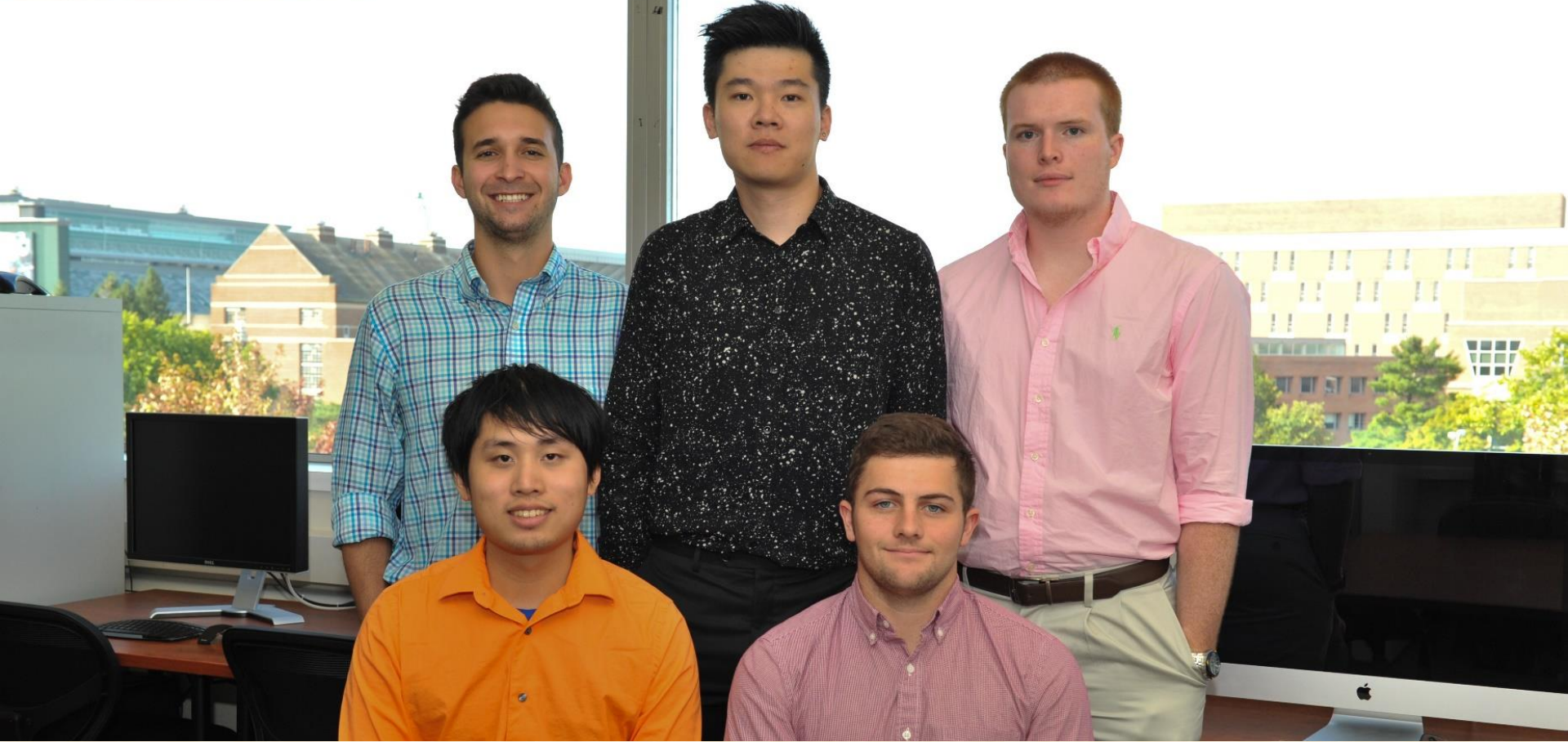
### Web Frameworks for Multi-Factor Authentication

- Functionalities
  - Design and Build Web Frameworks
  - For Multi-Factor Authentication
  - Using Symantec's Validation and ID Protection (VIP) Service
- Features
  - Support Leading Web Frameworks
    - Node.js
    - Python
    - Ruby
  - Handle
    - Self-Registration
    - Strong Authentication
    - Two-Factor Authentication via VIP Push
    - Logins by Users Across Multiple Websites
  - Provide SDKs on Symantec's GitHub
  - Build Sample Apps
- Technologies
  - Symantec Validation and ID Protection (VIP) Service
    - VIP Manager
    - VIP SDK Documentation
  - Java / Node.js / Python / Ruby
  - Apiary
  - GitHub



Mountain View, California





## Team Symantec




Gabe Morcote, Allen Huynh, Hanlin Ye, Jack Deters, Ryan Casler,




# Team Symantec Project Plan Presentation


2.


Screen Mockup


**Fake Bank** "Your money is in good hands!"


Fake Bank Navigation

Home


Locations

About Us

Contact Us

Login as User





Create Account

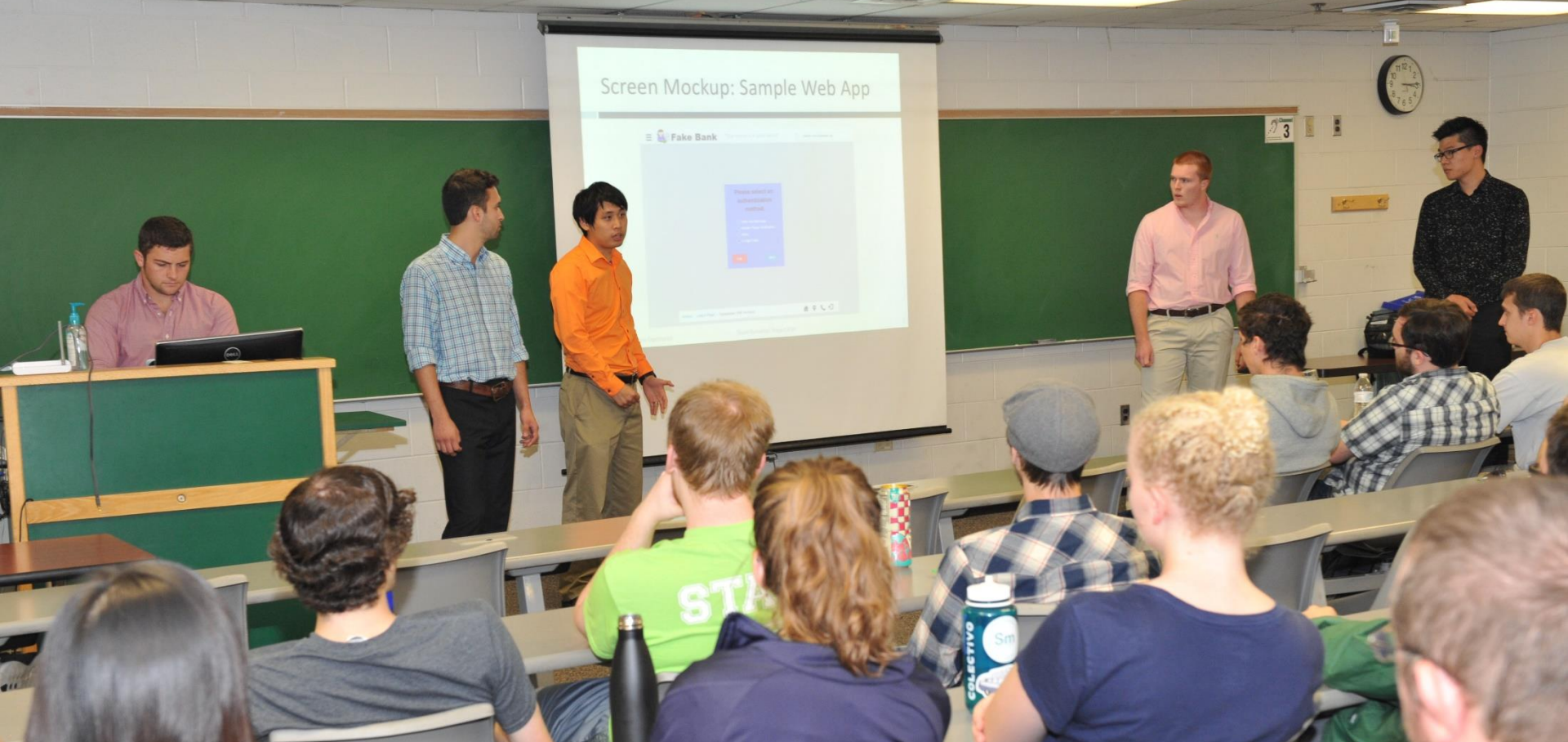
Log Out

Login As User

☐ Remember Me

Home / Login Page



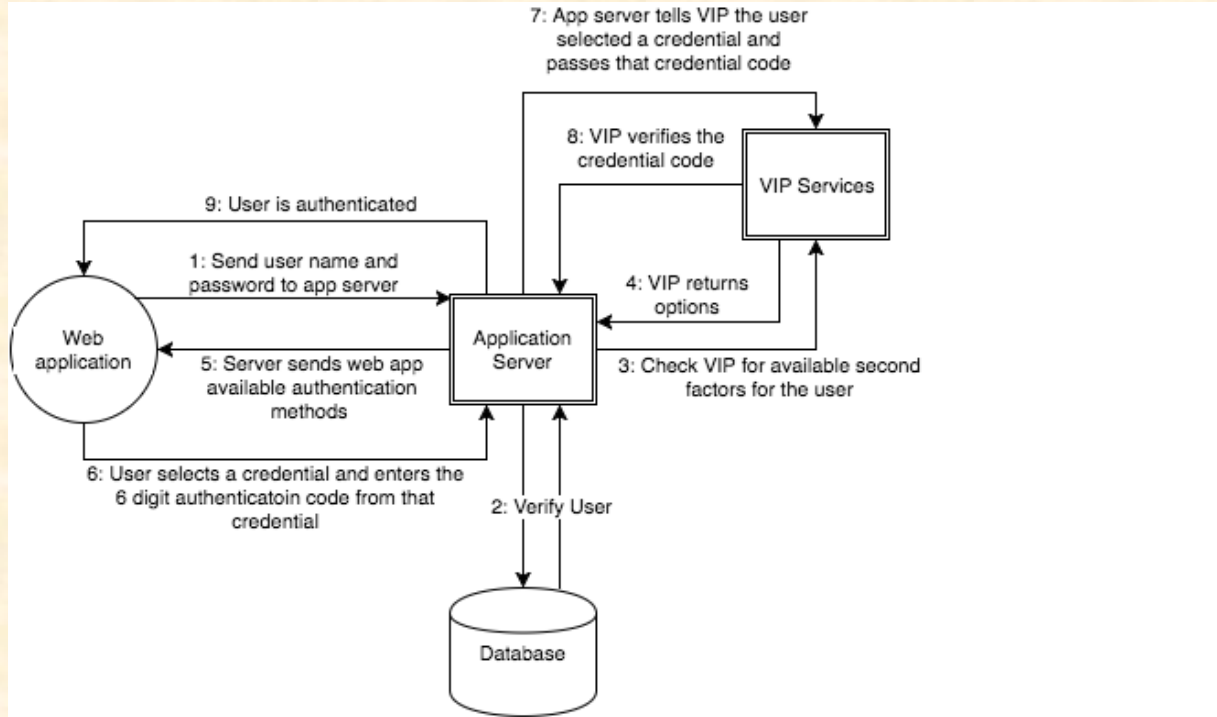


# Team Symantec Project Plan Presentation

# Team Symantec Project Plan Presentation

2.

## Architecture Diagram



**Authenticating a User via 6-digit Security Code**



# Team Symantec Project Plan Presentation



# Team Symantec Project Plan Presentation

2.

Screen Mockup

**soteria** 0.0.1

Previous version Next version

A gem for authentication with Symantec VIP

VERSIONS:

**0.0.1** - September 13, 2016 (4 KB)  
[Show all versions \(2 total\) →](#)

AUTHORS:

Ryan Casler

OWNERS:

SHA 256 CHECKSUM:

53e0b74374b610fd9b85d9ecade7cdef68fa2215ae57c59228bf471ea1ca2d5e

**TOTAL DOWNLOADS**  
**132**

**FOR THIS VERSION**  
**127**

GEMFILE:

```
gem 'soteria', '~>'
```

**INSTALL:**

```
gem install soteria
```

LICENSE:

**MIT**

REQUIRED RUBY VERSION:

**>= 0**

LINKS:

**Download Command**



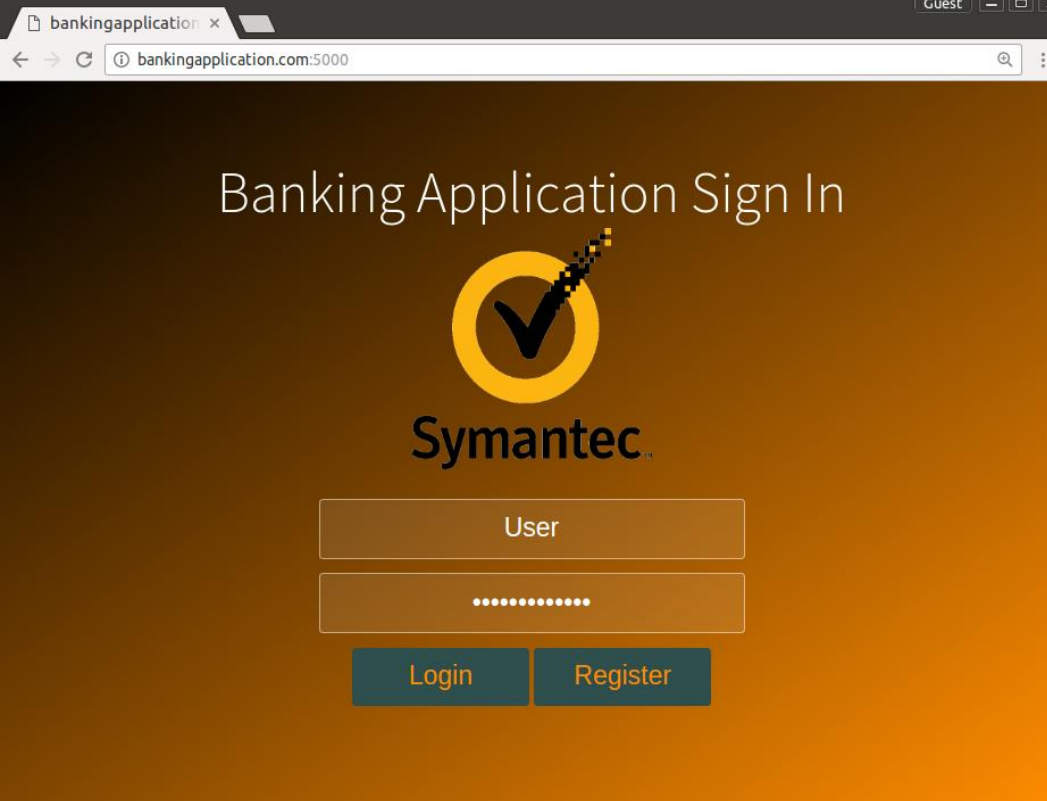
# Team Symantec Alpha Presentation

# Team Symantec

## Alpha Presentation

a.


Sample App Login



bankingapplication x

bankingapplication.com:5000

### Banking Application Sign In



Symantec

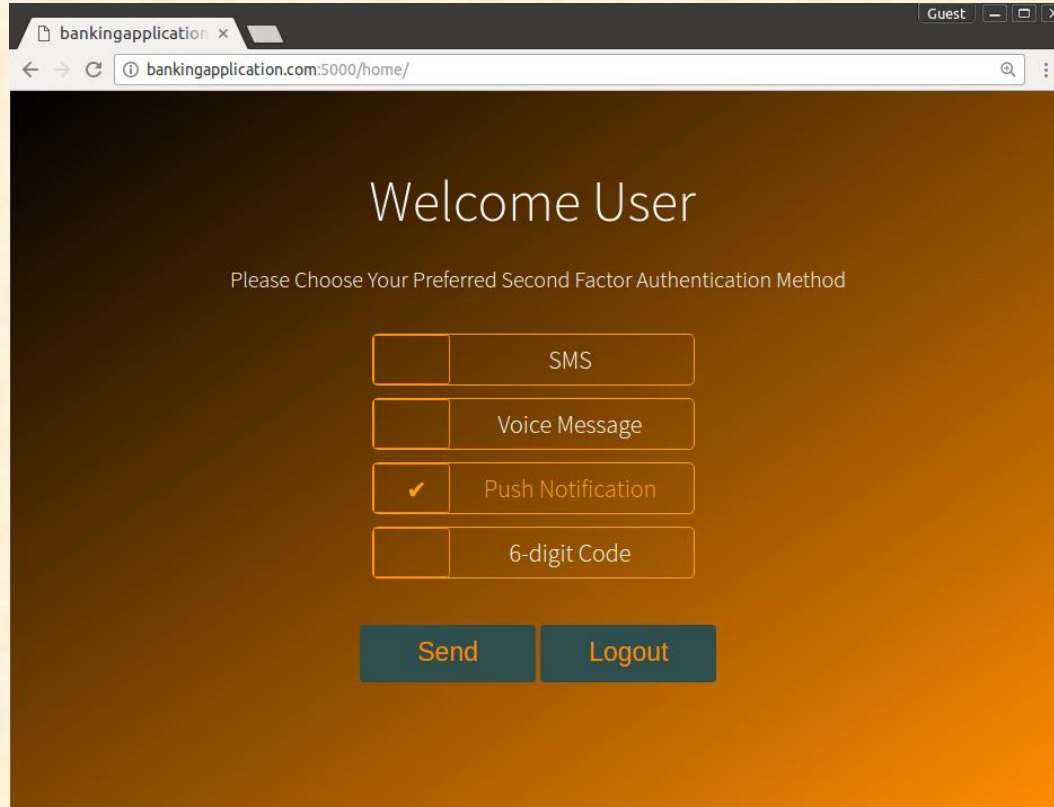
Login Register



# Team Symantec Alpha Presentation

a.

## Second Factor Selection



The screenshot shows a web browser window with the address bar displaying "bankingapplication.com:5000/home/". The page has a dark blue header with a "Guest" label and window controls. The main content area is white and features the text "Welcome User" in a large, bold font. Below this, a message reads "Please Choose Your Preferred Second Factor Authentication Method". There are four radio button options: "SMS", "Voice Message", "Push Notification" (which is selected with a blue checkmark), and "6-digit Code". At the bottom of the form are two buttons: "Send" and "Logout".

bankingapplication x

Guest

bankingapplication.com:5000/home/

### Welcome User

Please Choose Your Preferred Second Factor Authentication Method

☐ SMS

☐ Voice Message

☒ Push Notification

☐ 6-digit Code





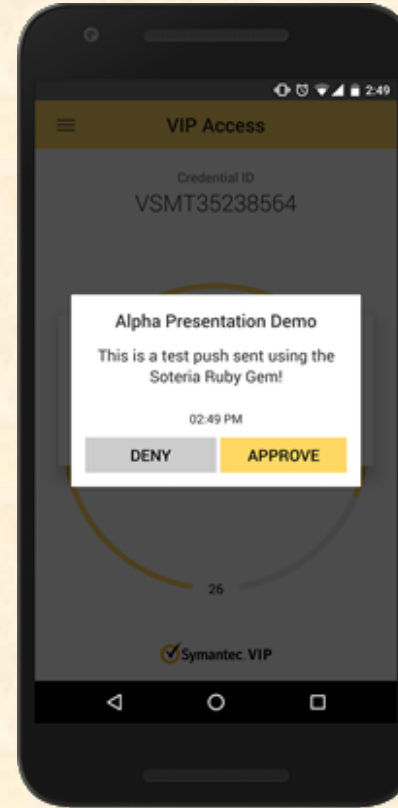


# Team Symantec Alpha Presentation

# Team Symantec Alpha Presentation

a.

Push Received by User





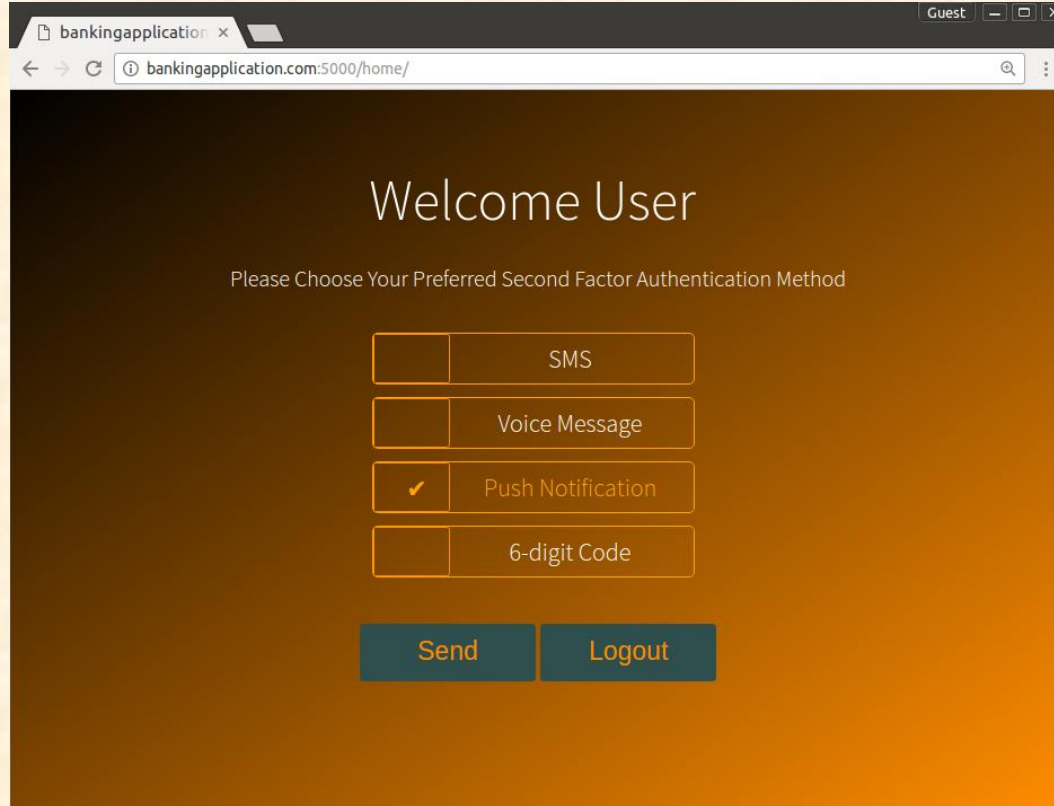
# Team Symantec Beta Presentation



# Team Symantec Beta Presentation

a.

