

MICHIGAN STATE

U N I V E R S I T Y

The Capstone Experience

Dr. Wayne Dyksen

Department of Computer Science and Engineering
Michigan State University
Spring 2017



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

Course Goals

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



Course Goals

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



Project Deliverables

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

See [Major Milestones](#).



All-Hands Meetings

- TTh, 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

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



MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Team Amazon

Department of Computer Science and Engineering
Michigan State University
Spring 2017



*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.



PANDORA



echo \$179⁹⁹



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

ACRA: Amazon Customer Review Analyzer

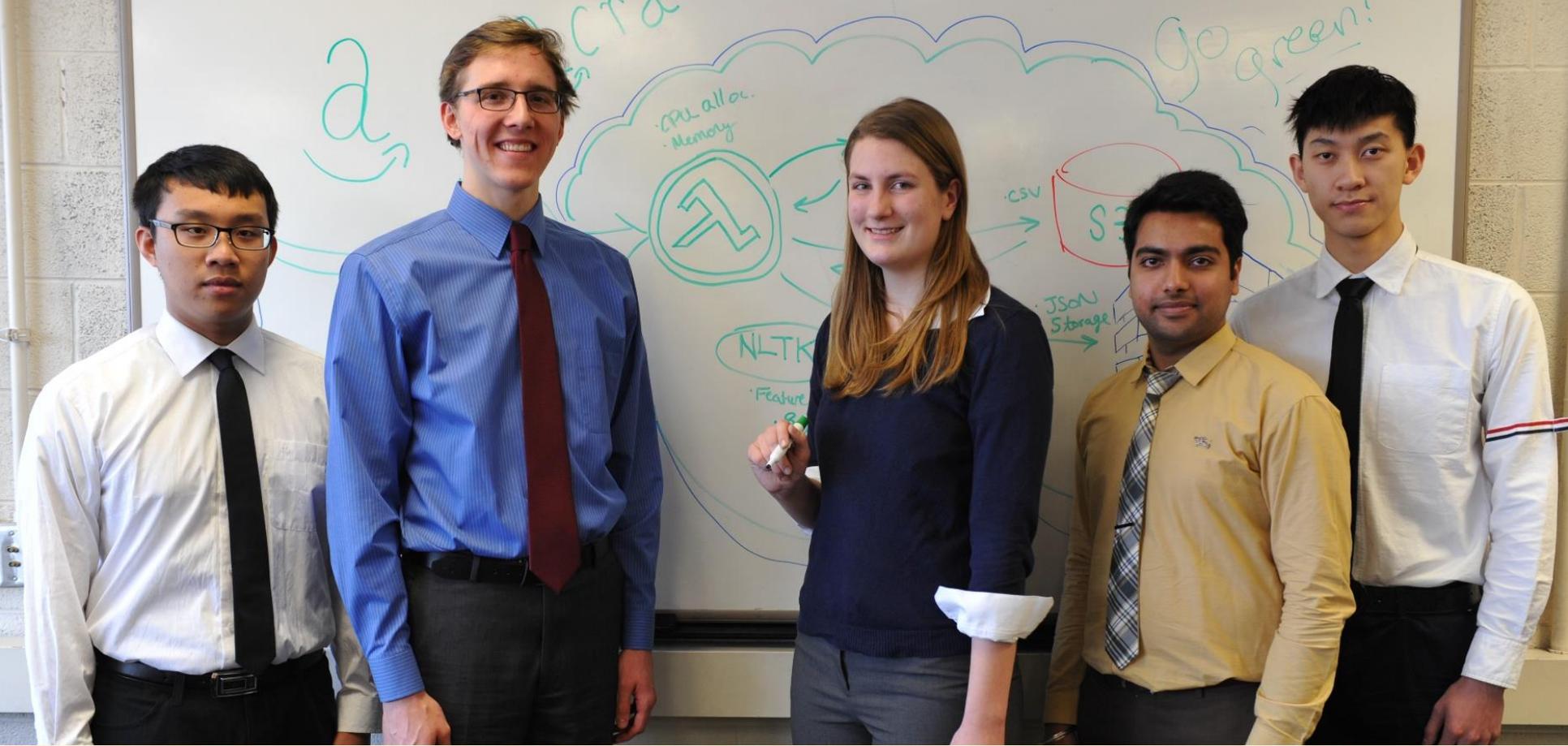
- Functionalities
 - Improve Amazon Customer Shopping Experience
 - Enable More Informed Purchase Decisions
 - Provide Automatic Analysis of Product Reviews
- Features
 - Analyze and Categorize Product Reviews On
 - Product Quality
 - Shipping and Handling
 - Third-Party Seller
 - Identify and Discard Irrelevant Reviews
 - Review Similar Products
 - Aggregate and Display Results
- Technologies
 - Google Android Tablets and Phones / Java
 - Apple iPads and iPhones (iOS) / Swift
 - Amazon Product Advertising API
 - Amazon Web Services
 - Storage Solution
 - Machine Learning
 - Lambda
 - Natural Language Processing
 - RESTful Web Services



amazon

Seattle, Washington
Detroit, Michigan





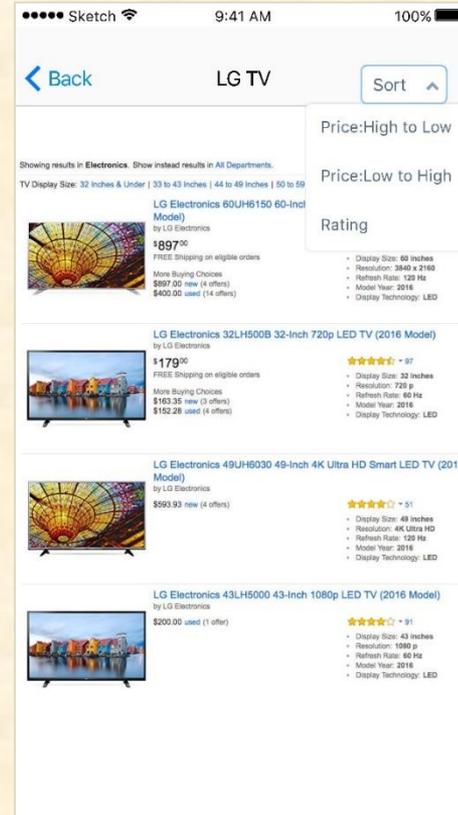
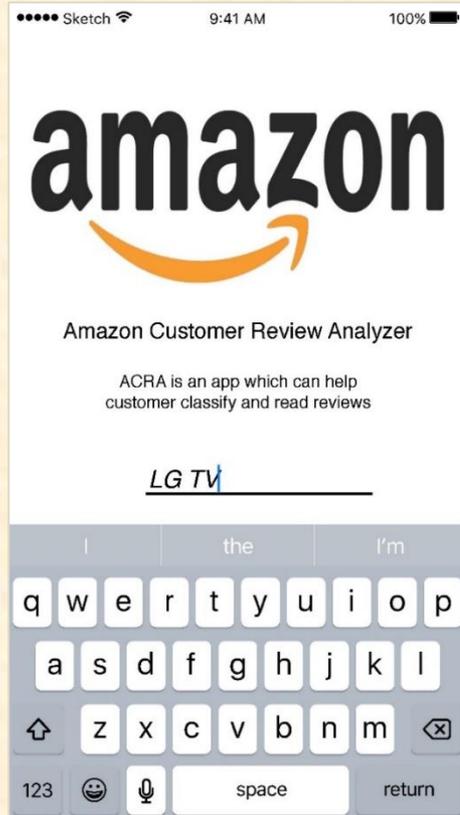
Team Amazon

Jie Wan, Ian Whalen, Tess Huelskamp, Ankit Luthra, Jason Liu

Team Amazon Project Plan Presentation

e.