## Second Factor Selection



The screenshot shows a web browser window with a single tab titled 'bankingapplication x'. The address bar displays 'bankingapplication.com:5000/home/'. The page content has a dark blue gradient background. At the top, it says 'Welcome User'. Below this, a prompt reads 'Please Choose Your Preferred Second Factor Authentication Method'. There are four radio button options: 'SMS', 'Voice Message', 'Push Notification' (which is selected with a green checkmark), and '6-digit Code'. At the bottom of the selection area are two buttons: 'Send' and 'Logout'.

bankingapplication x

bankingapplication.com:5000/home/

Welcome User

Please Choose Your Preferred Second Factor Authentication Method

☐ SMS

☐ Voice Message

☒ Push Notification

☐ 6-digit Code

Send Logout

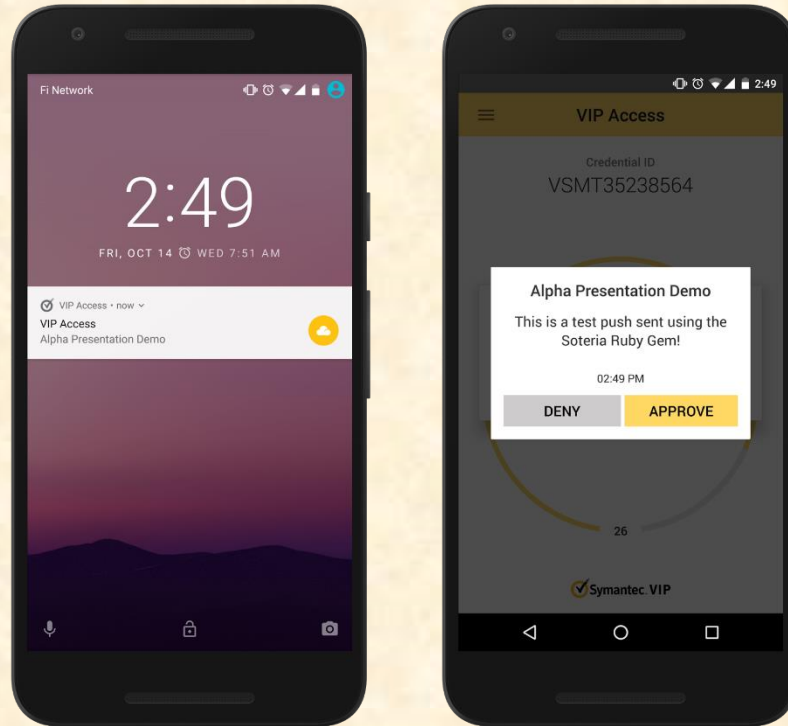




# Team Symantec Beta Presentation

2.

Push Received By User



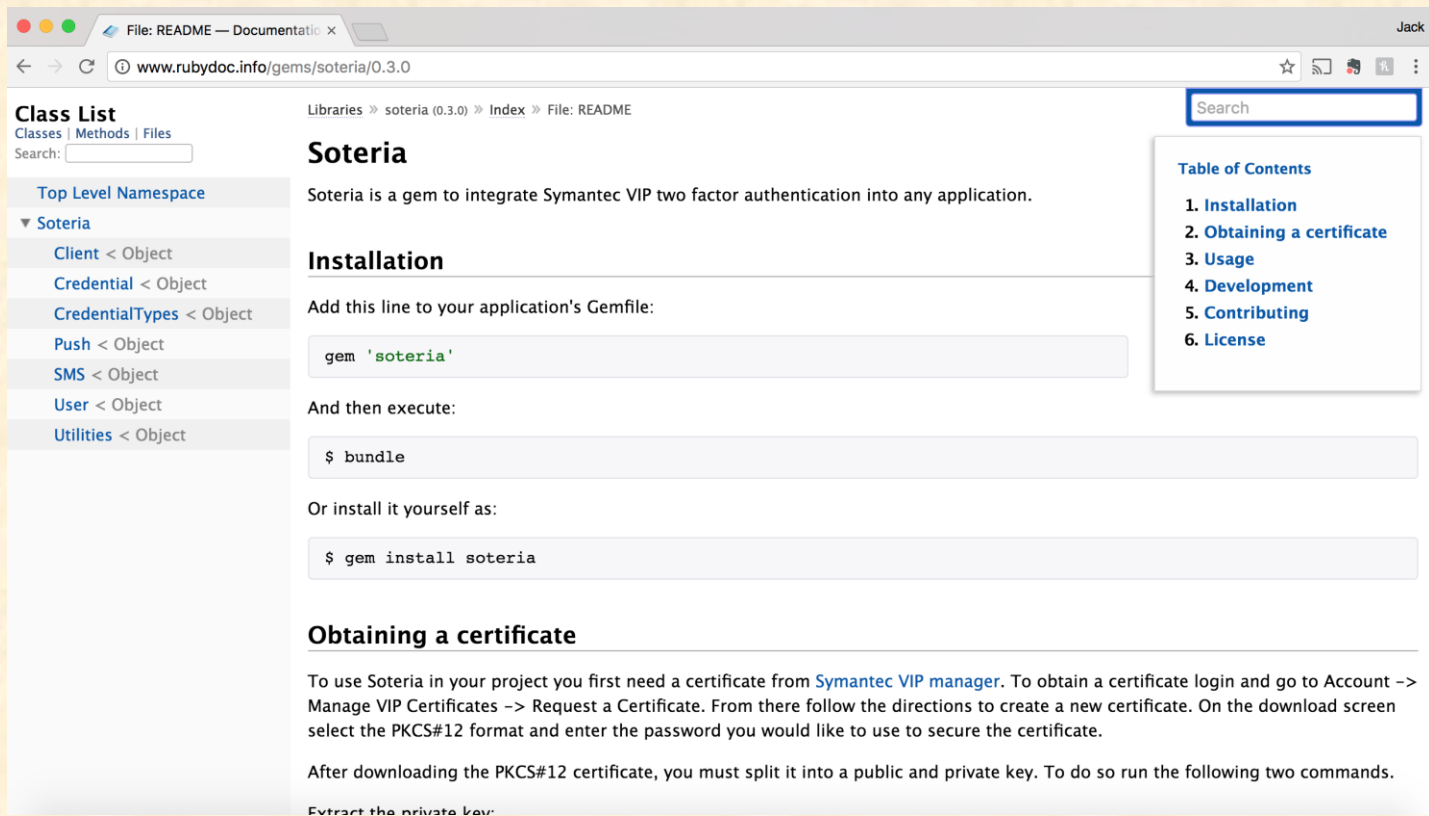


# Team Symantec Beta Presentation

# Team Symantec Beta Presentation

2.

## Ruby Gem Documentation



The screenshot shows a web browser window displaying the documentation for the Soteria Ruby gem. The browser's address bar shows the URL `www.rubydoc.info/gems/soteria/0.3.0`. The page layout includes a left sidebar with a 'Class List' section containing links for 'Classes', 'Methods', and 'Files', and a 'Top Level Namespace' section listing various objects like 'Client', 'Credential', and 'User'. The main content area is titled 'Soteria' and describes it as a gem for integrating Symantec VIP two factor authentication. It features sections for 'Installation' and 'Obtaining a certificate'. The 'Installation' section provides a code block for adding the gem to a Gemfile and a command to bundle. The 'Obtaining a certificate' section explains the process of getting a certificate from the Symantec VIP manager. A right sidebar contains a 'Table of Contents' with links to sections 1 through 6. A search bar is located at the top right of the main content area.

File: README — Documentatio x Jack

← → ↻ ⓘ www.rubydoc.info/gems/soteria/0.3.0 ☆ 🔍 📄 📱 📺 ⋮

**Class List**  
Classes | Methods | Files  
Search:

[Top Level Namespace](#)

▼ Soteria

- [Client](#) < Object
- [Credential](#) < Object
- [CredentialTypes](#) < Object
- [Push](#) < Object
- [SMS](#) < Object
- [User](#) < Object
- [Utilities](#) < Object

Libraries » soteria (0.3.0) » Index » File: README

## Soteria

Soteria is a gem to integrate Symantec VIP two factor authentication into any application.

### Installation

Add this line to your application's Gemfile:

```
gem 'soteria'
```

And then execute:

```
$ bundle
```

Or install it yourself as:

```
$ gem install soteria
```

### Obtaining a certificate

To use Soteria in your project you first need a certificate from [Symantec VIP manager](#). To obtain a certificate login and go to Account -> Manage VIP Certificates -> Request a Certificate. From there follow the directions to create a new certificate. On the download screen select the PKCS#12 format and enter the password you would like to use to secure the certificate.

After downloading the PKCS#12 certificate, you must split it into a public and private key. To do so run the following two commands.

Extract the private key:

**Table of Contents**

1. [Installation](#)
2. [Obtaining a certificate](#)
3. [Usage](#)
4. [Development](#)
5. [Contributing](#)
6. [License](#)





Team Symantec  
Design Day



MICHIGAN STATE  
UNIVERSITY

# *The Capstone Experience*

Team TechSmith

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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





# 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

## Video Sentiment Analysis

- Functionalities
  - Determine Video Viewer's Sentiments
  - While Viewing a Video
  - Automatically and Passively
- Features
  - Provide
    - Player for Video Viewer
    - Website for Video Author
  - Keep Track of Video Viewer Inputs
    - Speed Up?
    - Skip Ahead? Rewind?
    - Stop Before End?
  - Determine Viewer Emotions
    - Record Viewer with Web Camera
    - Process with Microsoft Cognitive Service Emotion API
  - Generate and Display Analytics
- Technologies
  - CSS / HTML / JavaScript / PHP
  - ASP.Net MVC
  - Microsoft C# / .NET and XAML
  - Microsoft Azure Cloud Computing
  - Windows 10 Universal Windows Platform Player
  - Windows Media Foundation
  - Microsoft Cognitive Services







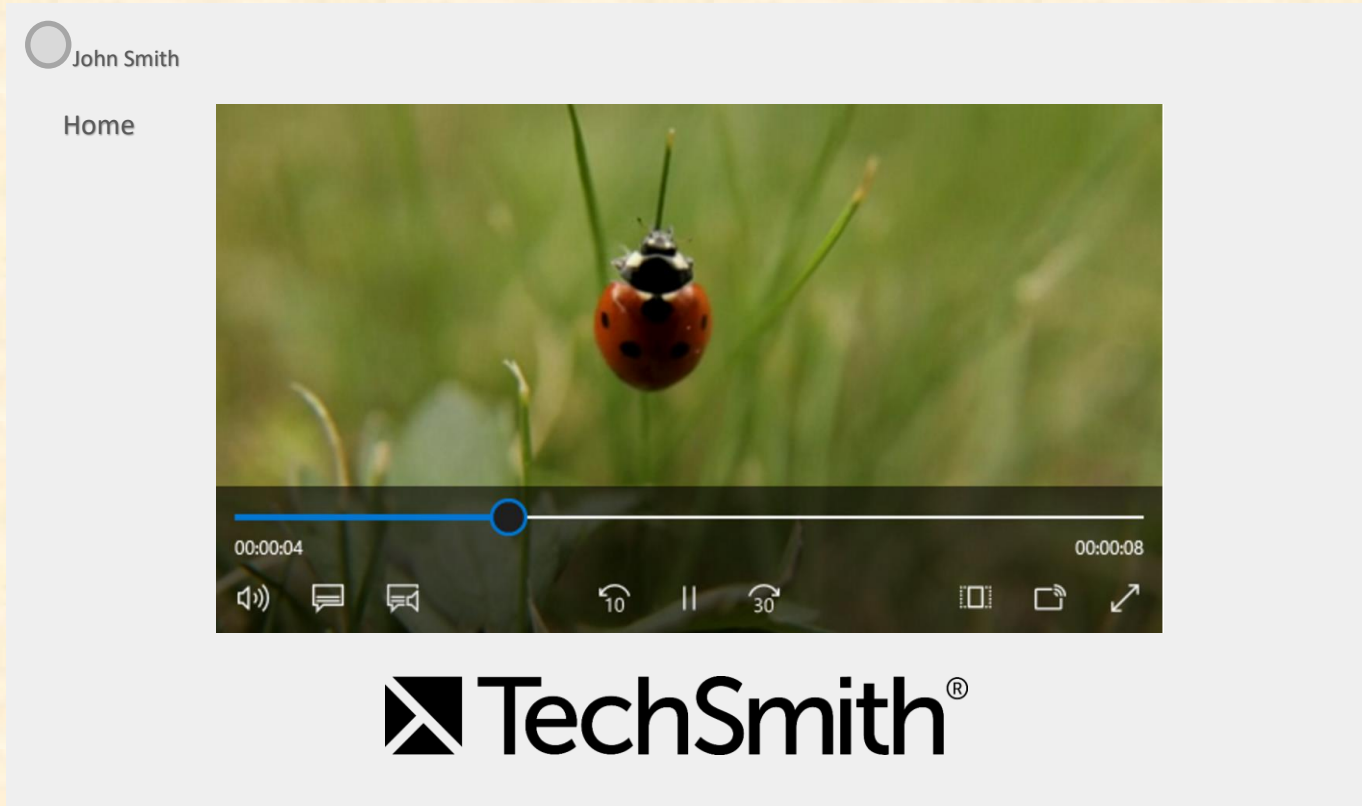
## Team TechSmith

D. Y. Choi, Corey Wisser, Alex Lambert, Kyle Seippel, Tony Capriglione

# Team TechSmith Project Plan Presentation

2.

Screen Mockup



The Capstone Experience





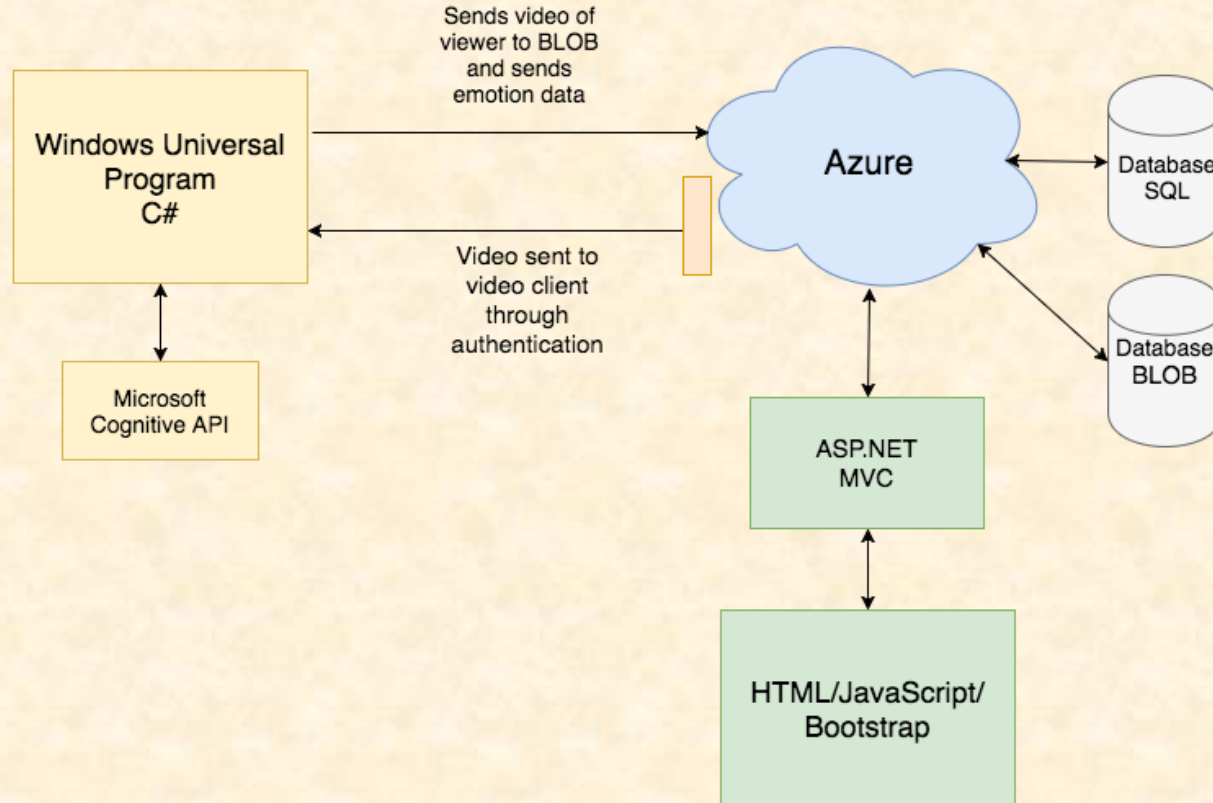
# Team TechSmith Project Plan Presentation



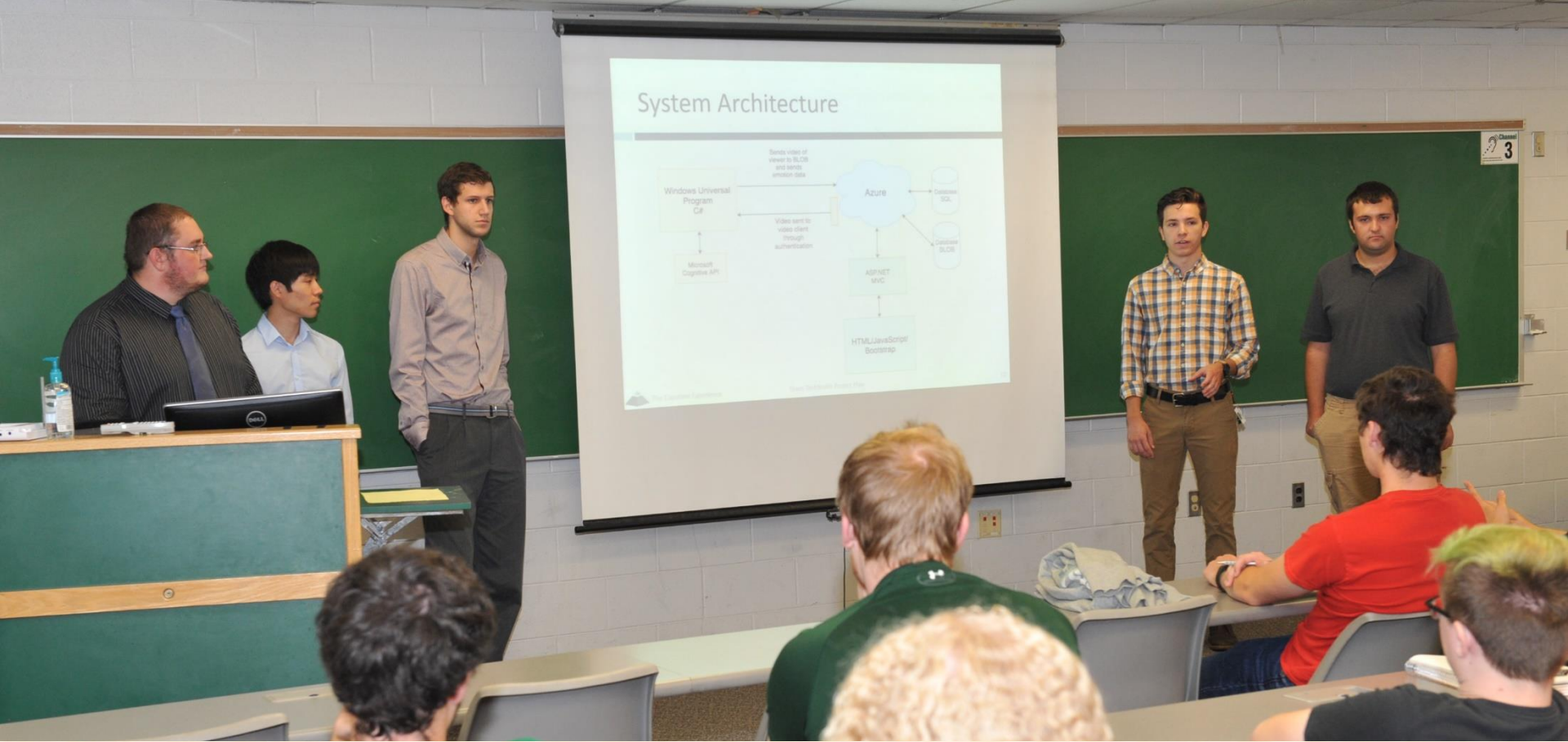
# Team TechSmith Project Plan Presentation

2.