Screen Mockups



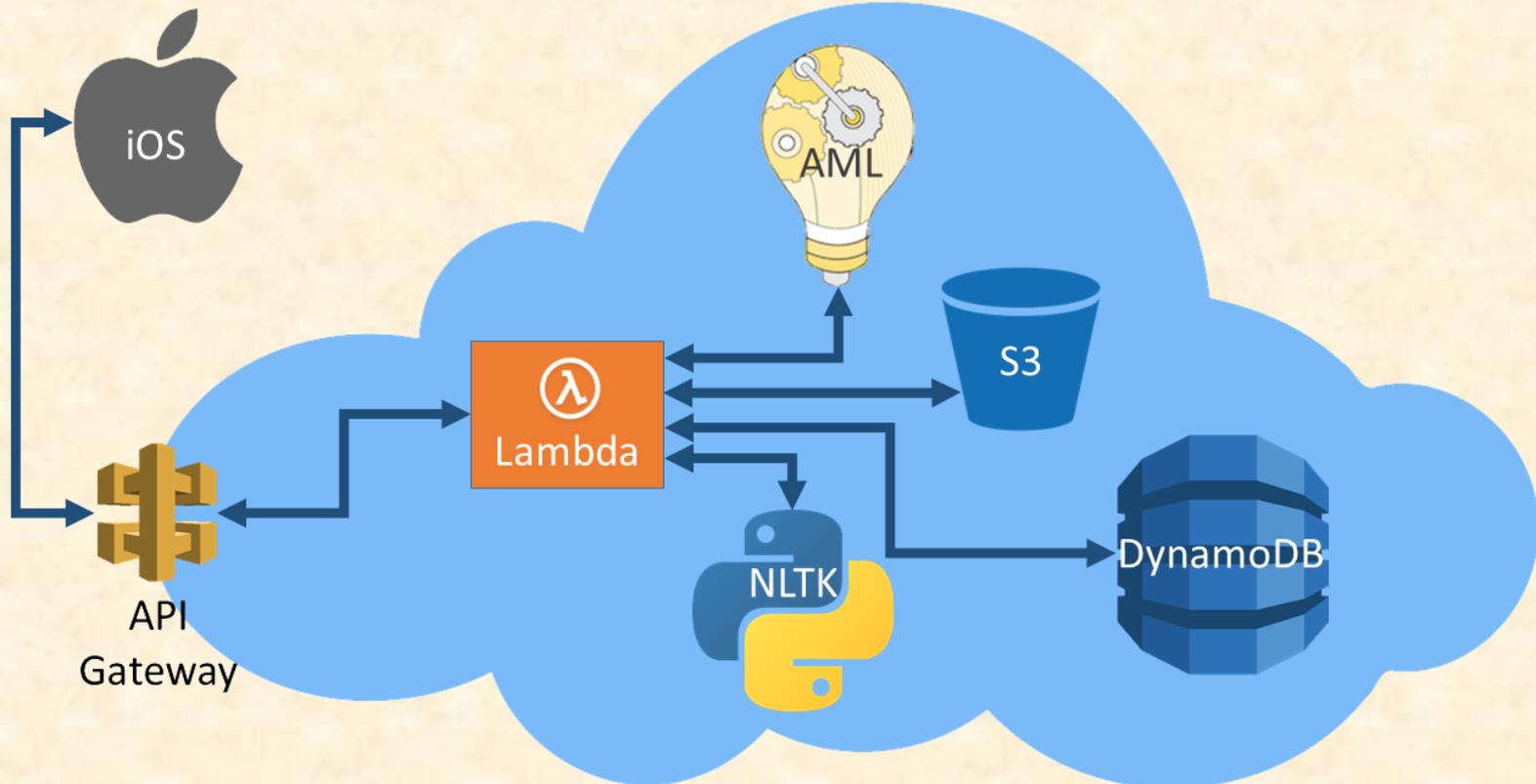


Team Amazon Project Plan Presentation

Team Amazon Project Plan Presentation

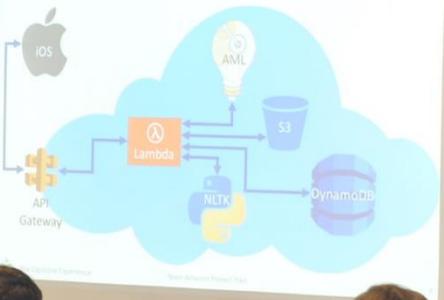
e.

Architecture Diagram





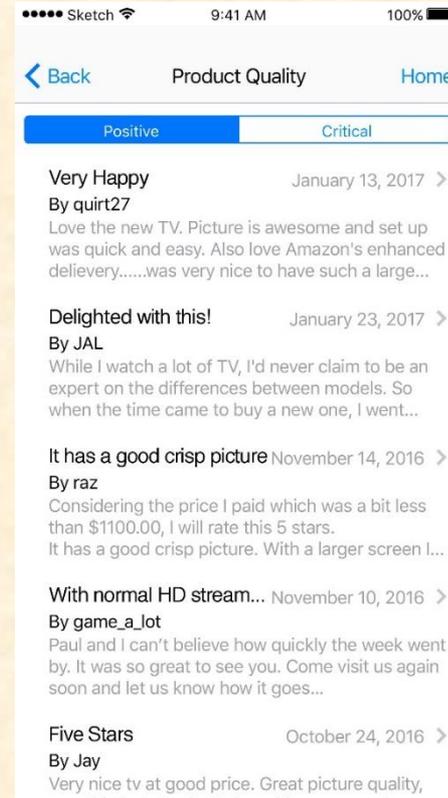
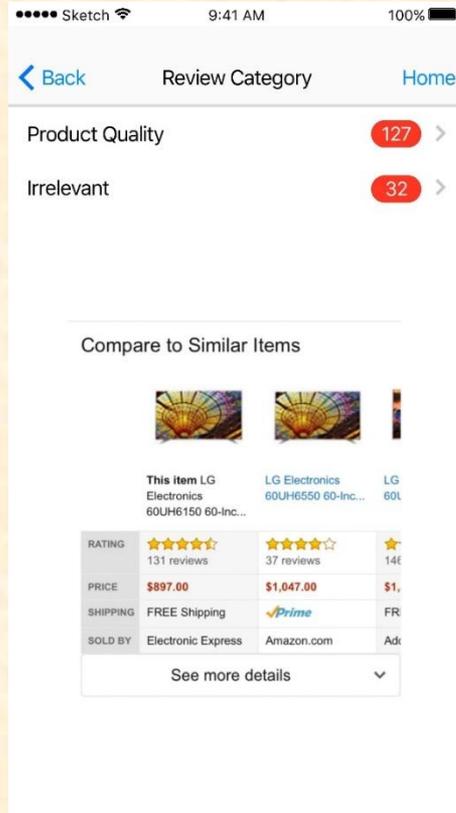
System Architecture



Team Amazon
Project Plan Presentation

Team Amazon Project Plan Presentation

Screen Mockups



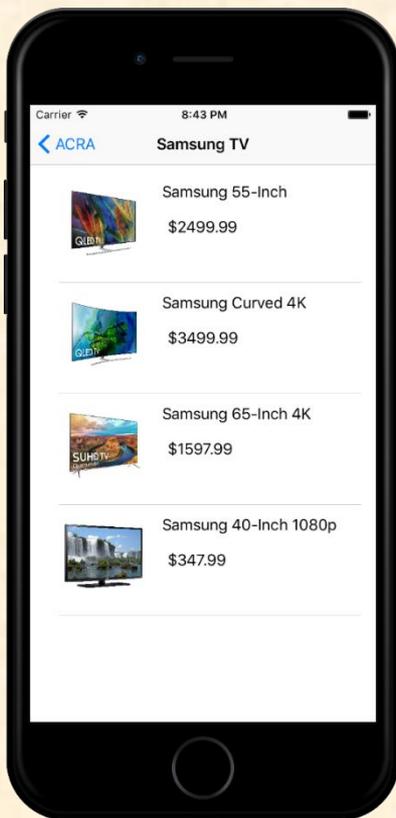


Team Amazon
Alpha Presentation

Team Amazon Alpha Presentation

e.

Search Results Page



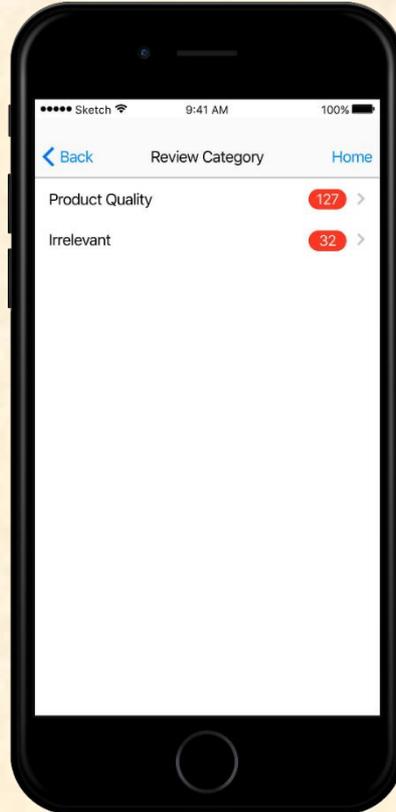
The Capstone Experience



Team Amazon Alpha Presentation

e.