## Architecture Diagram





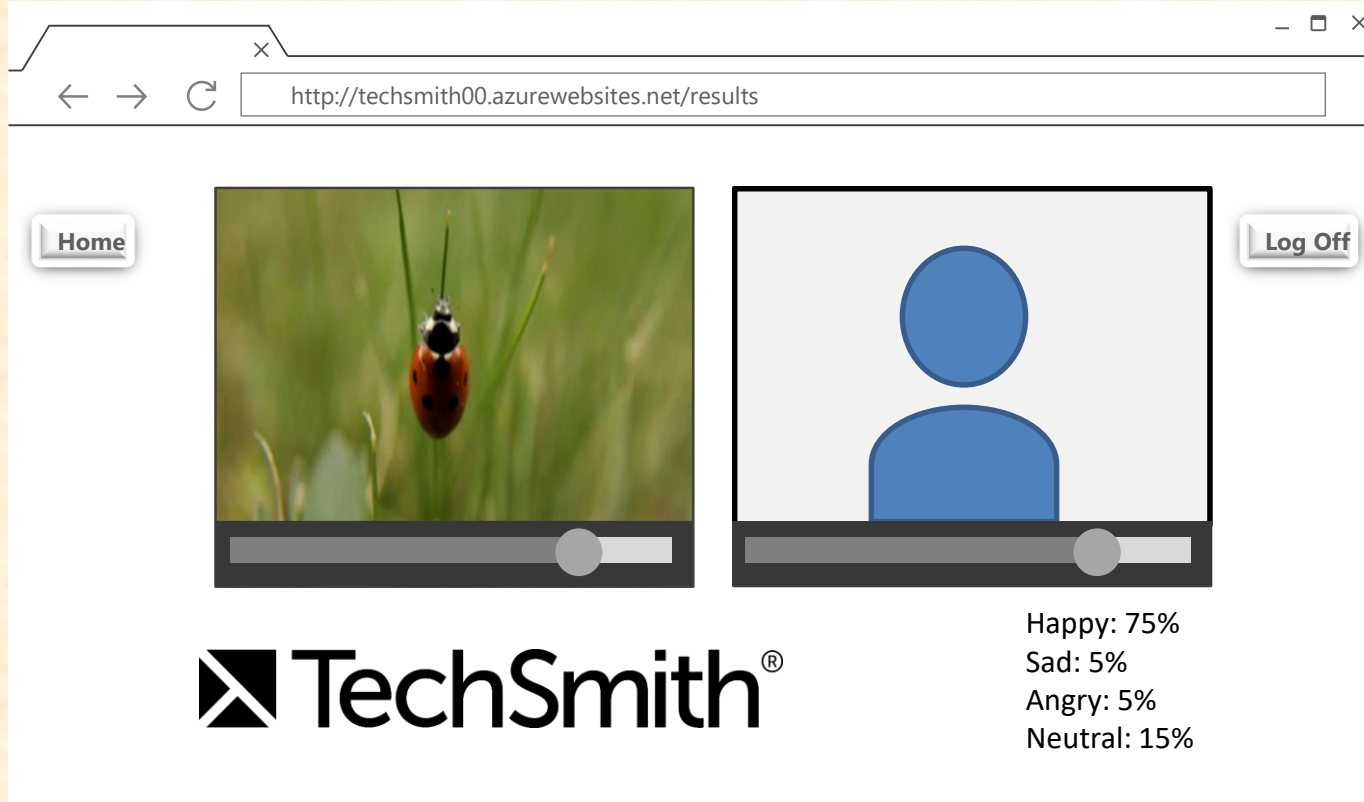


# Team TechSmith Project Plan Presentation

# Team TechSmith Project Plan Presentation

a.

Screen Mockup



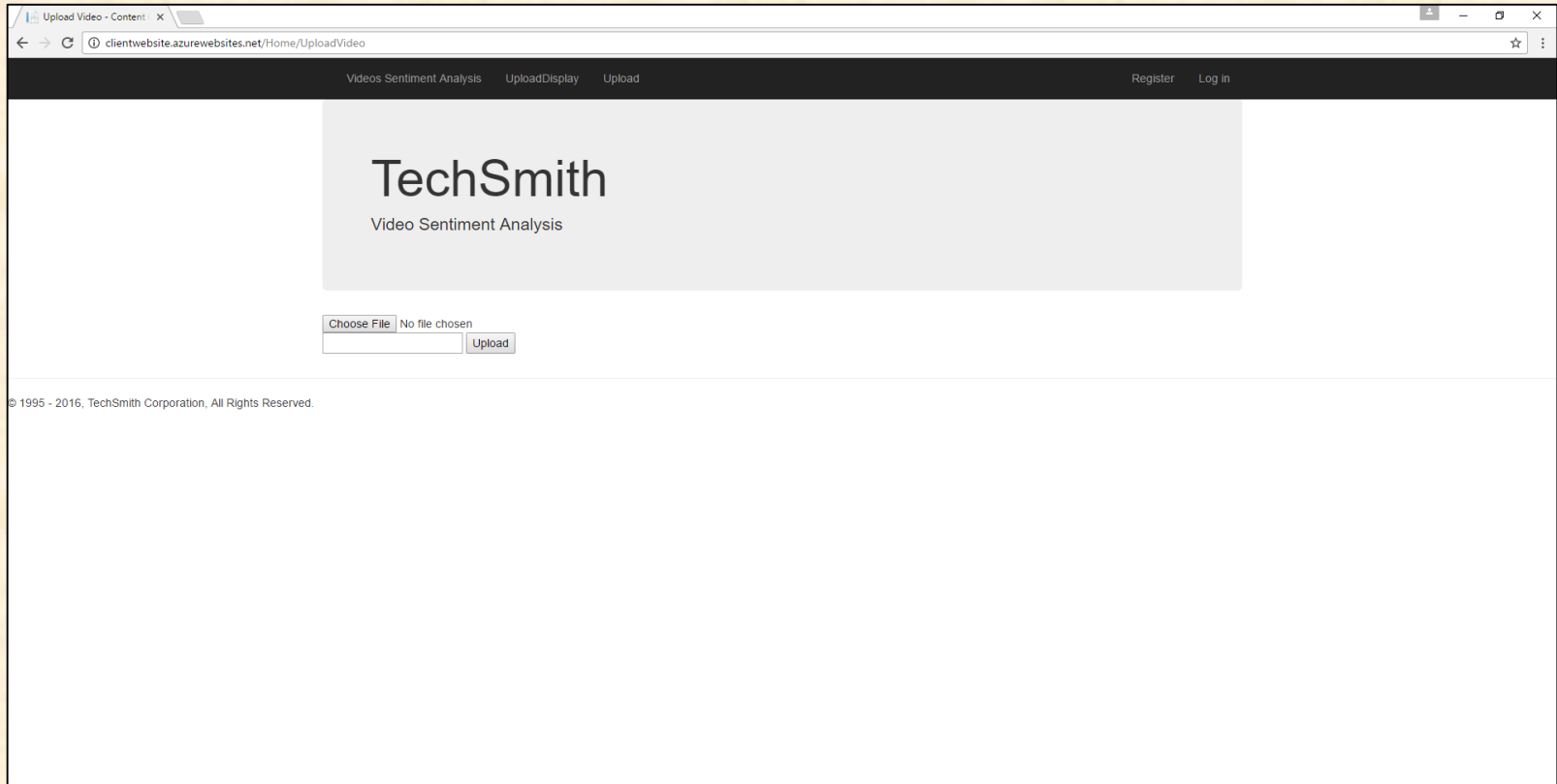


# Team TechSmith Alpha Presentation

# Team TechSmith Alpha Presentation

2.

## Video Upload Page



The screenshot shows a web browser window with the URL `clientwebsite.azurewebsites.net/Home/UploadVideo`. The page has a dark navigation bar with links for "Videos Sentiment Analysis", "UploadDisplay", "Upload", "Register", and "Log in". The main content area features the "TechSmith" logo and the text "Video Sentiment Analysis". Below this is a file upload section with a "Choose File" button, a text input field showing "No file chosen", and an "Upload" button. At the bottom left, there is a copyright notice: "© 1995 - 2016, TechSmith Corporation, All Rights Reserved."

Upload Video - Content x

clientwebsite.azurewebsites.net/Home/UploadVideo

Videos Sentiment Analysis UploadDisplay Upload Register Log in

TechSmith

Video Sentiment Analysis

Choose File No file chosen

Upload

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# Team TechSmith Alpha Presentation

2.

Video Player App



The Capstone Experience





# Team TechSmith Alpha Presentation

# Team TechSmith Alpha Presentation


2.

## Emotional Analysis

Upload Videos - Content | [https://localhost:44361/Home/VideoView](#)


Videos Sentiment Analysis | Video View | UploadDisplay | Upload | Register | Log in

### Life in the City







0:43 / 8:01

### Tony Bishop



0:05 / 0:59

### Emotions

	10%
	25%
	5%
	60%





Team TechSmith  
Beta Presentation



# Team TechSmith Beta Presentation


Emotional Analysis - Website

Upload Videos - Content x

clientwebsite.azurewebsites.net/Home/VideoView

Videos Sentiment Analysis Upload/Display Upload Hello caprig2@msu.edu Log off

## Snap Trouble

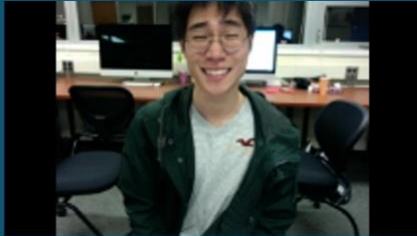


## Emotions

😊 99%

⏮ ⏪ ⏩ ⏭ 🔊

## choidon5



## Viewers

Lambe168  
Wisserco

### DataSummary

Emotions Graph Media Input Summary

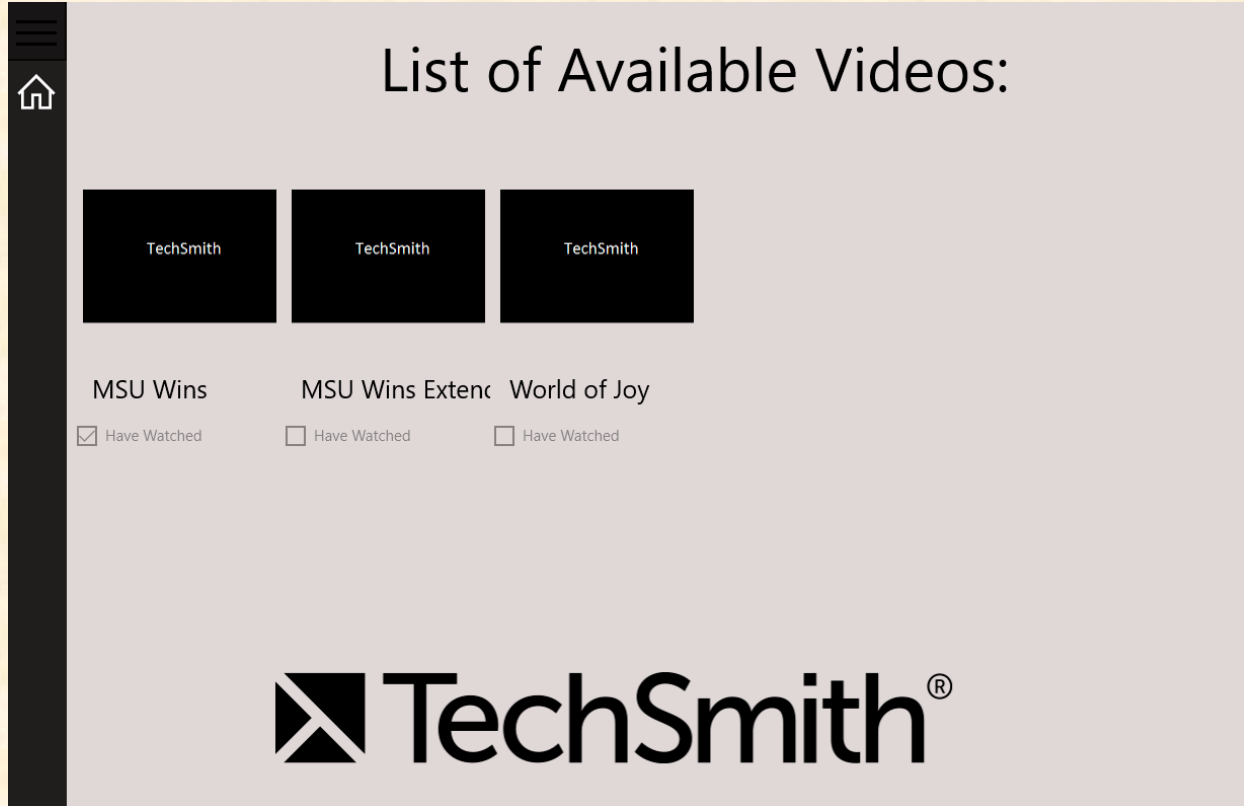
Event	Start	End
1 Pause	00:00:03	00:00:03
2 Play	00:00:03	00:00:03
3 Revid	00:00:06	00:00:00
4 Fastforward	00:00:04	00:00:11
5 Pause	00:00:13	00:00:13
6 Play	00:00:13	00:00:13
7 Revid	00:00:14	00:00:00
8 Fastforward	00:00:06	00:00:14

© 1995 - 2016, TechSmith Corporation, All Rights Reserved.

# Team TechSmith Beta Presentation

a.

Home Screen – Video Player App



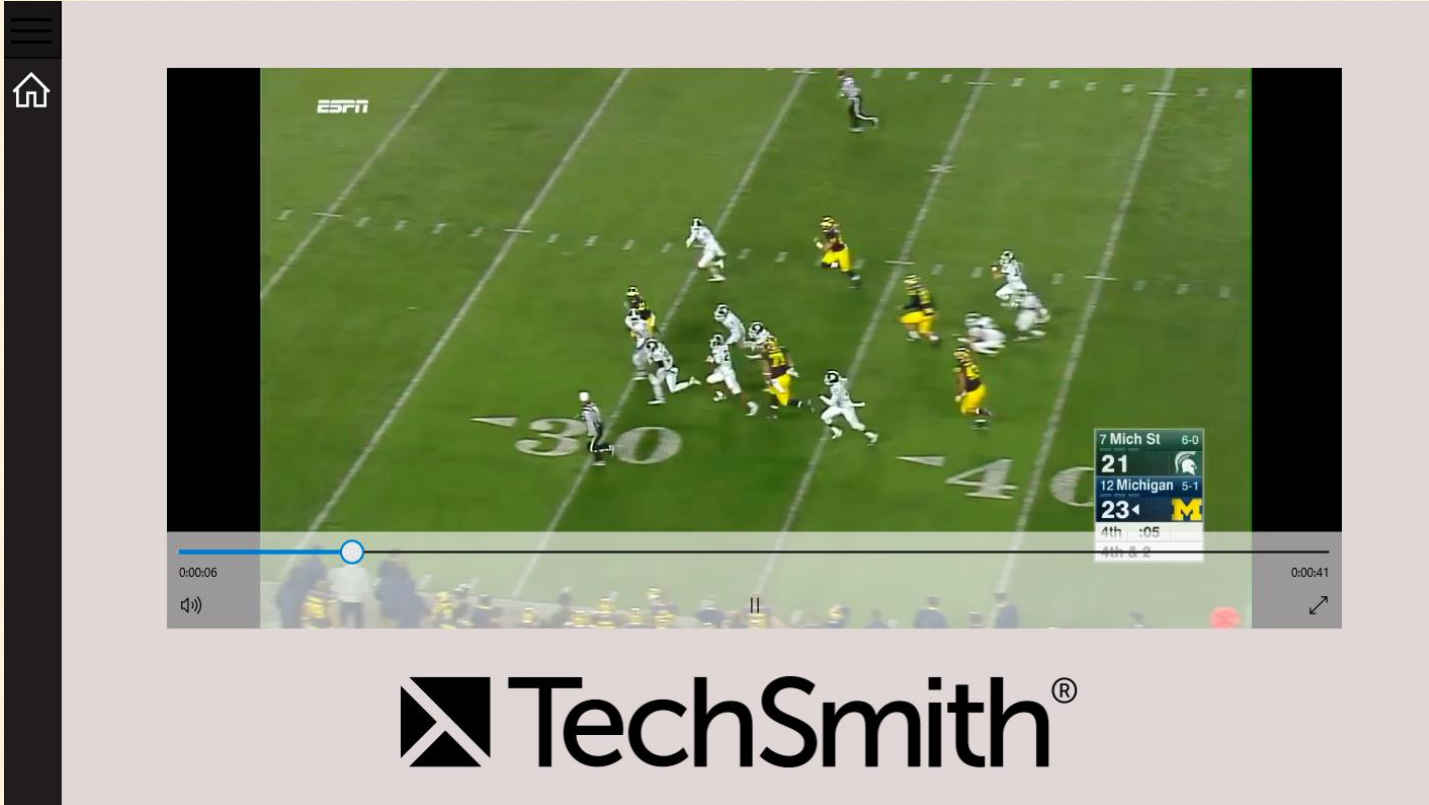


Team TechSmith  
Beta Presentation

# Team TechSmith Beta Presentation

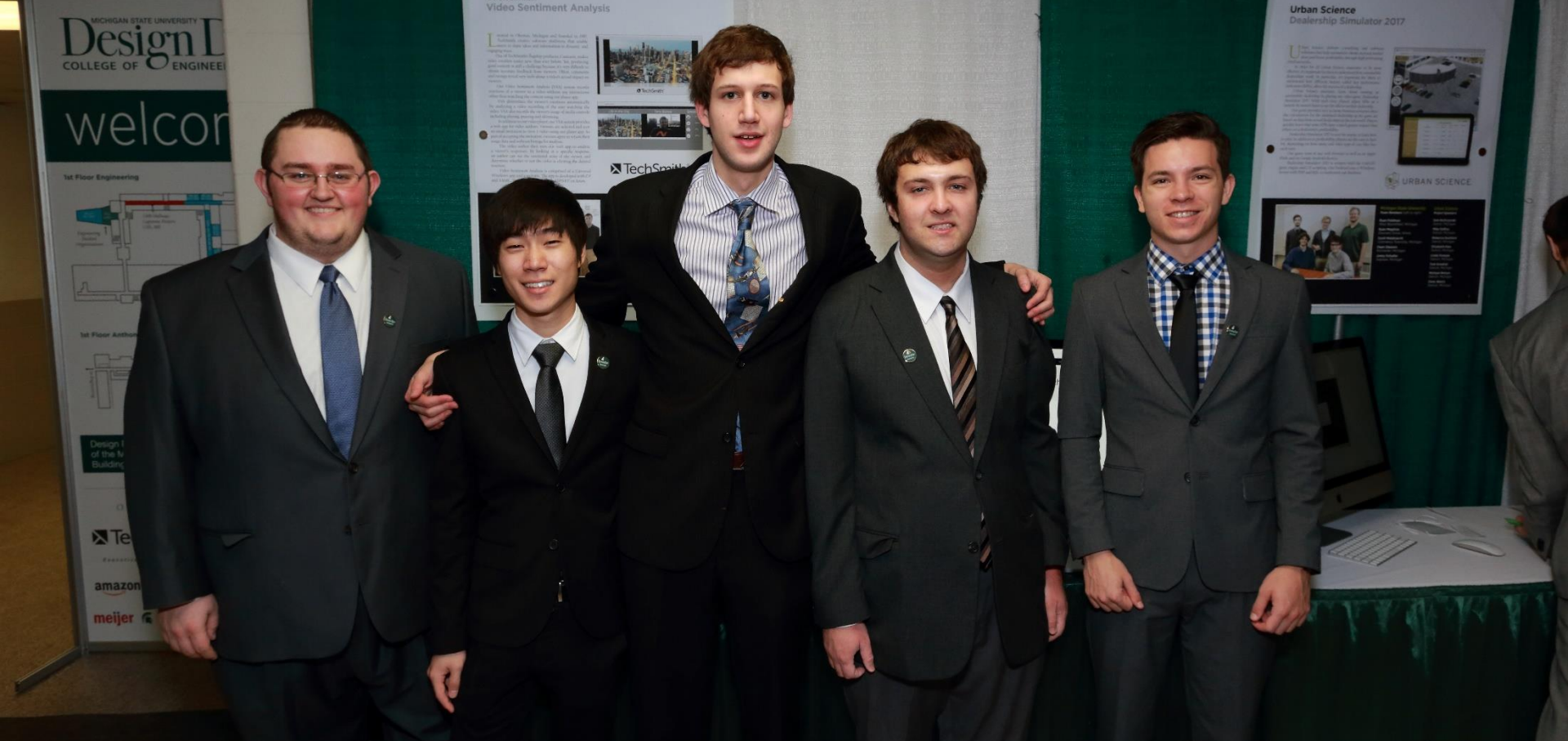
2.

Video Player – Video Player App



The Capstone Experience





#### Video Sentiment Analysis

Interest in Urban Science and building in the future is growing rapidly. The video analysis tool can help you understand the sentiment of your video content. The tool can help you understand the sentiment of your video content. The tool can help you understand the sentiment of your video content.



TechSmith

#### Urban Science Dealership Simulator 2017



Team TechSmith  
Design Day

MICHIGAN STATE  
UNIVERSITY

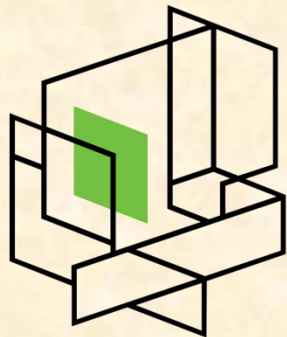
# *The Capstone Experience*

## Team Urban Science

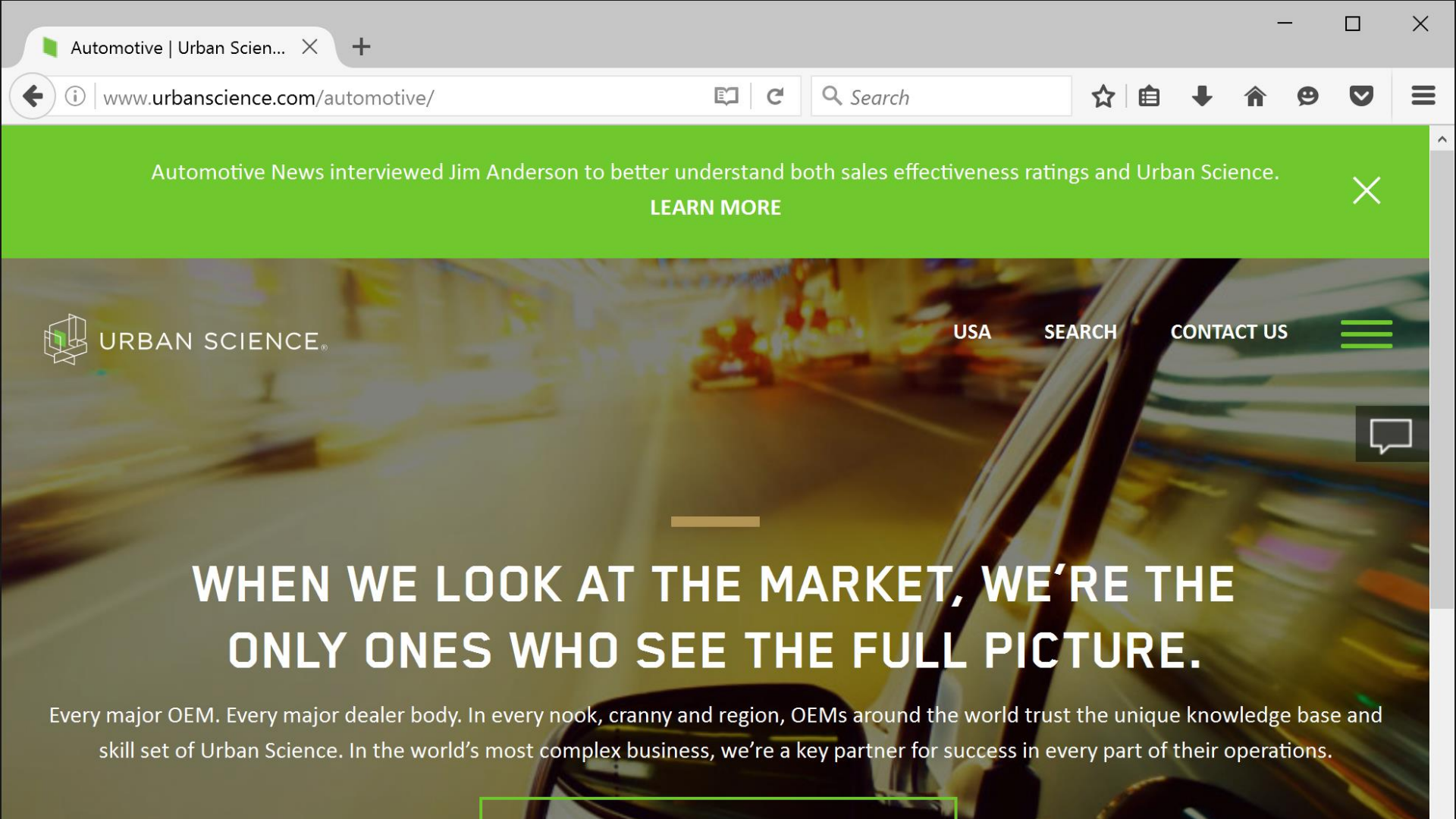
Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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



URBAN SCIENCE™



URBAN SCIENCE®

USA

SEARCH

CONTACT US



# 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.

Automotive News interviewed Jim Anderson to better understand both sales effectiveness ratings and Urban Science.