Review Categories Page



The Capstone Experience



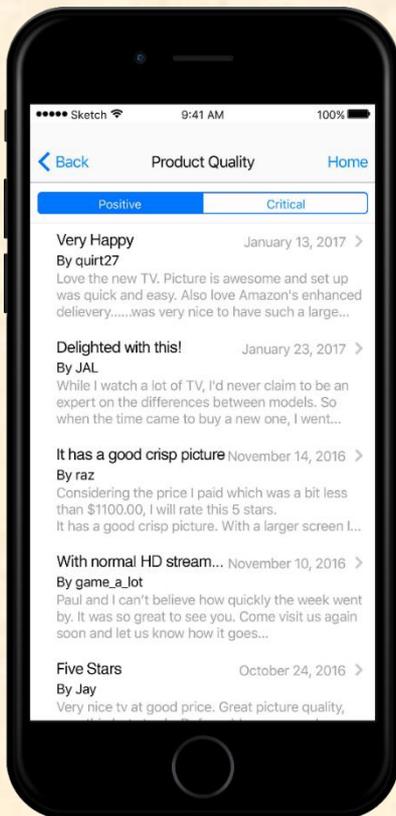
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, (u'buggi',), (u'anywher',), (u'zero',), (u'confus',), (u'b
ud',), (u'charger',), (u'solv',), (u'station',), (u'random',
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inter',), (u'enjoy',), (u'consist',), (u'amount',), (u'expla
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(u'complain',), (u'randomli',), (u'occasion',), (u'heavi',)
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doubl',), (u'pau',), (u'onto',), (u'lag',), (u'slower',), (u'
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Team Amazon Alpha Presentation

Team Amazon Alpha Presentation

e.

Reviews Page



The Capstone Experience



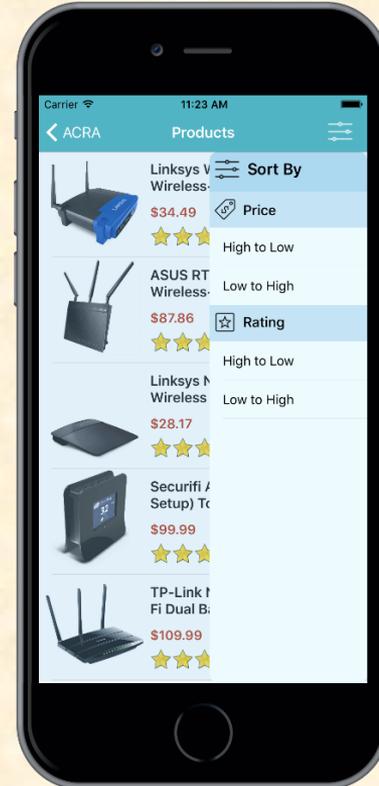
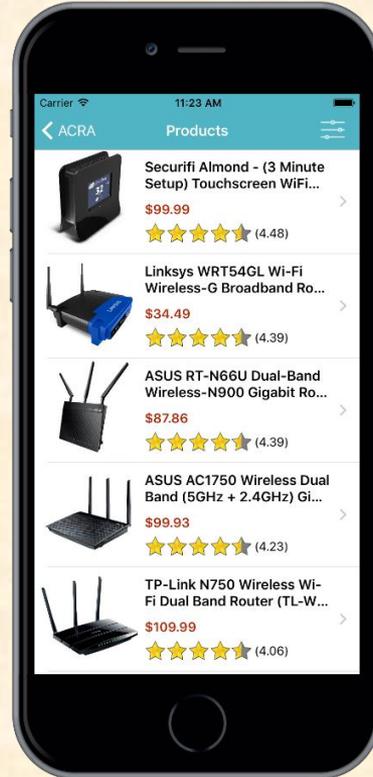
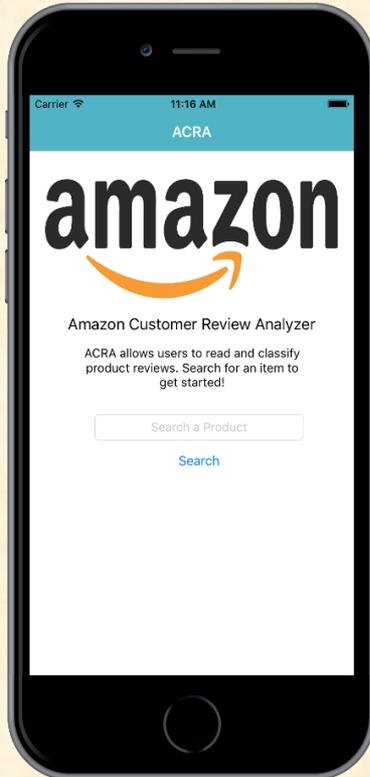


Team Amazon Beta Presentation

Team Amazon Beta Presentation

e.

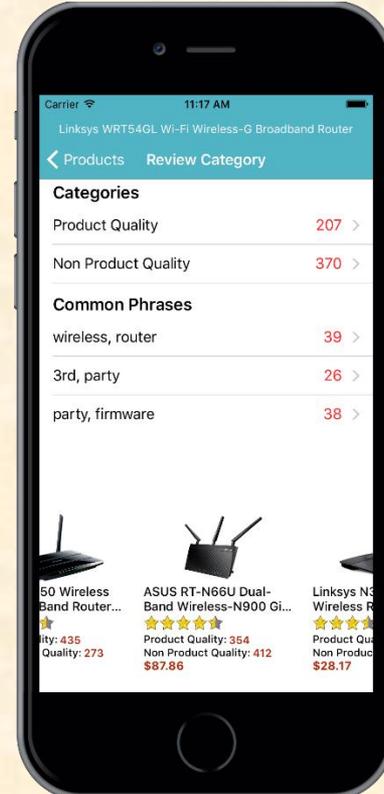
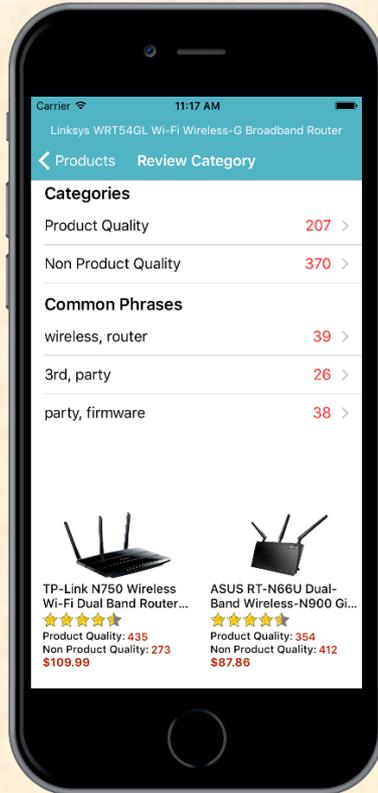
Home Page and Search Results



Team Amazon Beta Presentation

e.

Category Page and Similar Items



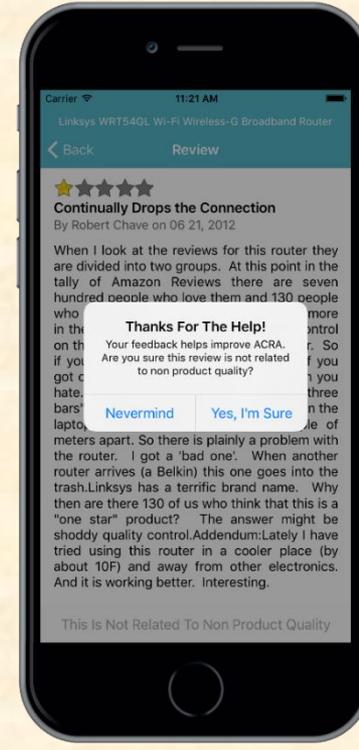
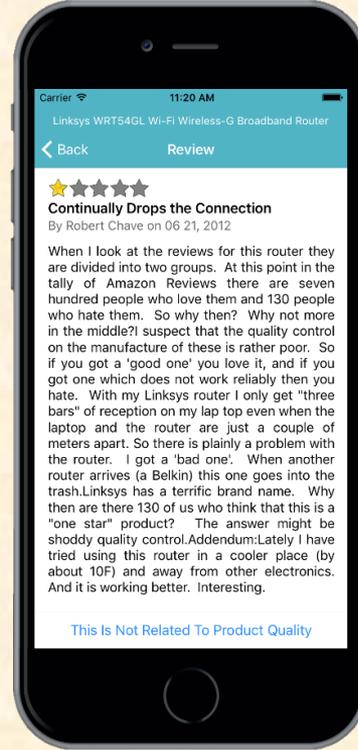
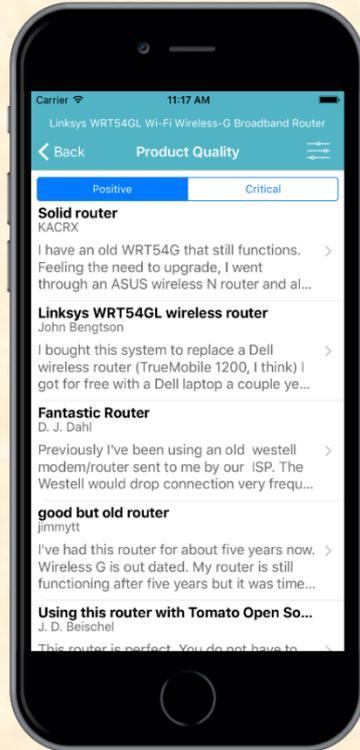