LEARN MORE





# Team Urban Science Project Overview

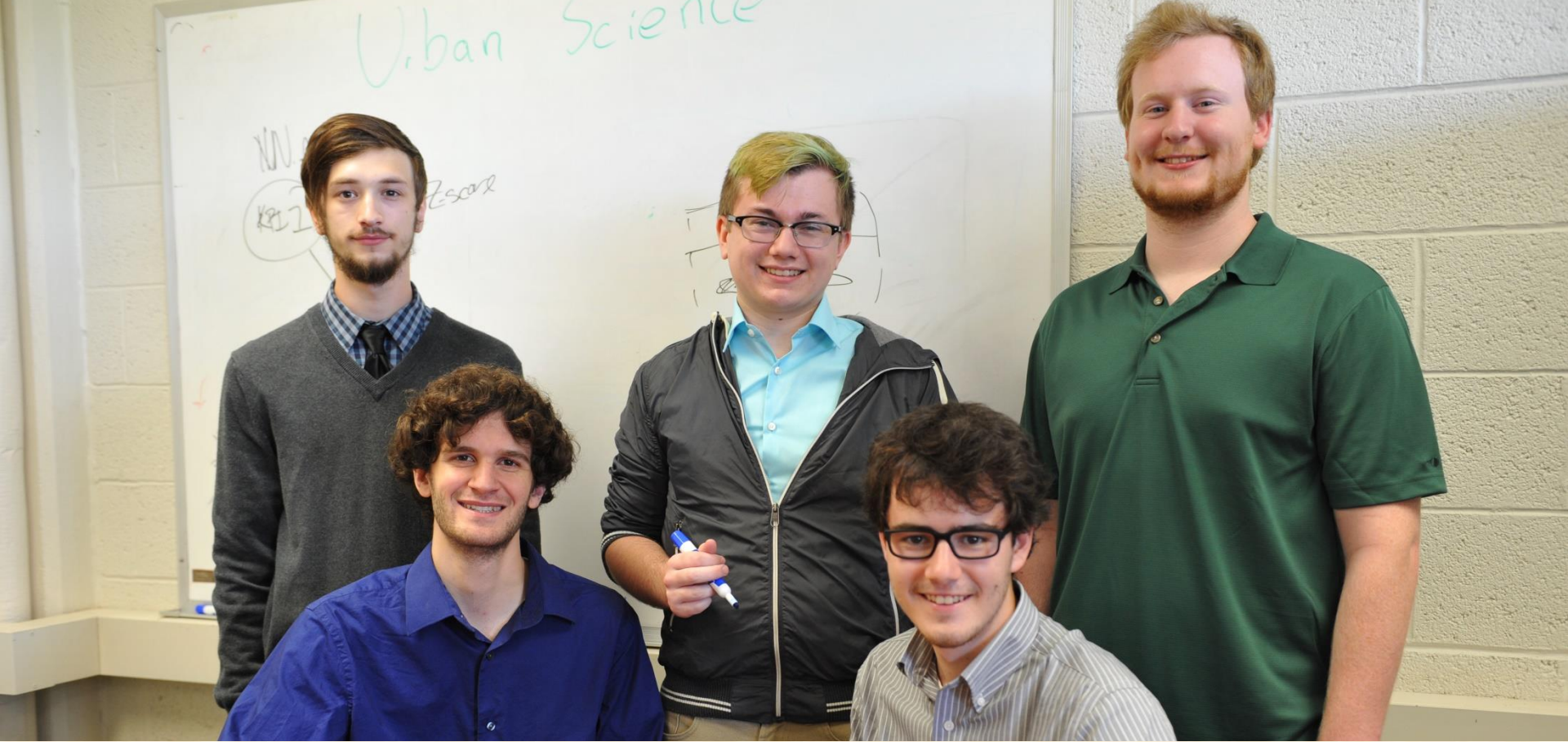
## Dealership Simulator 2017

- Functionalities
  - Educate Urban Science Associates
  - About Running a Successful Automobile Dealership
  - By Playing a Game
- Features
  - Allow Dealership Location Selection
    - Geographical Characteristics
    - Population Statistics
  - Manage Dealership Investments
    - Advertising and Marketing
    - Facilities
    - Service Department
  - Include Random “Life” Events
    - Manufacturer Rebates
    - Vehicle Recalls
    - Acts of Nature
  - Base on Rules Provided by Urban Science
  - Support Web App and Mobile Apps
- Technologies
  - Game Design and Implementation
  - Entity Game Framework
  - CSS / HTML / JavaScript
  - Apple iPads and iPhones (iOS) / Swift or Objective-C
  - Google Android Tablets and Phones / Java



URBAN SCIENCE.

Detroit, Michigan



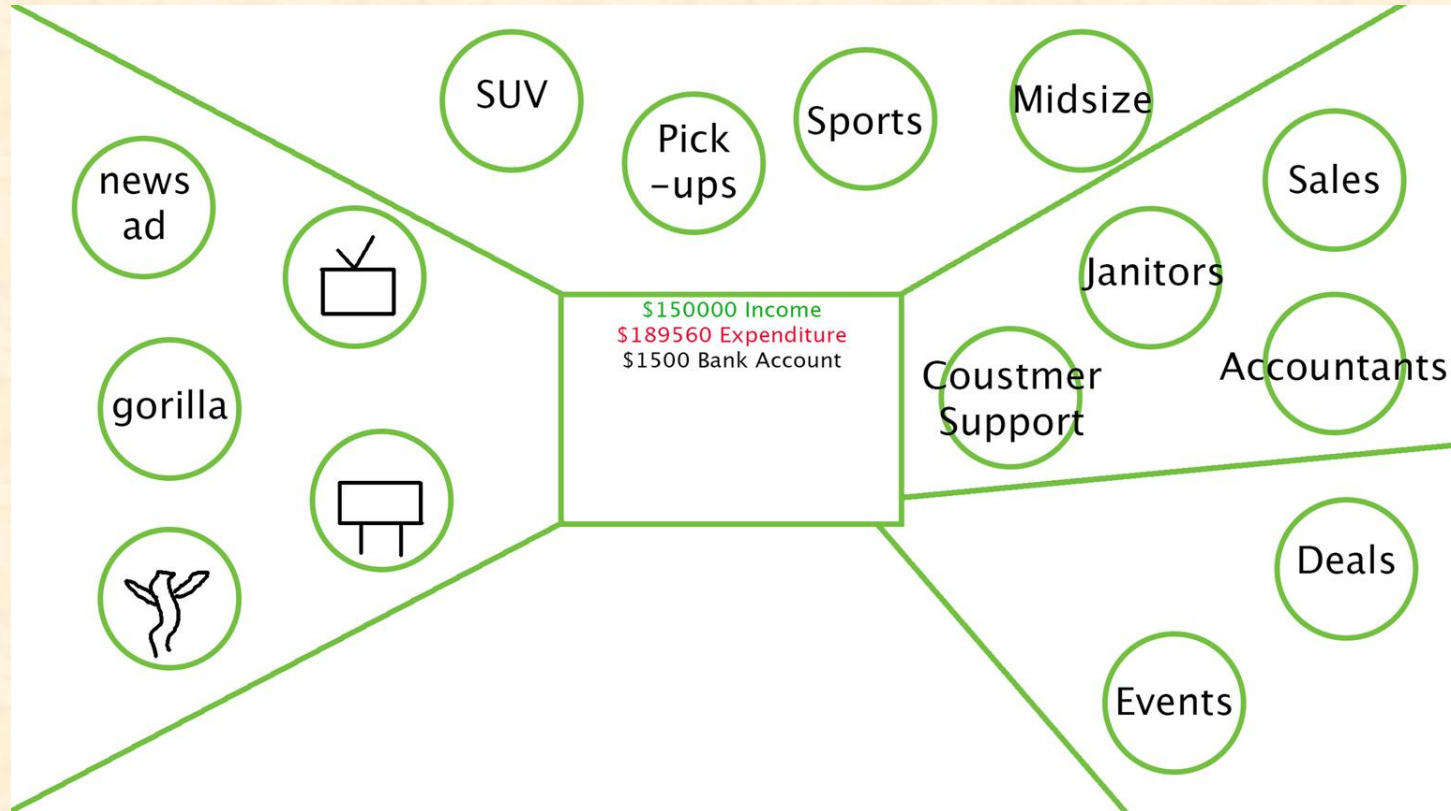
## Team Urban Science

Ryan Feldman, Ryan Magliola, Scott Holzkecht, Dean Gleason, Jonny Schuller

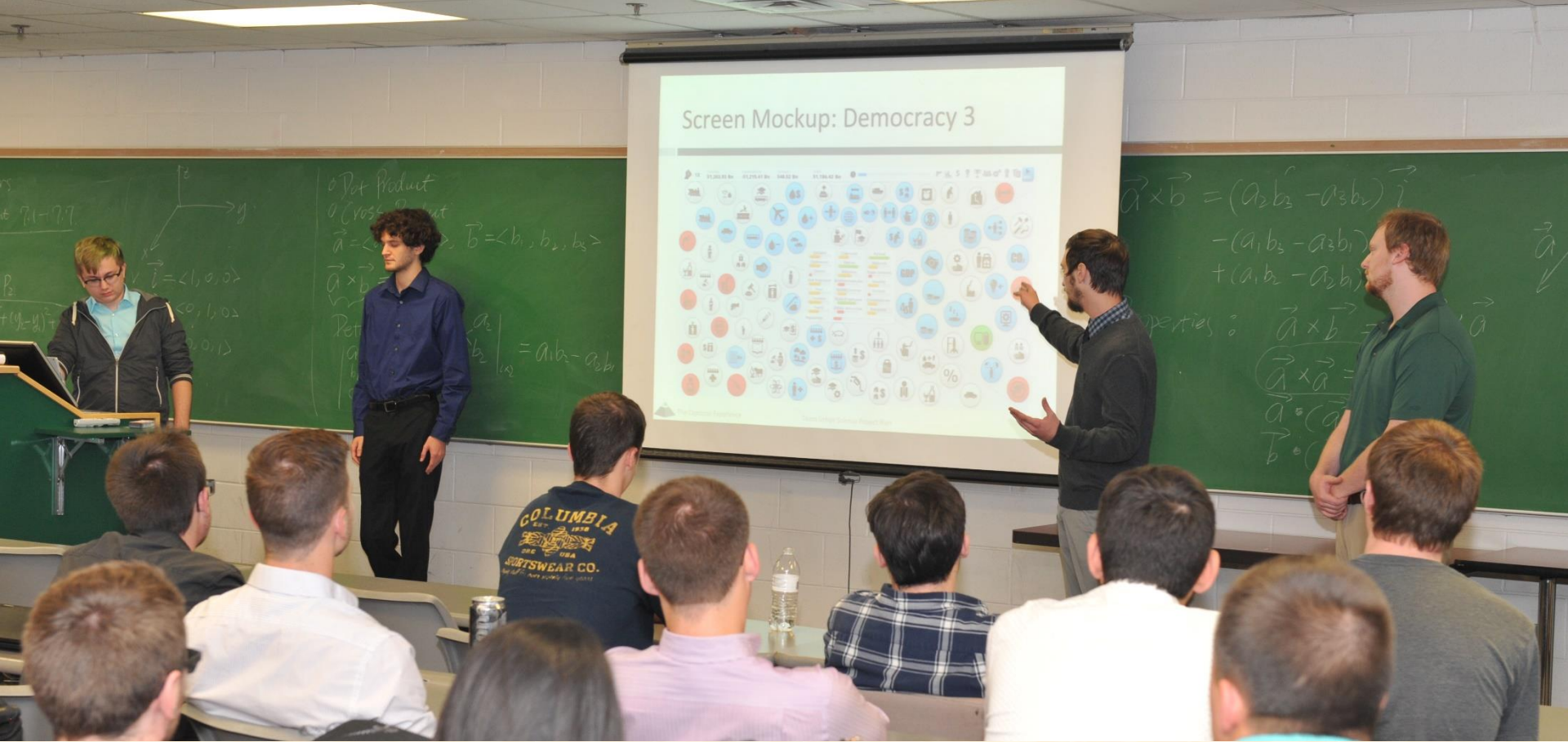
# Team Urban Science Project Plan Presentation

a.

Screen Mockup







# Team Urban Science Project Plan Presentation



# Team Urban Science Project Plan Presentation

a.

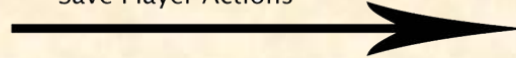
## Architecture Diagram



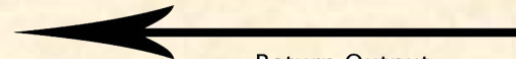
URBAN SCIENCE™



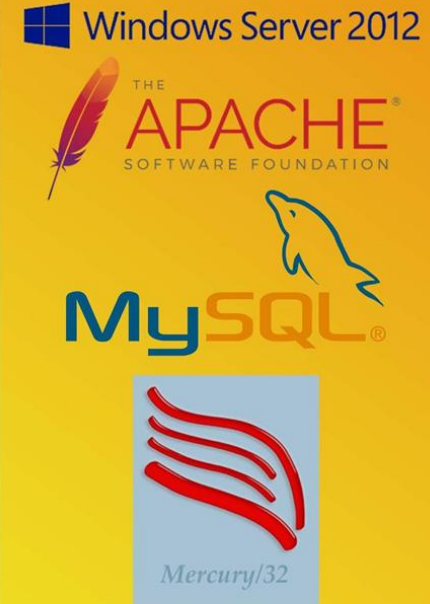
Save Player Actions



Return Output



Server:



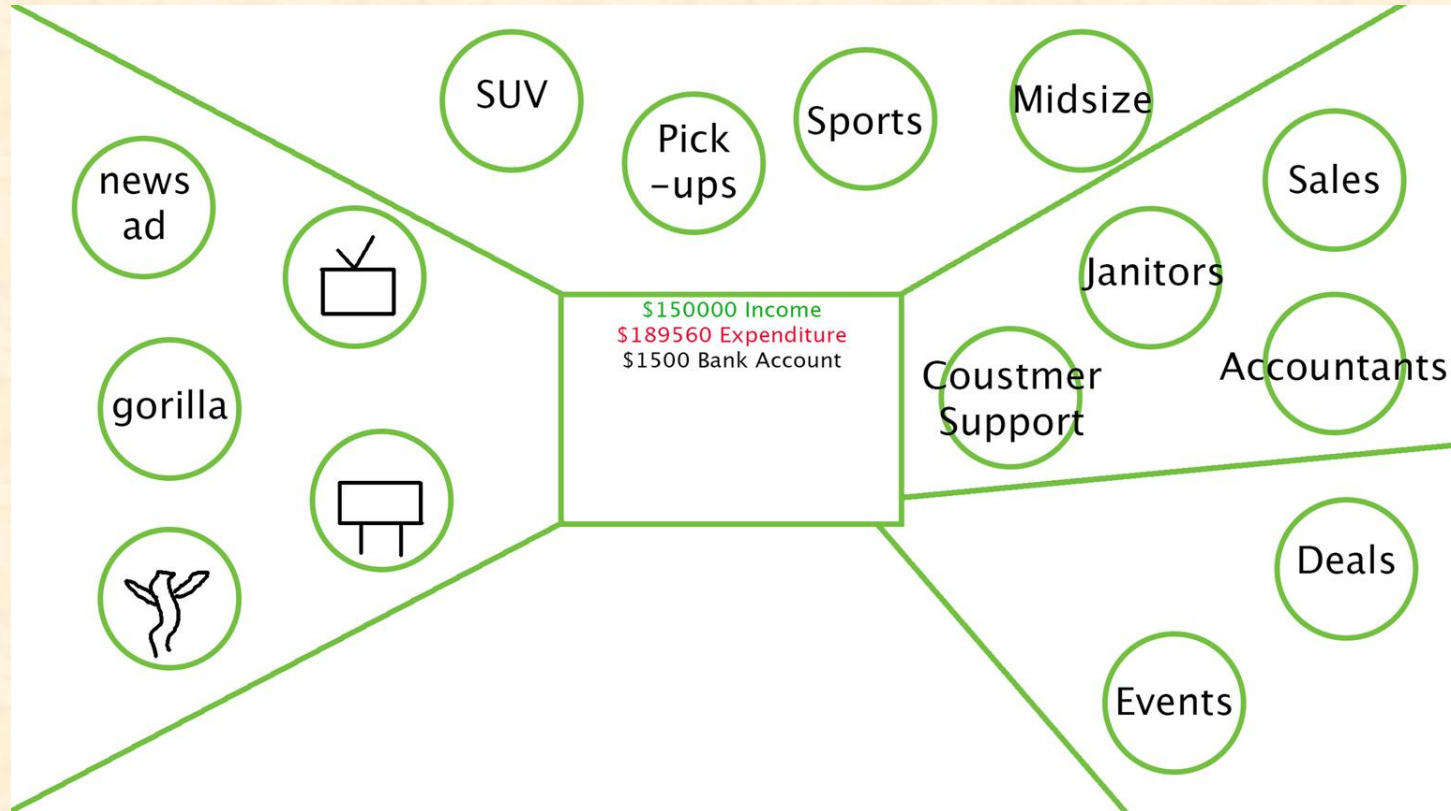


# Team Urban Science Project Plan Presentation

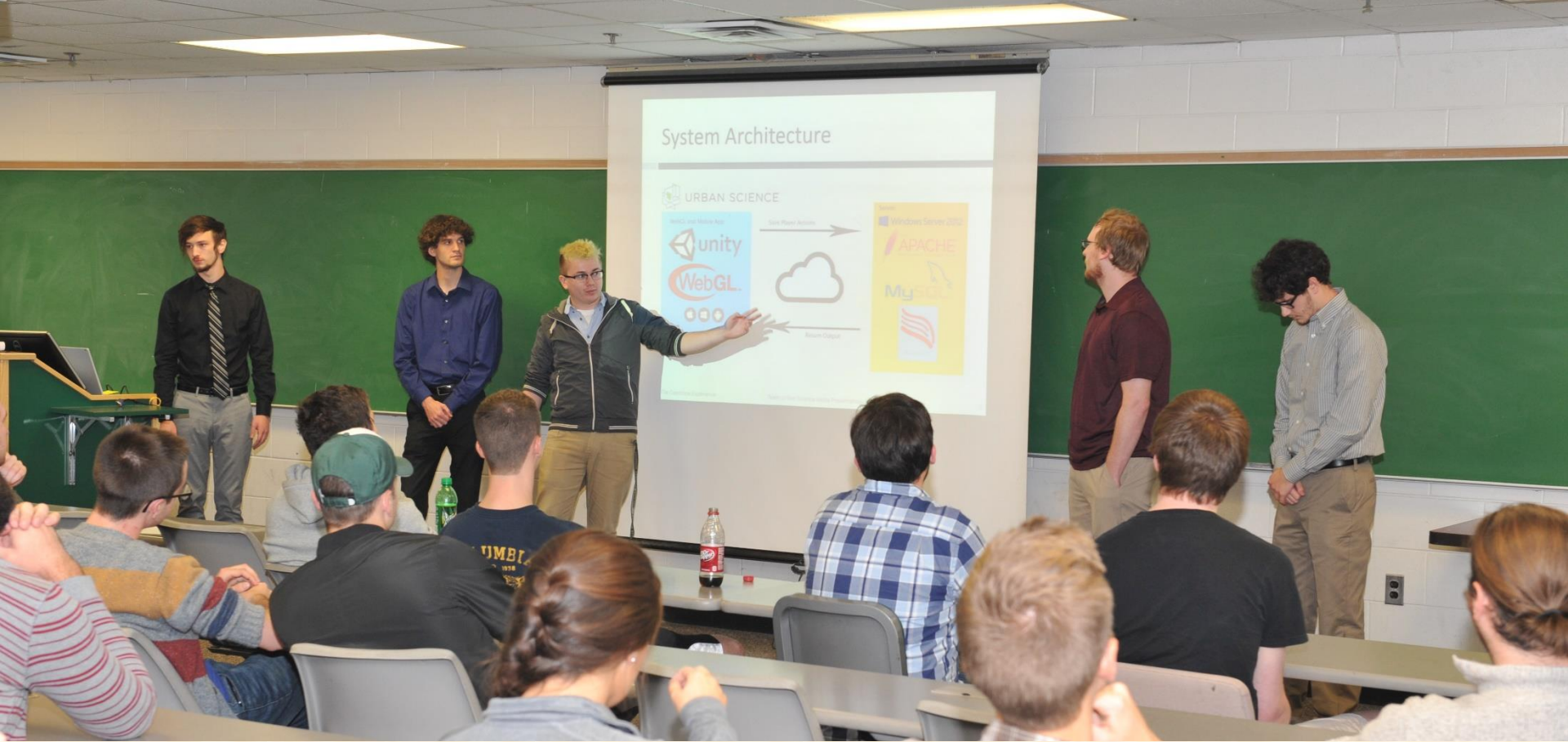
# Team Urban Science Project Plan Presentation

a.

Screen Mockup







## System Architecture



Team Urban Science  
Alpha Presentation



# Team Urban Science Alpha Presentation

a.

Urban Scene



The Capstone Experience



# Team Urban Science Alpha Presentation

2.

## Leaderboard

 URBAN SCIENCE  
DEALERSHIP SIMULATOR

**MESSAGE OF THE DAY**  
See how you rank against  
other players on the  
LEADERBOARD  
as you compete to improve  
your dealership's stats!

CLOSE

**LEADERBOARD**  
RANK BY: **Total Sales**

Player	Total Sales	Monthly Income	Cars Sold	Cars/Month	Vehicles Serviced
Dave Mathews	\$2.1 Million	\$342,000	2,000	17	1
Steven Tyler	\$1.8 Million	\$322,000	1,743	20	14
Debby Collins	\$977,000	\$248,000	1,002	24	12
Mike Phillips	\$623,000	\$220,000	500	19	12
Niko Avera	\$246,000	\$102,000	60	1	0
Edward Johnson	\$100,000	\$40,000	23	23	0
Steve Brown	\$78,000	\$7,000	1	1	0



# Team Urban Science Alpha Presentation

a.

KPI Slider

## Small Car Inventory

The number of small cars a dealership has on hand at any given time.







# Team Urban Science Beta Presentation

# Team Urban Science Beta Presentation

a.

Urban Dealership



The Capstone Experience

# Team Urban Science Beta Presentation

a.

KPI Input Screen

\$2,000

MONTHLY KPI INPUTS

MAY

MAY

<div>NEW CAR INVENTORY</div> <div>510 CARS</div>	<div>NEW CAR GROSS PROFIT PER UNIT SOLD</div> <div>\$1,013</div>	<div>NEW CAR FINANCIAL CONTRACTS PEN(%)</div> <div>53%</div>	<div>NEW CAR SERVICE CONTRACTS PEN (%)</div> <div>37%</div>	<div>NEW CAR ADVERTISING (\$)</div> <div>\$111,123</div>
<div>USED CAR INVENTORY</div> <div>28 CARS</div>	<div>USED CAR GROSS PROFIT PER UNIT SOLD</div> <div>\$1,359</div>	<div>USED CAR FINANCIAL CONTRACTS PEN(%)</div> <div>82%</div>	<div>USED CAR SERVICE CONTRACTS PEN (%)</div> <div>74%</div>	<div>USED CAR ADVERTISING (\$)</div> <div>\$12,335</div>
<div>SERVICE DEPARTMENT GROSS AS A % OF SALES</div> <div>72%</div>	<div>SERVICE DEPARTMENT SERVICE LABOR RATE PER HOUR</div> <div>110</div>	<div>SERVICE DEPARTMENT ADVERTISING (\$)</div> <div>\$12,652</div>	<div>SERVICE DEPARTMENT LABOR SALES PER RO</div> <div>132</div>	<div>PARTS DEPARTMENT GROSS AS A % OF SALES</div> <div>34%</div>
<div>PARTS DEPARTMENT ADVERTISING (\$)</div> <div>\$8,796</div>	<div>PARTS DEPARTMENT LABOR SALES PER RO</div> <div>159</div>			

RESET

DONE





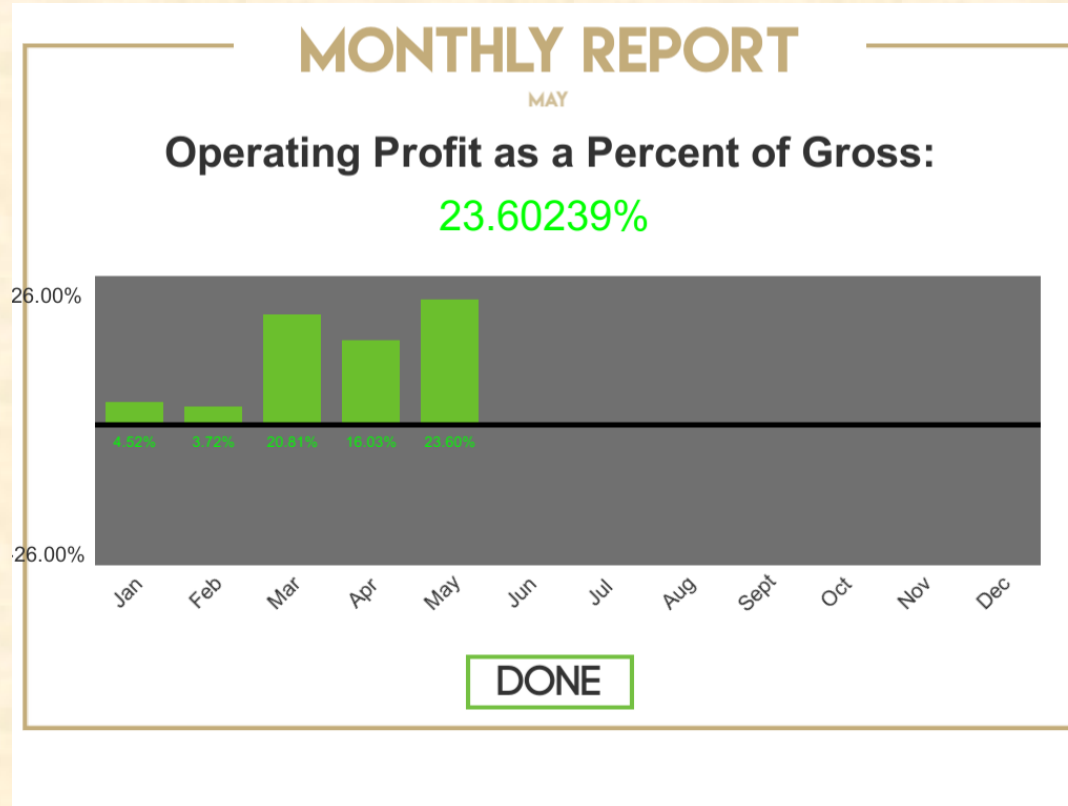
Team Urban Science  
Beta Presentation

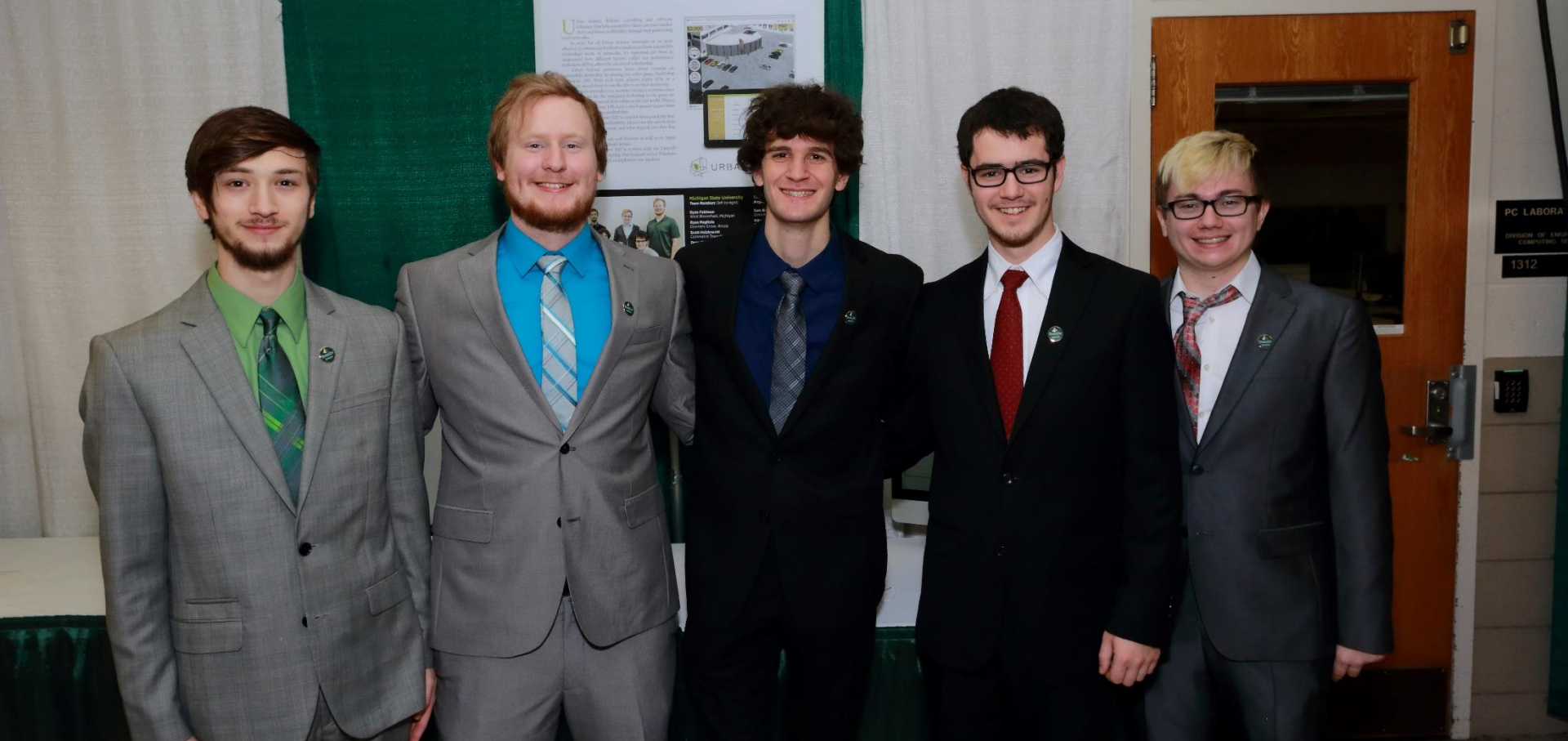


# Team Urban Science Beta Presentation

a.

Output Screen





Team Urban Science  
Design Day

MICHIGAN STATE  
UNIVERSITY

# *The Capstone Experience*

Team Whirlpool

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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



**Whirlpool**  
**CORPORATION**







PRODUCTS

OWNERS

EVERY DAY, CARE™

CHAT

FIND A RETAILER

LAUNDRY

KITCHEN

OTHER PRODUCTS

FEATURED INNOVATIONS

PARTS & ACCESSORIES

What are you looking for?

See why our new  
refrigerator is the

# Team Whirlpool Project Overview

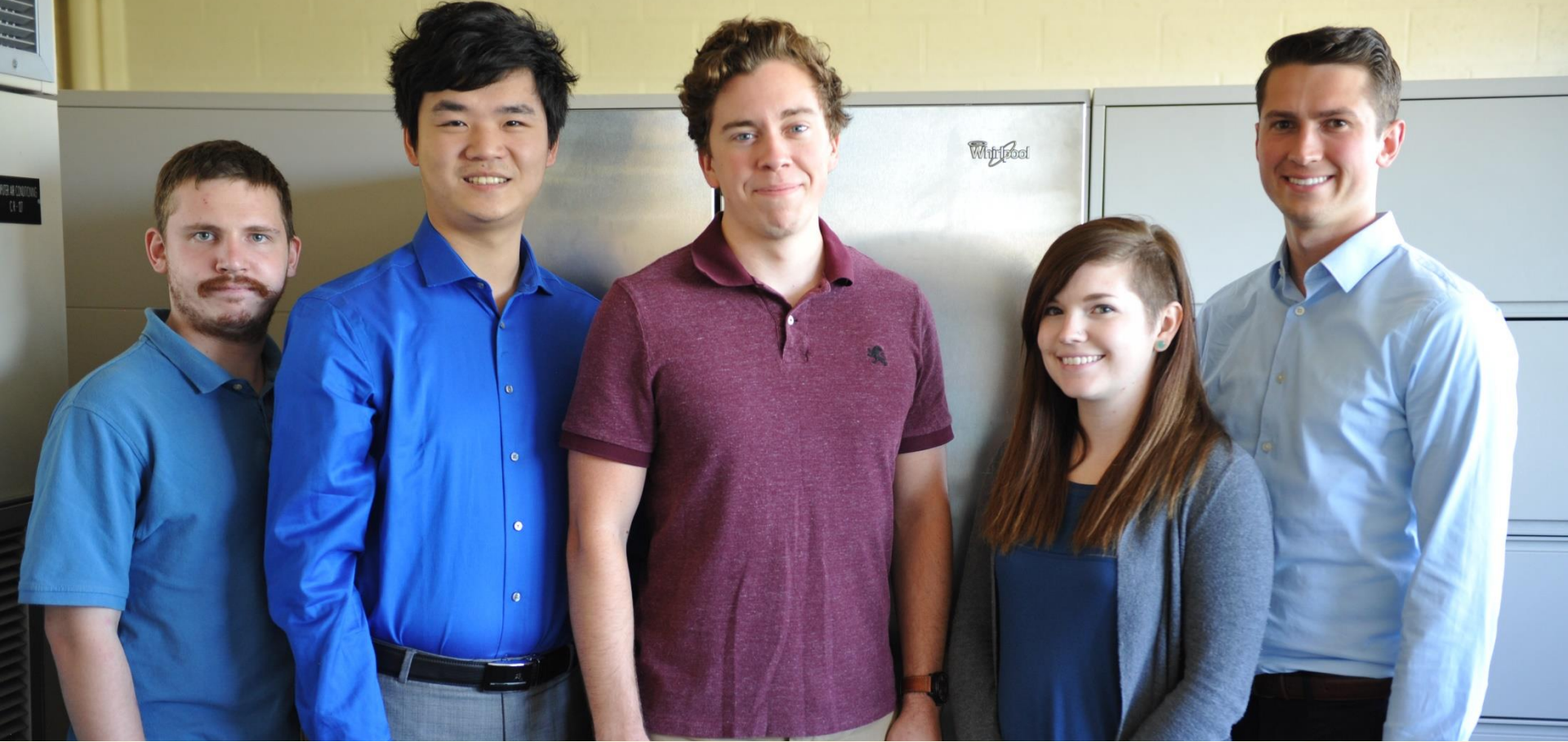
## Mooch

- Functionalities
  - Enable Food and Ingredient Sharing
  - Within Apartment or Condo Complex
  - Via Mobile Apps
- Features
  - Support Both Supply and Demand
  - Provide Browsing
    - What's available nearby?
    - What can I make?
  - Create Social Community
  - Handle
    - Virtual Currency
    - Trading, Selling or Giving Away
- Technologies
  - Apple iPads and iPhones (iOS) / Swift or Objective-C
  - Google Android Tablets and Phones / Java
  - Google App Engine
  - Google Analytics
  - RESTful Web Services



Benton Harbor, Michigan





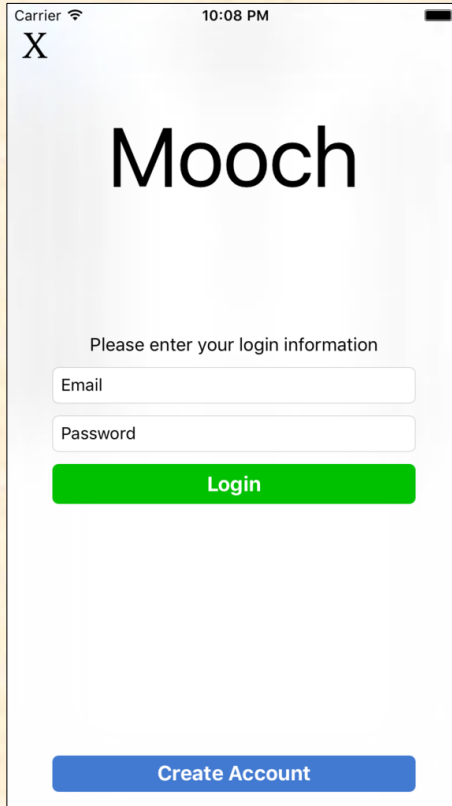
## Team Whirlpool

Caleb Swanson, Daniel Jiang, Noah Hines, Laura Robb, Adam Schoonmaker

# Team Whirlpool Project Plan Presentation

2.

## Screen Mockups



Carrier 10:08 PM

X

# Mooch

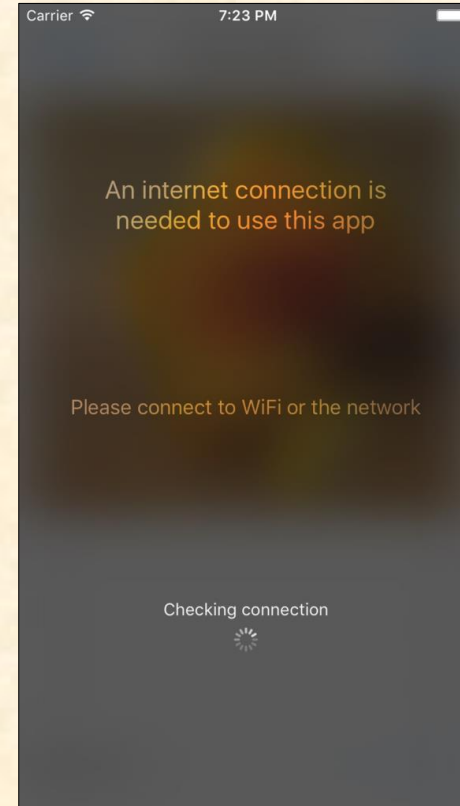
Please enter your login information

Email

Password

Login

Create Account





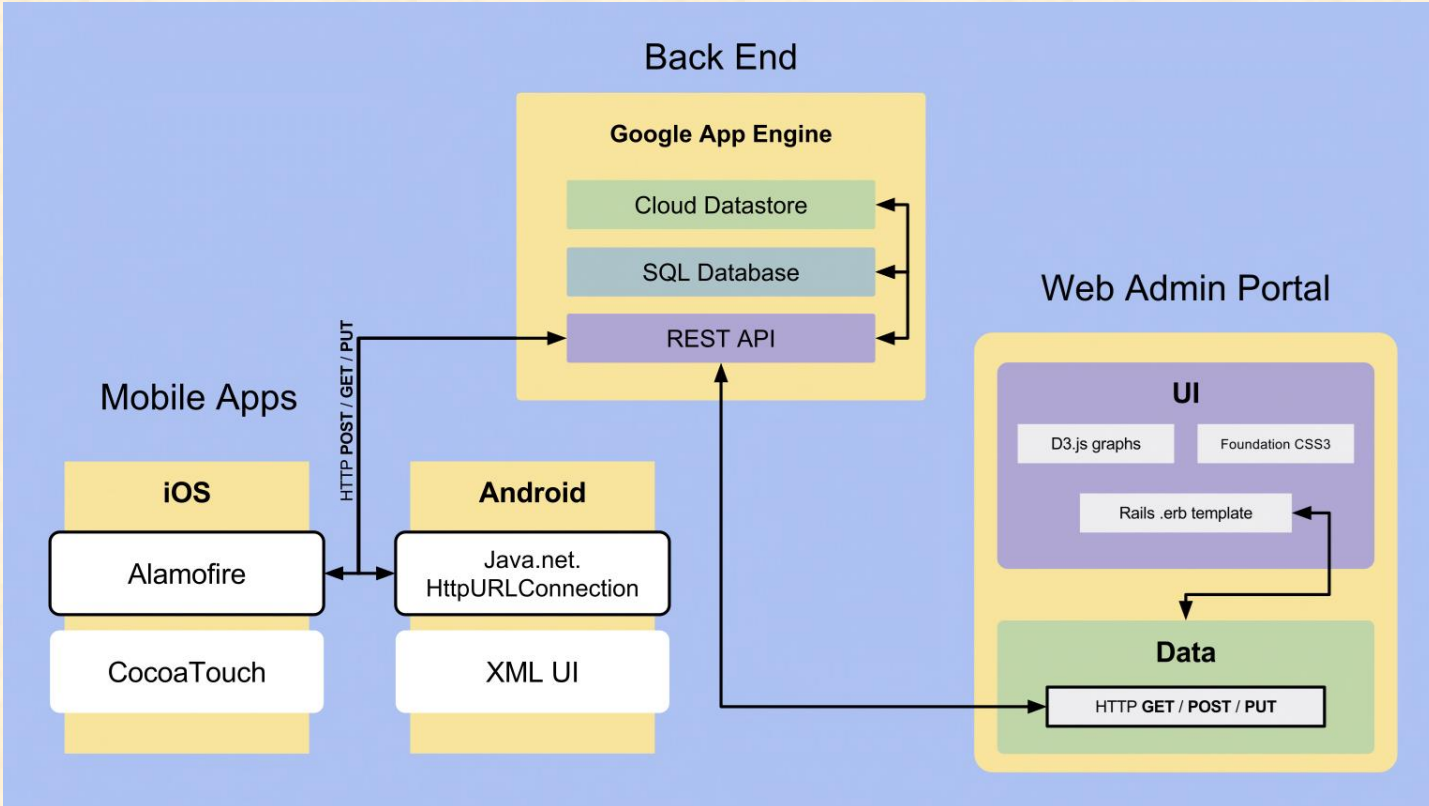


# Team Whirlpool Project Plan Presentation

# Team Whirlpool Project Plan Presentation

2.

## Architecture Diagram






Team Whirlpool  
Project Plan Presentation

# Team Whirlpool Project Plan Presentation

2.