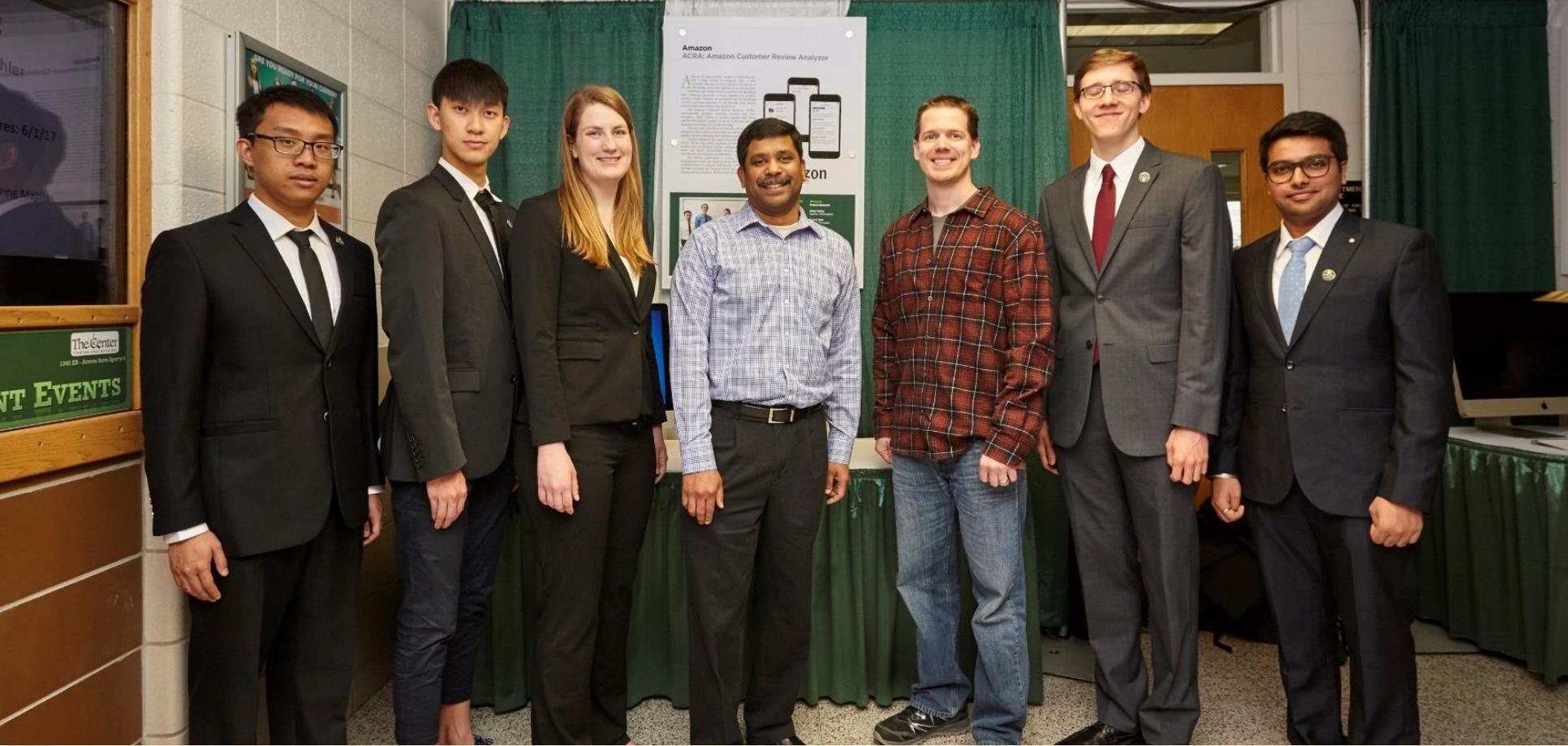
Team Amazon Beta Presentation

Team Amazon Beta Presentation

e.

Review Page and Misclassified Button





Team Amazon
Design Day

MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Team Auto-Owners

Department of Computer Science and Engineering
Michigan State University
Spring 2017



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

Auto-Owners

INSURANCE

LIFE • HOME • CAR • BUSINESS



[Customer Center](#) | [Find a Career with Us](#)

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

Enter a Keyword 🔍

▼ FIND A LOCAL AGENCY



Enter a Zip Code

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](#)

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

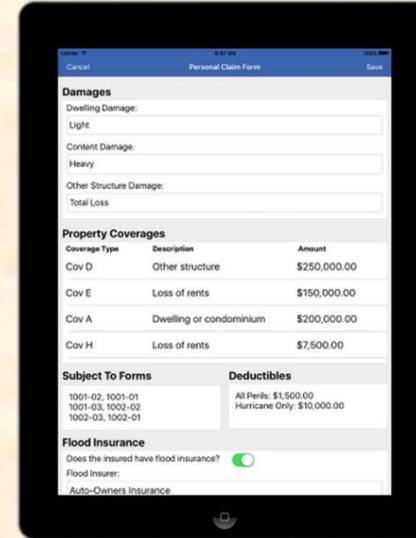


We insure a variety of businesses, both large and small. Insurance is available to meet the specific needs of most businesses.