## Screen Mockups

Carrier	6:54 PM	
<a href="#">Profile</a>	Listings	+
Listing 1		
Tag1	\$1.69	by User 1
Listing 2		
Tag2	\$3.37	by User 2
Listing 3		
Tag3	\$5.06	by User 3
Listing 4		
Tag4	\$6.75	by User 4
Listing 5		
Tag5	\$8.44	by User 5

Carrier	10:09 PM	
<a href="#">Cancel</a>	Create Listing	<a href="#">Done</a>
		
<input type="text" value="Title"/>		
<input type="text" value="Description"/>		
<input type="text" value="Tag"/>		
<input type="text" value="Price"/>		
Quantity: 1		<input type="button" value="-"/> <input data-bbox="1427 992 1543 1027" type="button" value="+"/>





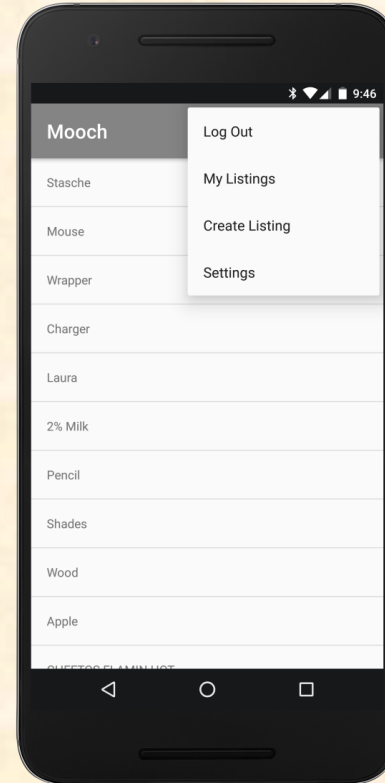
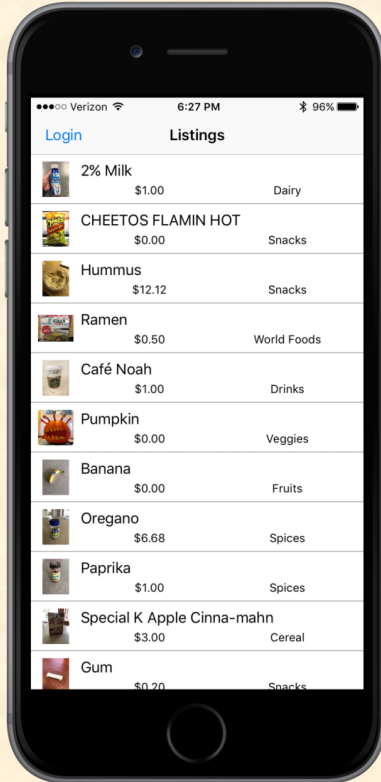


# Team Whirlpool Alpha Presentation

# Team Whirlpool Alpha Presentation

2.

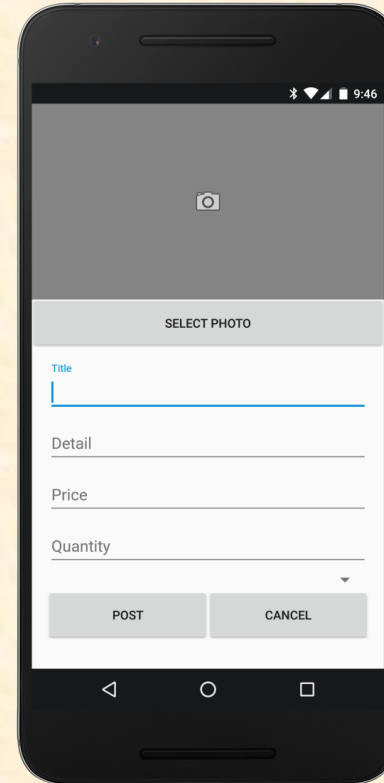
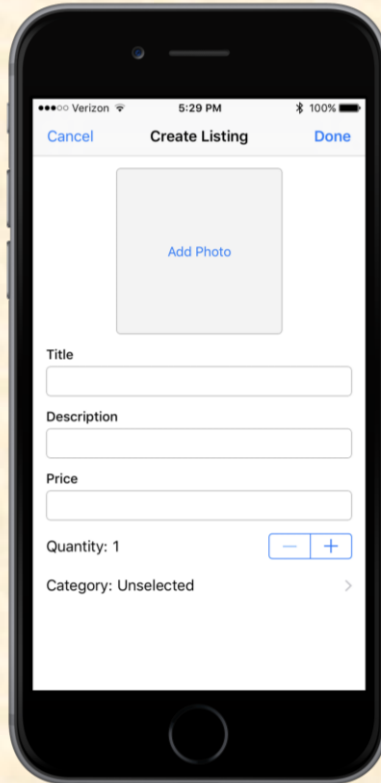
## Home Screen



# Team Whirlpool Alpha Presentation

2.

## Create Listing







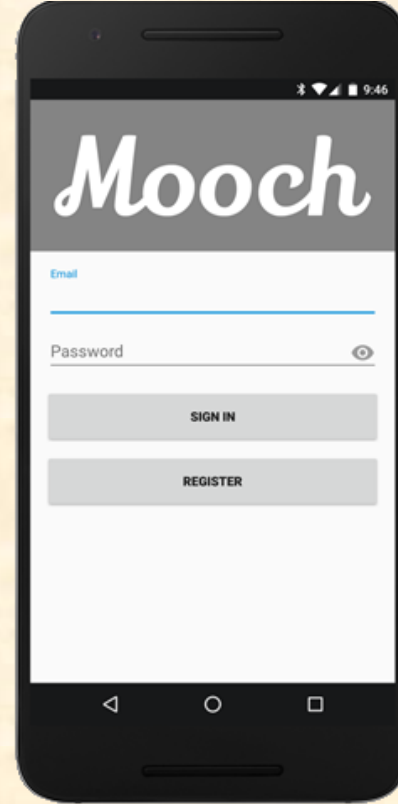
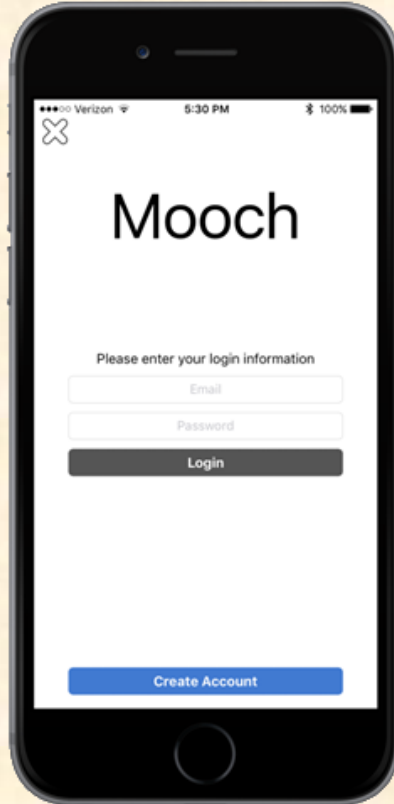
# Team Whirlpool Alpha Presentation



# Team Whirlpool Alpha Presentation

2.

Log In



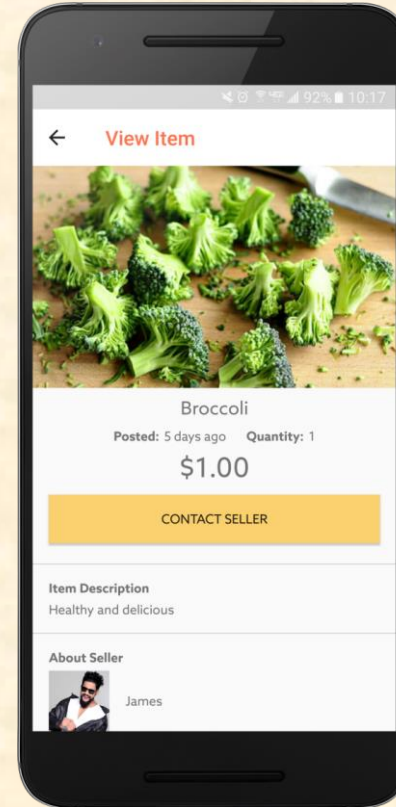
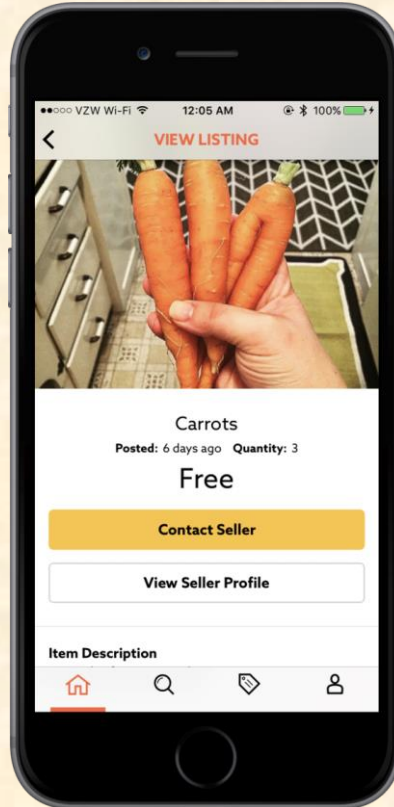


Team Whirlpool  
Beta Presentation

# Team Whirlpool Beta Presentation

2.

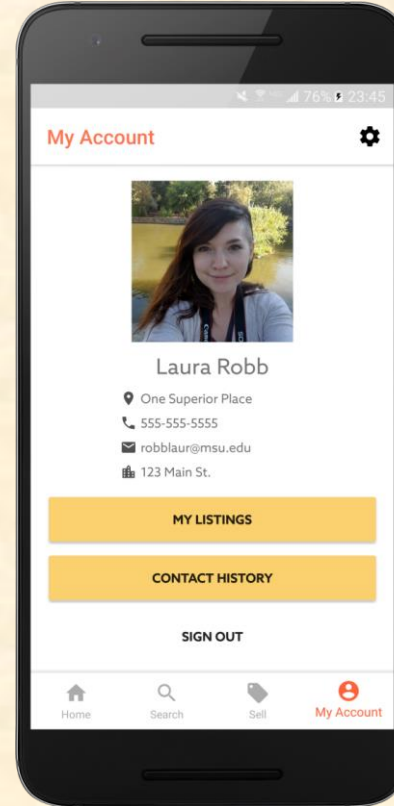
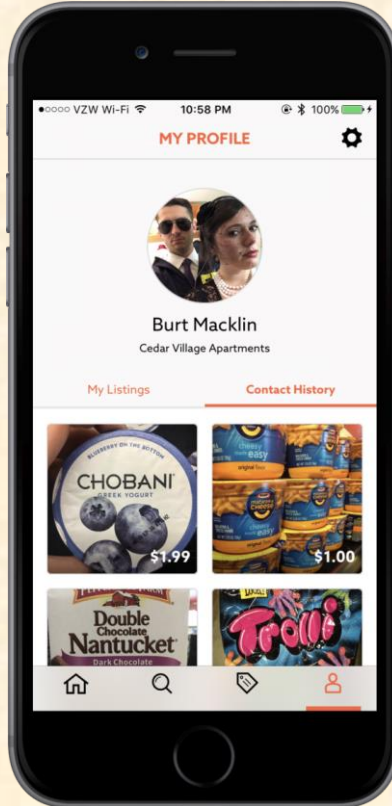
## Listing Details (iPhone and Android)



# Team Whirlpool Beta Presentation

2.

User Account (iPhone and Android)





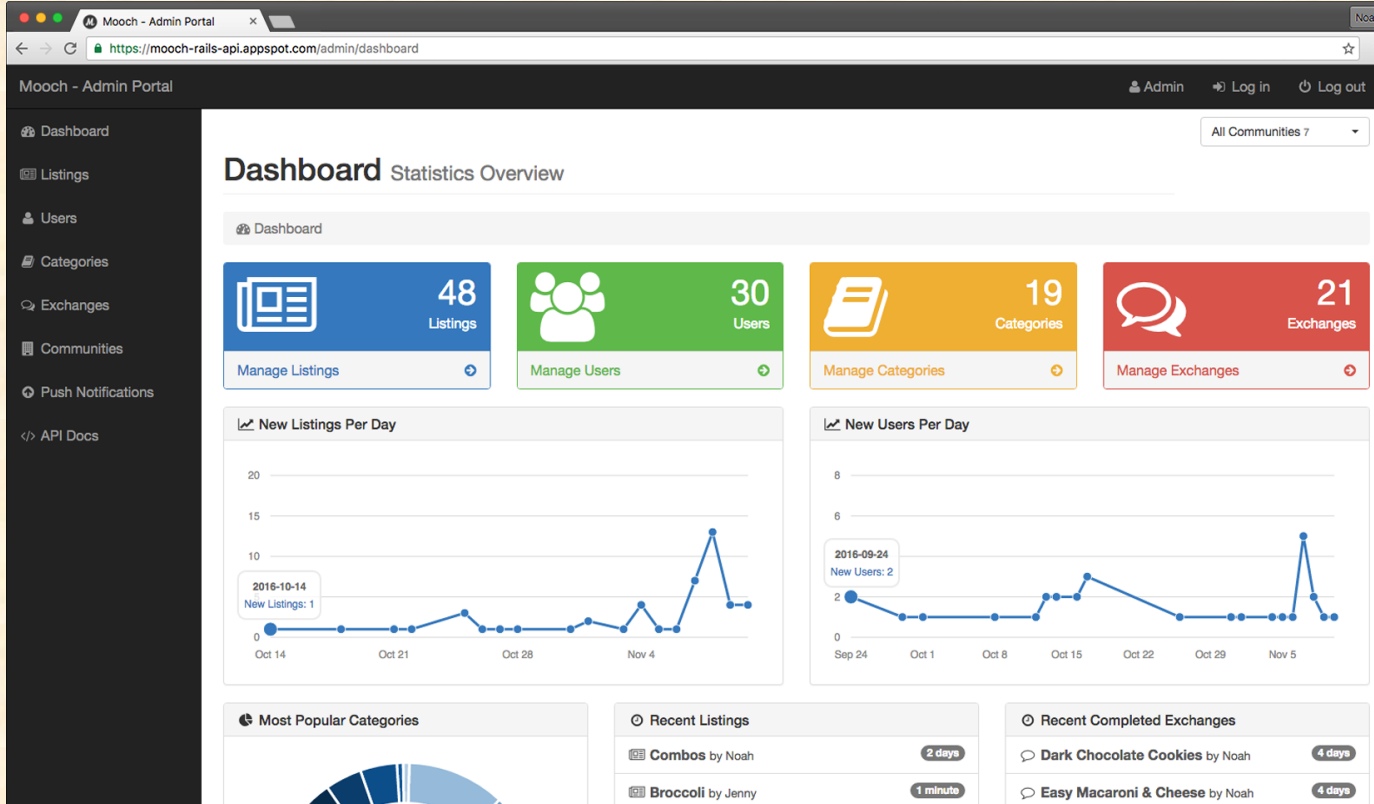


# Team Whirlpool Beta Presentation

# Team Whirlpool Beta Presentation

2.

## Web Admin Portal





Team Whirlpool  
Design Day



MICHIGAN STATE  
UNIVERSITY

# *The Capstone Experience*

Team Yello

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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



*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.

# Team Yello

## Project Overview

### Visualizing Dynamic Data Exploration

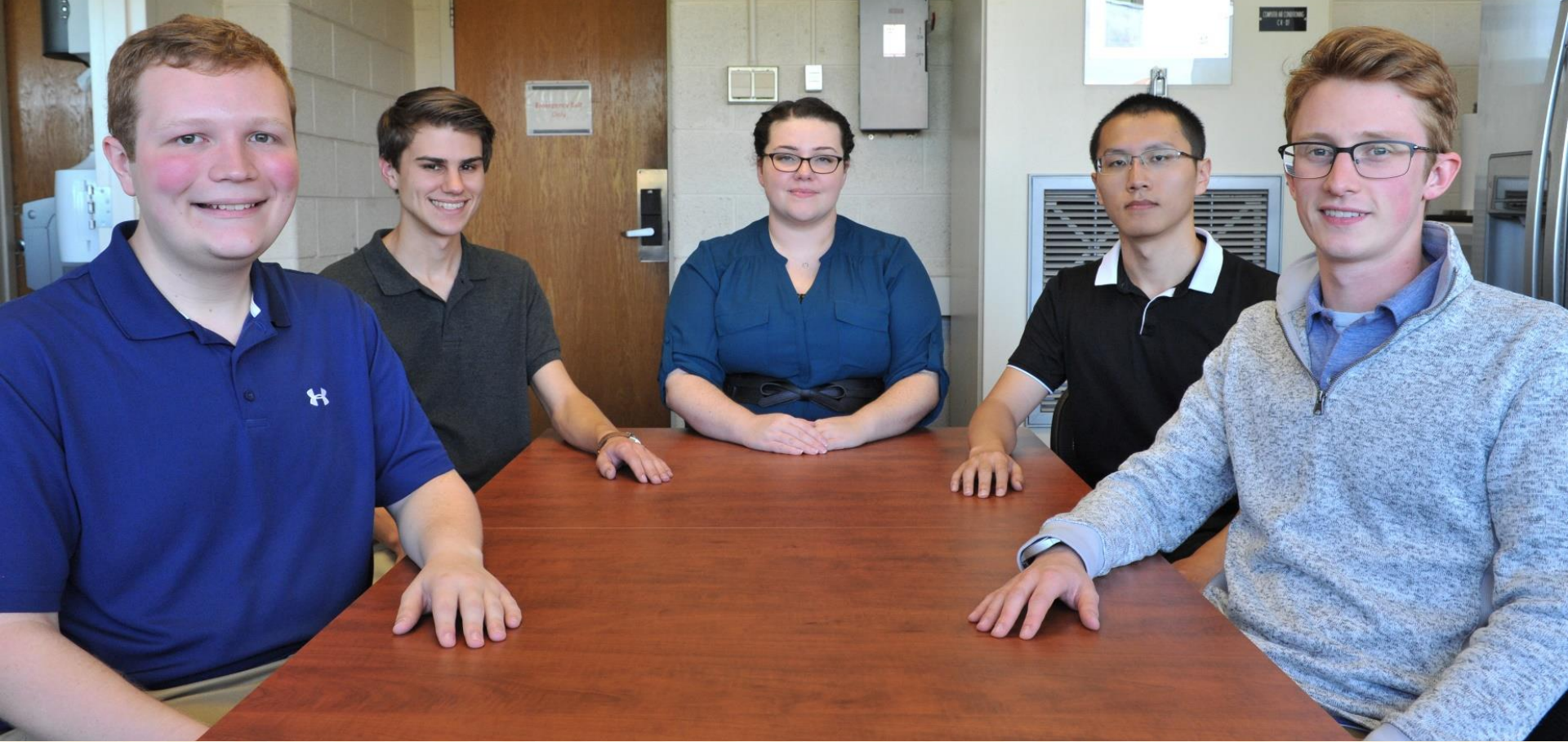
- Functionalities
  - Visualize Large, Multi-Dimensional Data
  - Interactively, Creatively and Intuitively
  - To Identify Insights and Trends
- Features
  - Provide Web App
  - Handle Very Large Data Sets
  - Leverage Various Visualization Techniques
    - Shape
    - Size
    - 3D
    - Color
    - Pan / Zoom
  - Enable Manipulation of Data
    - Filtering
    - Uploading
    - Exporting
  - Support Augmented Reality or Virtual Reality Hardware
- Technologies
  - CSS / HTML
  - JavaScript
  - D3.js
  - Ruby on Rails



*yello*

Chicago, Illinois





## Team Yello

Greg Spletzer, Matt Chebowski, Stephanie Winsky, Jim Wang, Jarrod Rougeau

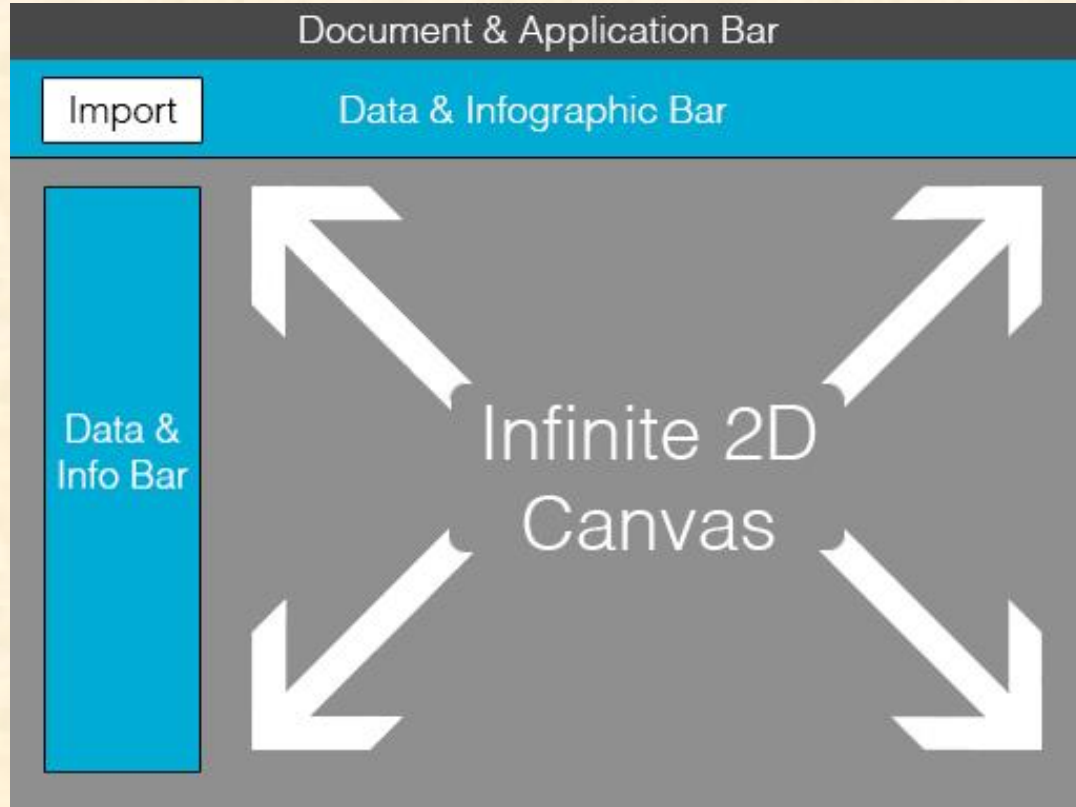


# Team Yello

# Project Plan Presentation

a.

Screen Mockup



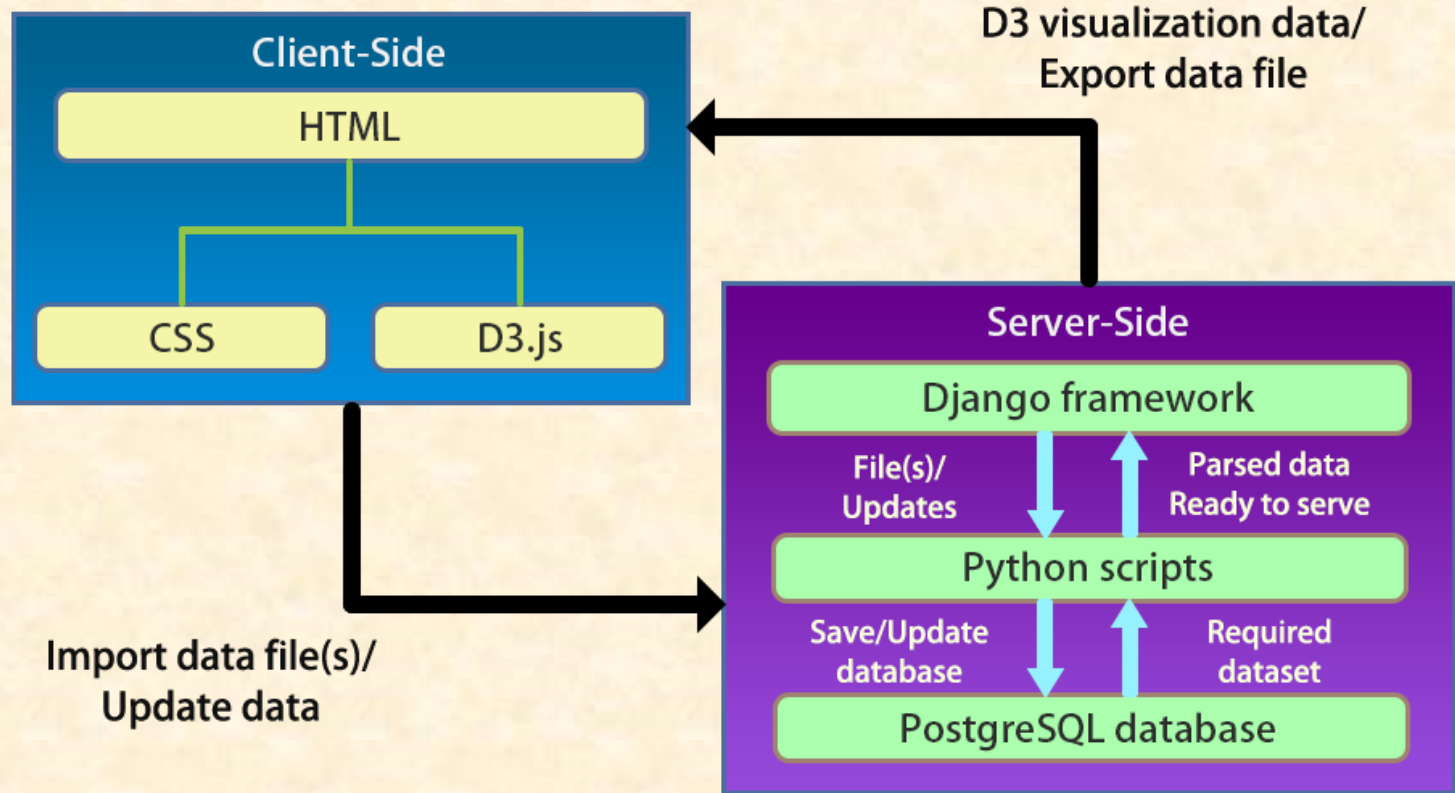


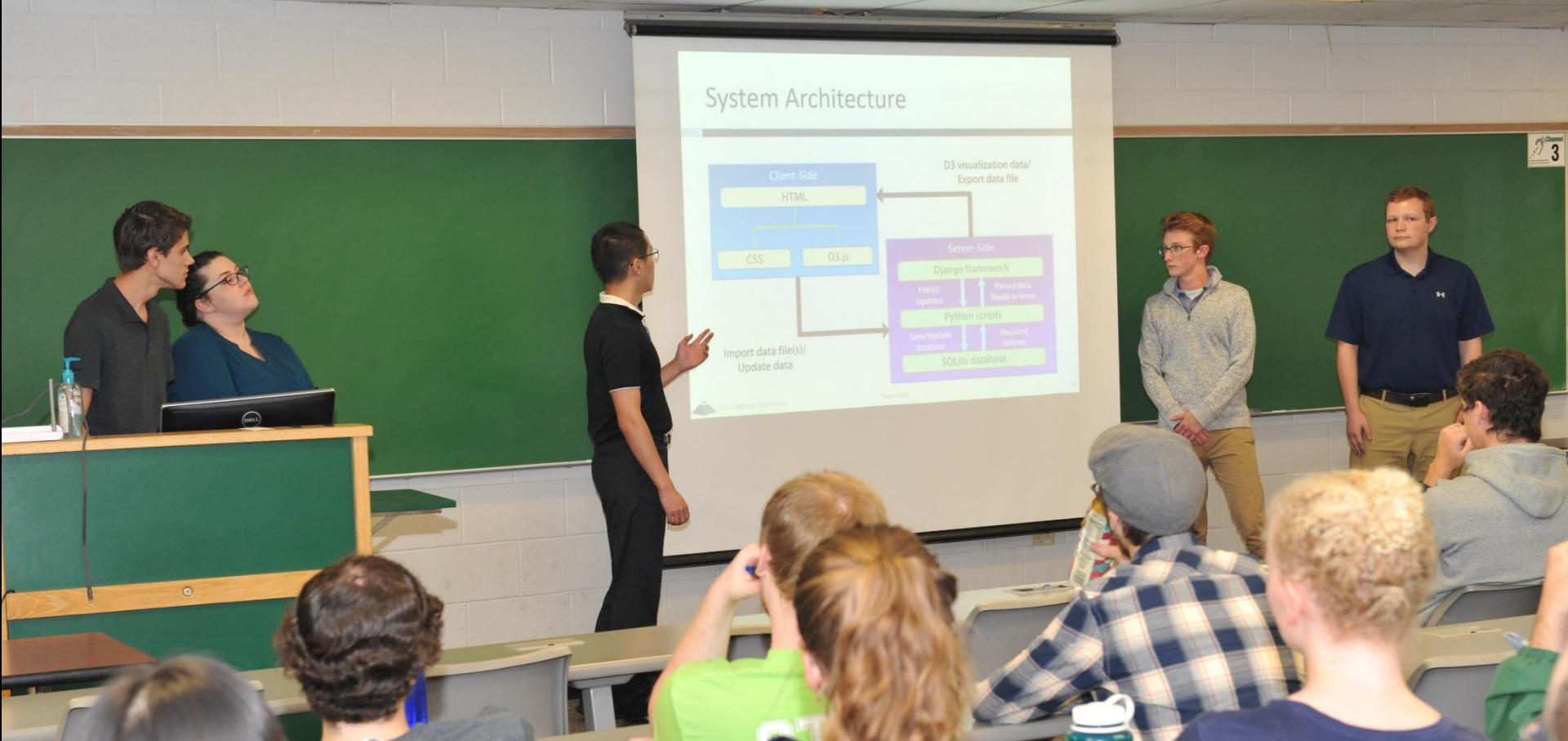
# Team Yello Project Plan Presentation

# Team Yello Project Plan Presentation

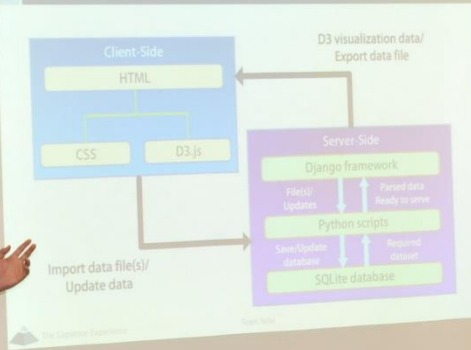
e.

## Architecture Diagram





## System Architecture



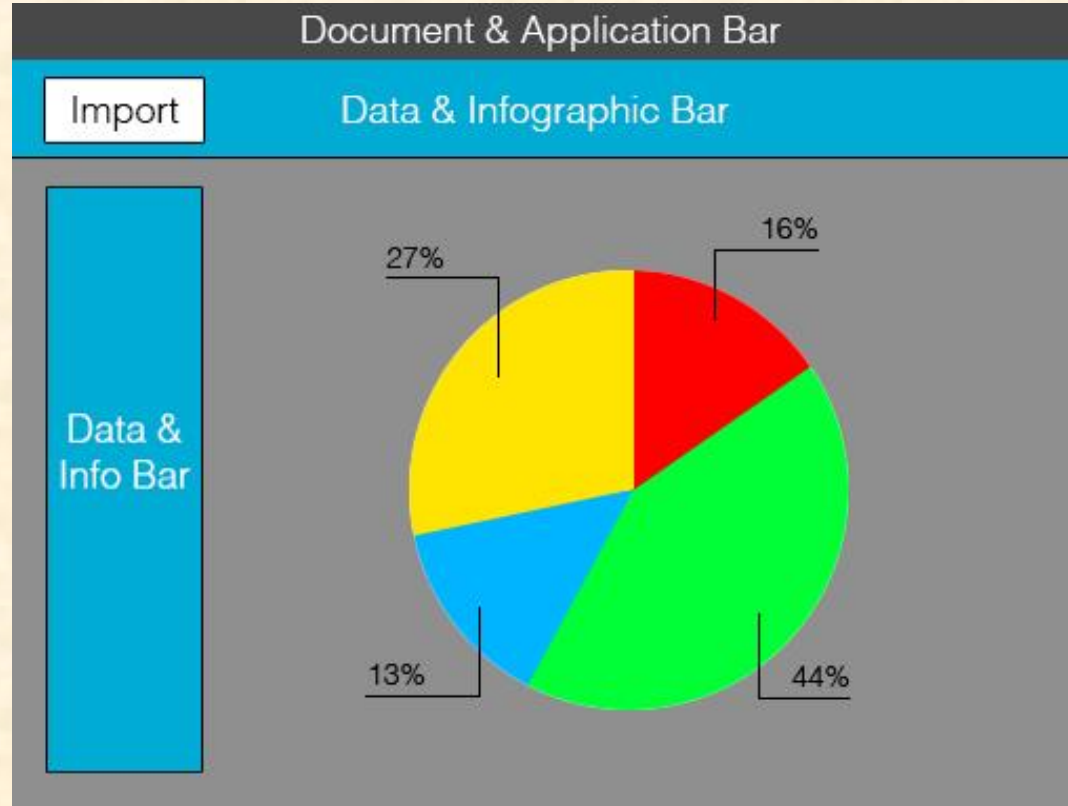
Team Yello  
Project Plan Presentation



# Team Yello Project Plan Presentation

a.

Screen Mockup





## Project Overview

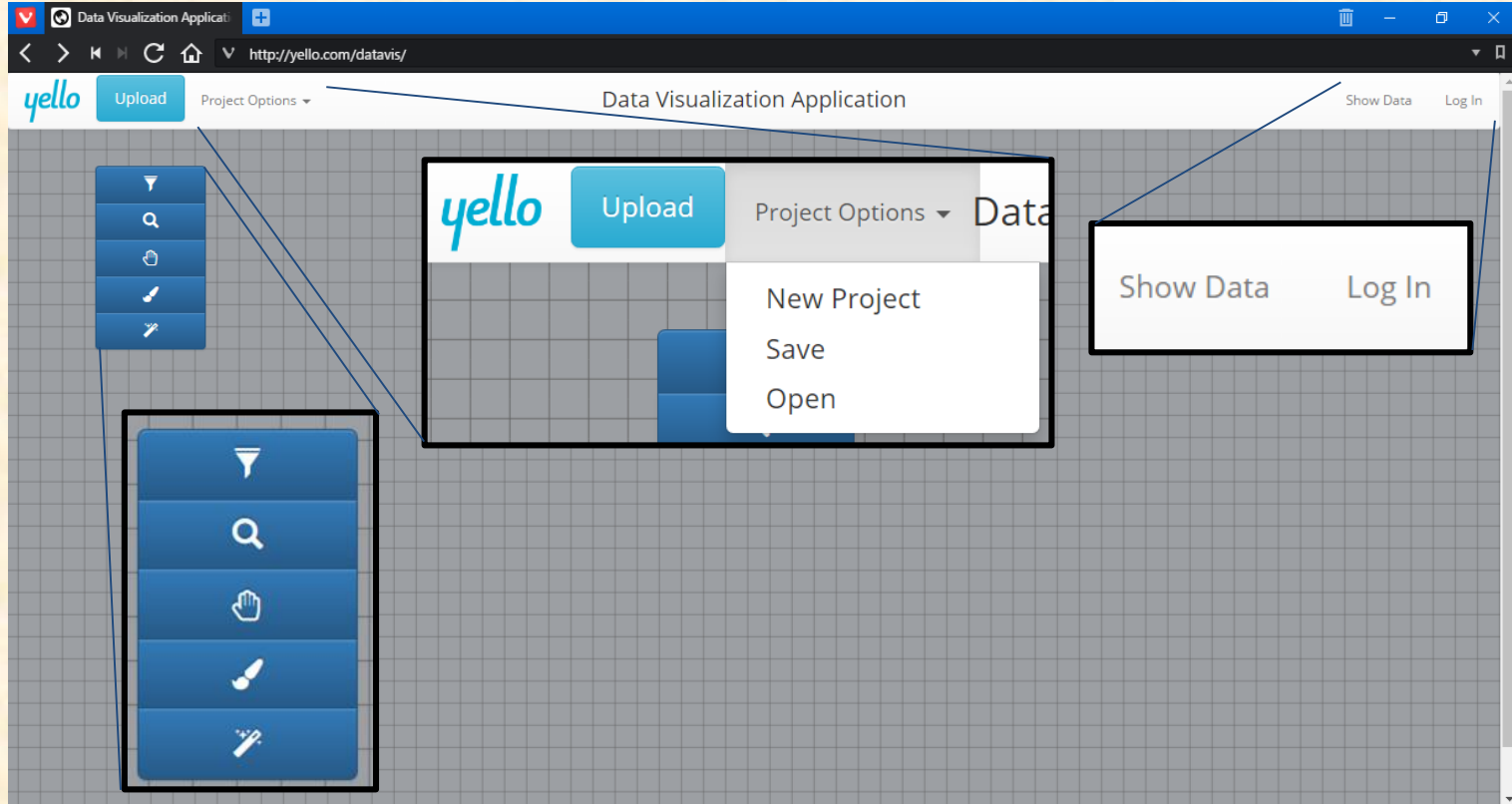
- Make large amounts of complex data easy to understand in a visual manner
- Make the application's canvas the focal point of use
- Available and unobtrusive toolbars

Team Yello  
Alpha Presentation

# Team Yello Alpha Presentation

a.

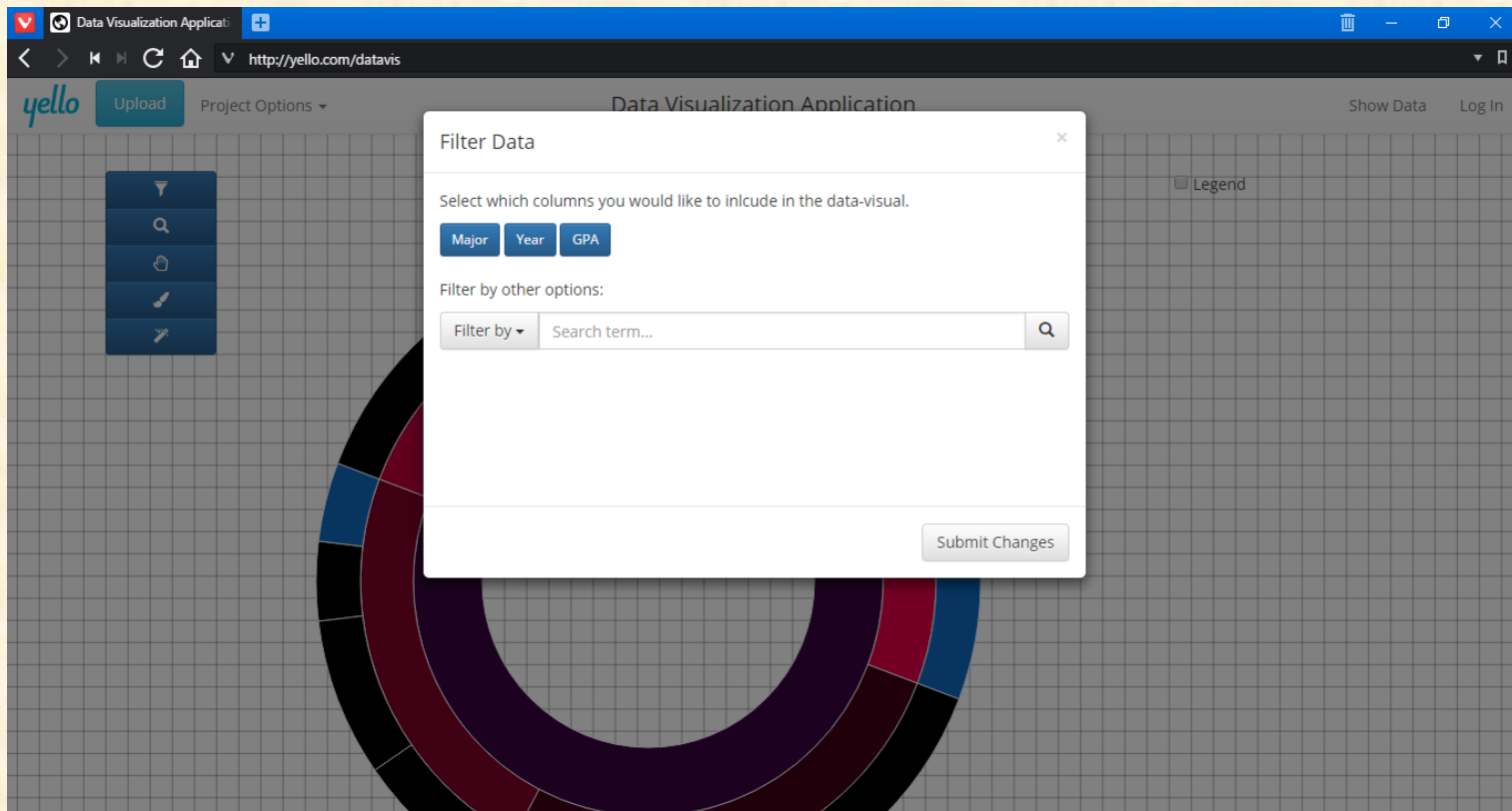
Main Page



# Team Yello Alpha Presentation

2.

## Filter Data Selection





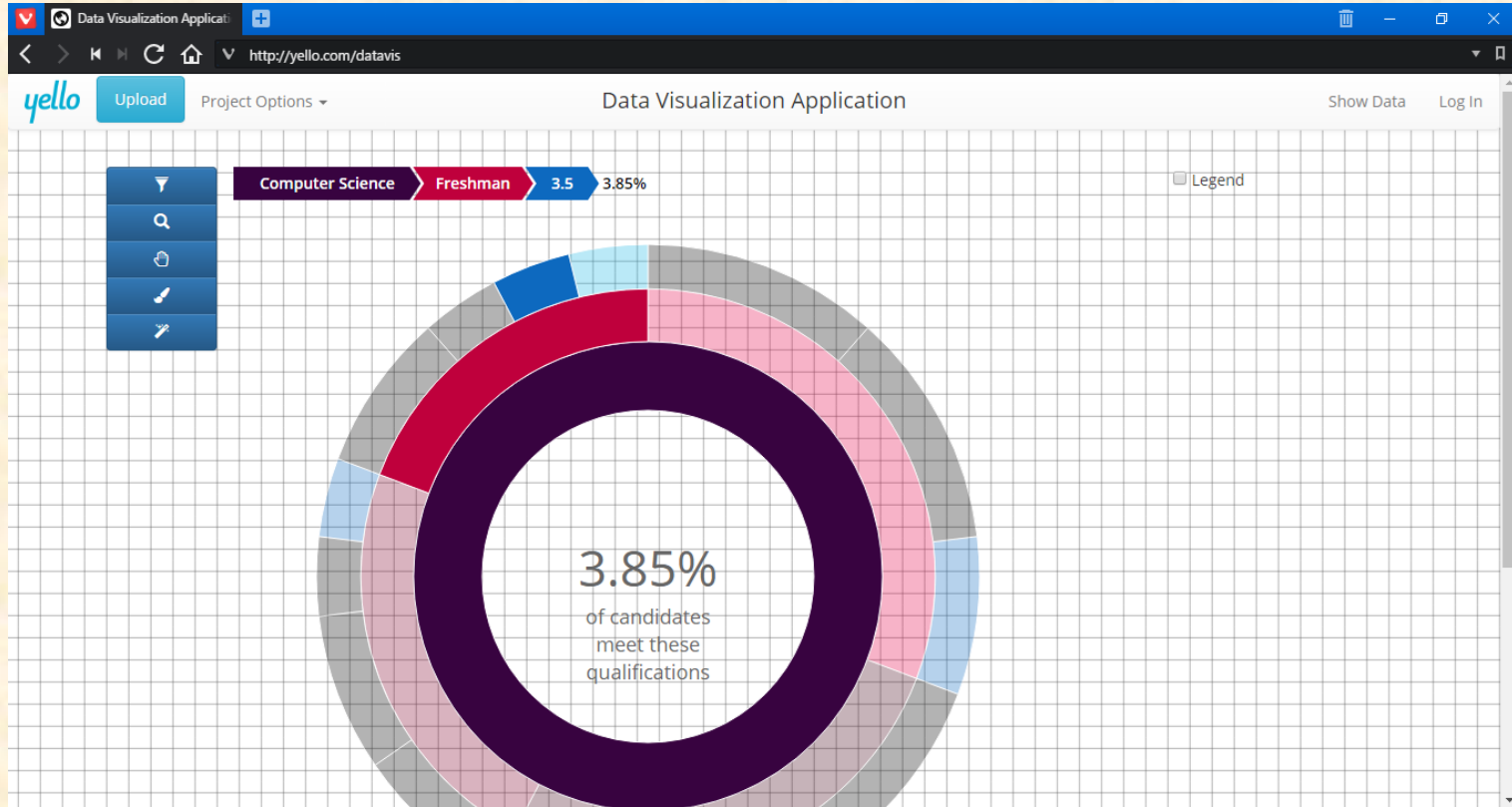


# Team Yello Alpha Presentation

# Team Yello Alpha Presentation

a.

## Data Visualization



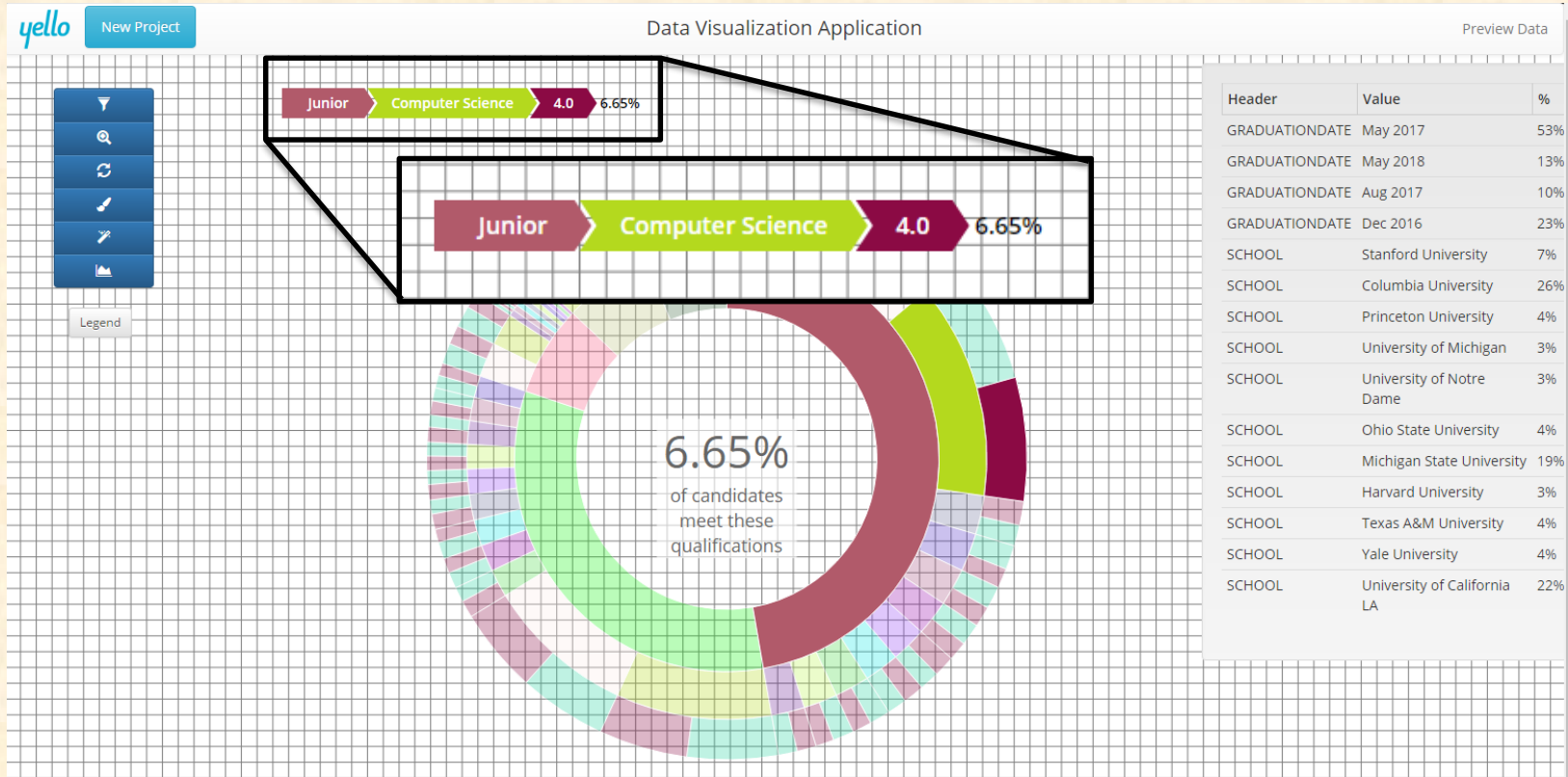


# Team Yello Beta Presentation

# Team Yello Beta Presentation

a.

Canvas Area

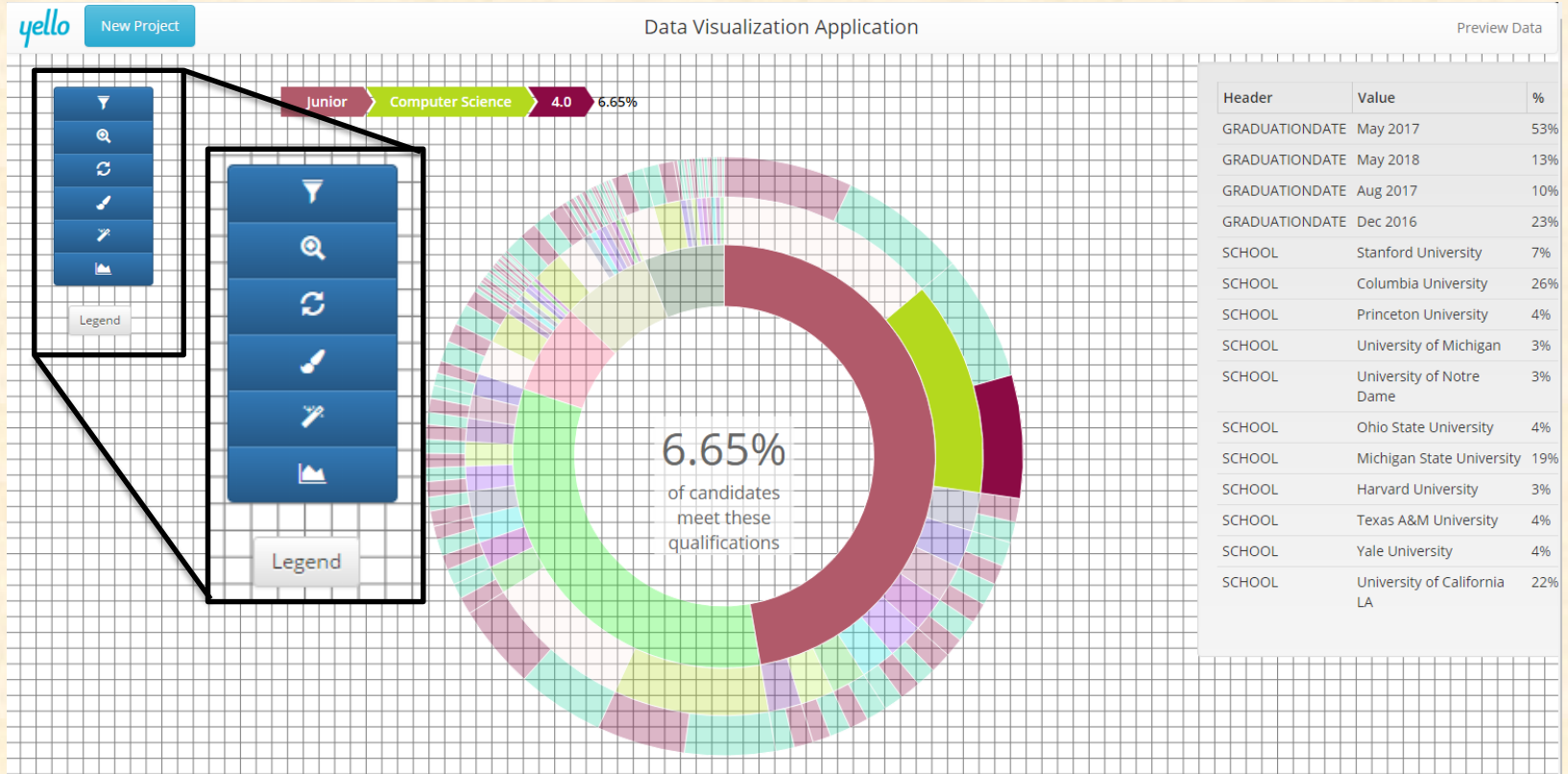




# Team Yello Beta Presentation

a.

Toolbar



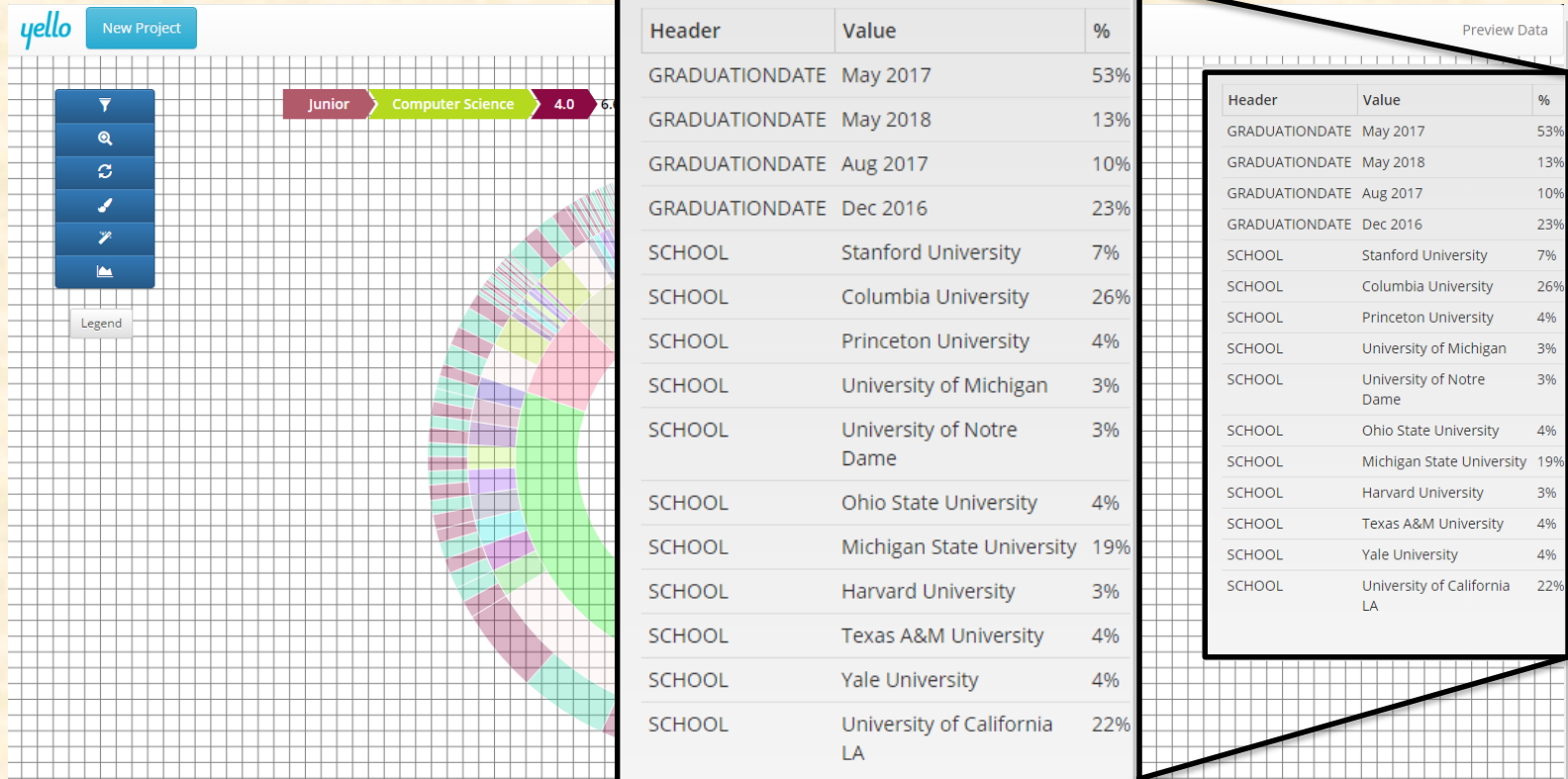


# Team Yello Beta Presentation

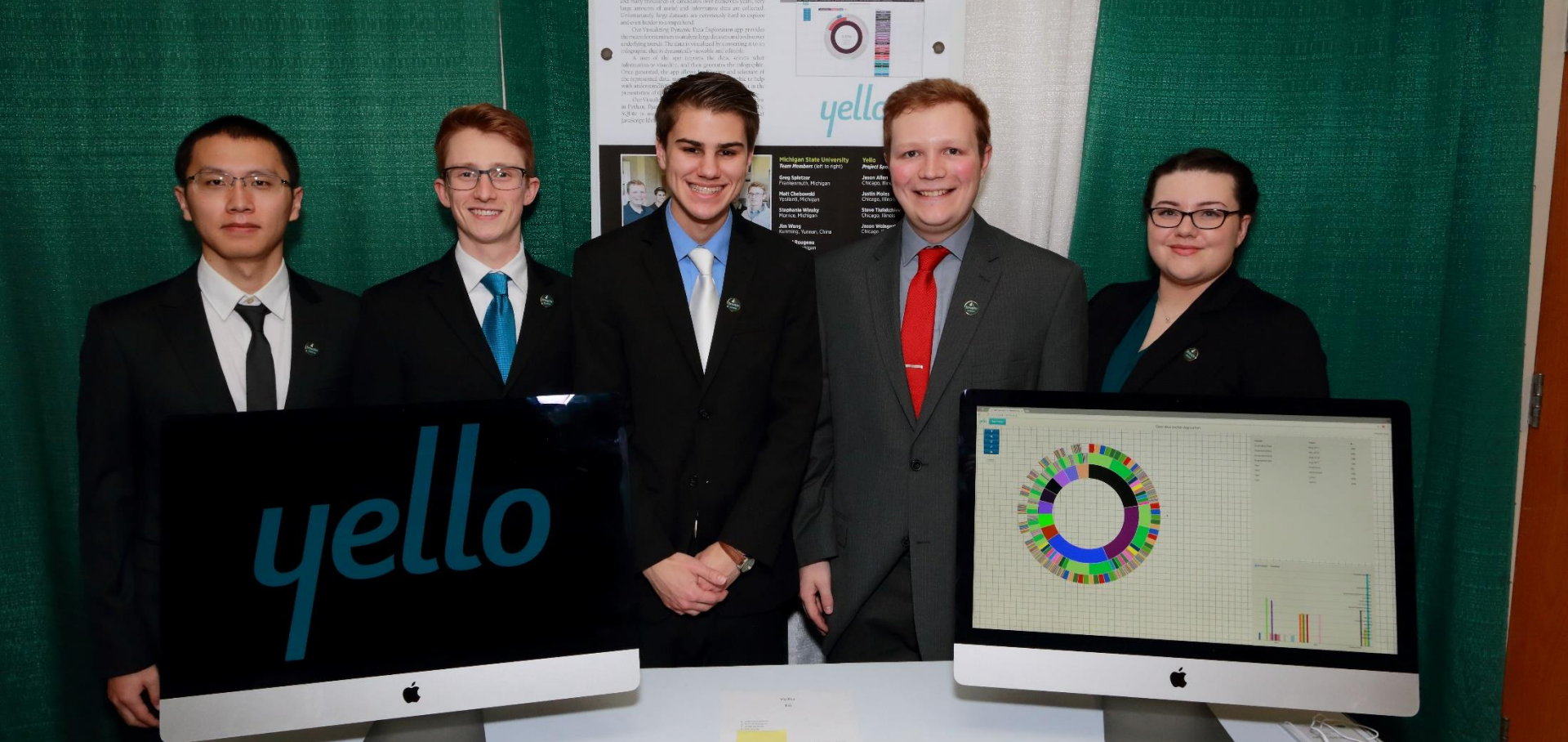
# Team Yello Beta Presentation

a.

## Additional Data Text Box







Team Yello  
Design Day



# The Capstone Experience

Dr. Wayne Dyksen

Department of Computer Science and Engineering  
Michigan State University  
Fall 2016



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



The Capstone Experience Lab





## The Capstone Experience Lab



The Capstone Experience Lab





The Capstone Experience Lab





The Capstone Experience Lab  
View of Spartan Stadium

MICHIGAN STATE  
UNIVERSITY

# The Capstone Experience

Design Day Award Winners

April 29, 2016



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





All-Hands  
Design Day, April 29, 2016





# Auto-Owners Exhibition Award

Team Auto-Owners, Spring 2016

Catastrophic Claims Unit Mobilization

Nicole Lawrence, Jason Steele, Matt Wiechec, Nick Reuter

Presented by Scott Lake of Auto-Owners Insurance



# MSU Federal Credit Union Praxis Award

Team Union Pacific, Spring 2016

Oculus Rift Inspection and Training Tool

Sam Berndt, Grant King, Mitch Leinbach, Michael Aughton, William Norman

Presented by Samantha Amburgey of MSU Federal Credit Union





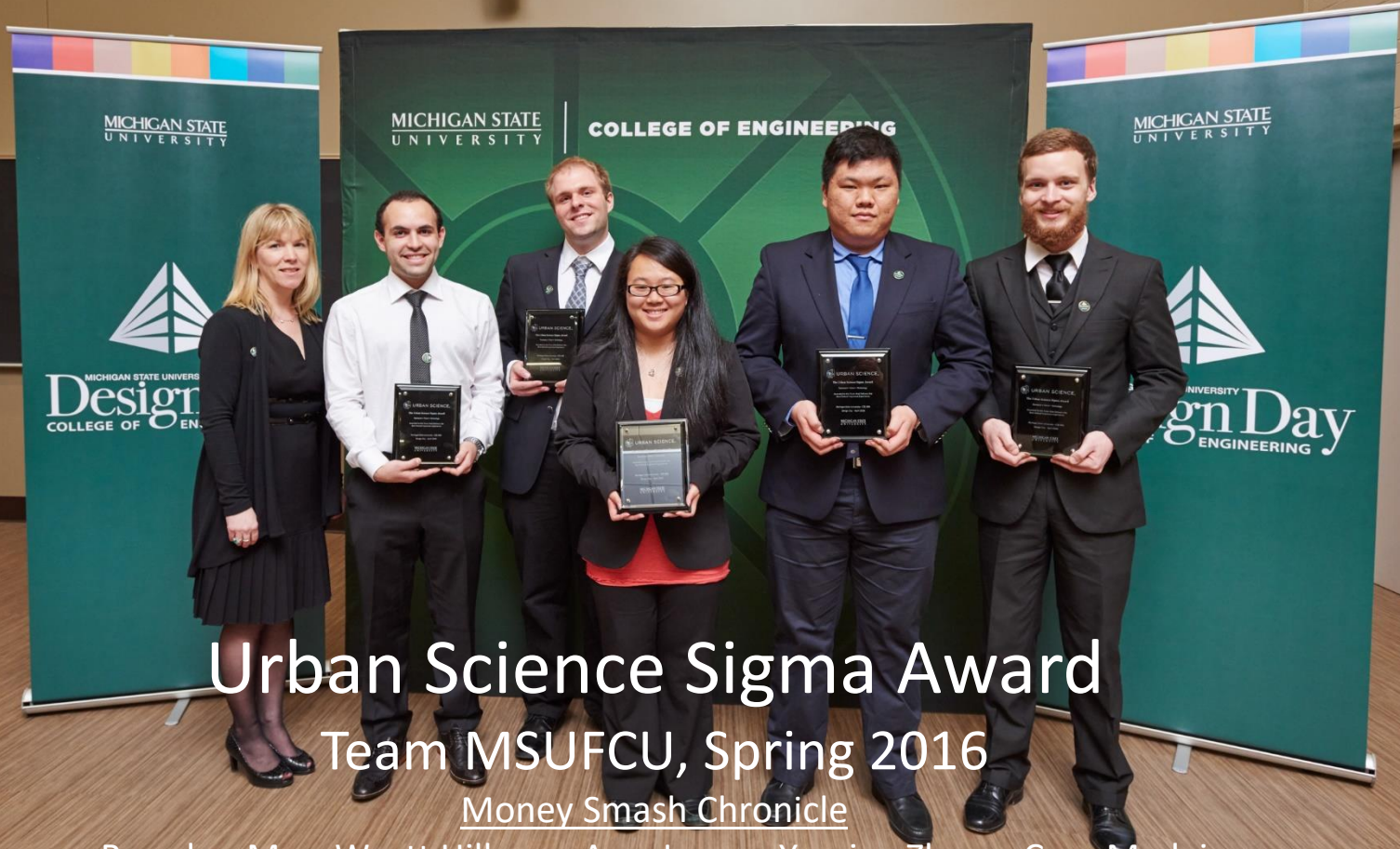
# TechSmith Screencast Award

Team GM, Spring 2016

IT Advocate Live Help

Jake Price, Jenna Sanocki, Shuhao Zhang, Zack Keith, Joe Dinkha

Presented by Dean Craven of TechSmith



# Urban Science Sigma Award

Team MSUFCU, Spring 2016

Money Smash Chronicle

Brandon Max, Wyatt Hillman, Amy Leung, Yuming Zhang, Cory Madaj

Presented by Elizabeth Klee of Urban Science



**MICHIGAN STATE**  
**UNIVERSITY**

# The Capstone Experience

## Design Day Award Winners

December 9, 2016



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



All-Hands  
Design Day, December 9, 2016

MICHIGAN STATE  
UNIVERSITY

COLLEGE OF ENGINEERING

Chapter  
1

# 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



MICHIGAN STATE  
UNIVERSITY

COLLEGE OF ENGINEERING

Channel  
1

# 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 Koeppe and Elizabeth Klee of Urban Science

# The Capstone Experience

Dr. Wayne Dyksen

Department of Computer Science and Engineering  
Michigan State University  
Spring 2017



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

**amazon**





# ***Auto-Owners*** **INSURANCE**

**LIFE • HOME • CAR • BUSINESS**



# Avata

INTELLIGENCE







**meijer**®



Firefox®



F E D E R A L   C R E D I T   U N I O N

Building Dreams *Together*

***Quicken® Loans®***

Engineered to **Amaze<sup>SM</sup>**



The logo for Rook Security features a stylized icon on the left, resembling a rook chess piece, composed of dark grey and light grey segments. To the right of the icon, the word "ROOK" is written in a large, bold, dark grey sans-serif font. Below "ROOK", the word "SECURITY" is written in a smaller, bold, dark grey sans-serif font. A small "TM" trademark symbol is positioned to the upper right of the "K" in "ROOK".

**ROOK**<sup>TM</sup>  
**SECURITY**

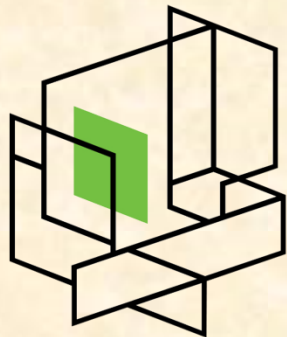
**SPECTRUM HEALTH**











URBAN SCIENCE™



**Whirlpool**

**CORPORATION**

*yello*