Team Auto-Owners Project Overview

Location-Based Services Mobile App

- Functionalities
 - Connect Auto-Owners Associates While Out in the Community
 - Enable Innovative Customer Interactions
 - Provide Mobile Access to Customer Information
- Features
 - Support Role-Based Authentication and Authorization
 - Handle Location Based on Address or GPS
 - Enable Claims Submission
 - Visualize Mapping of Customers Nearby
 - Policyholders
 - Claims
 - Proposals
 - Provide Administrative Web Portal
- Technologies
 - Google Android Tablets and Phones / Java
 - Apple iPads and iPhones (iOS) / Swift
 - Google Maps
 - CSS / HTML / JavaScript / PHP
 - Database Technologies



Auto-Owners
INSURANCE

LIFE • HOME • CAR • BUSINESS

Lansing, Michigan





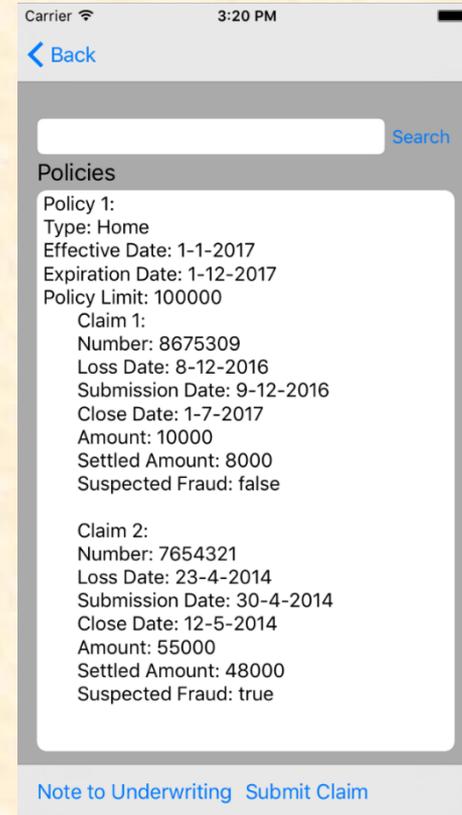
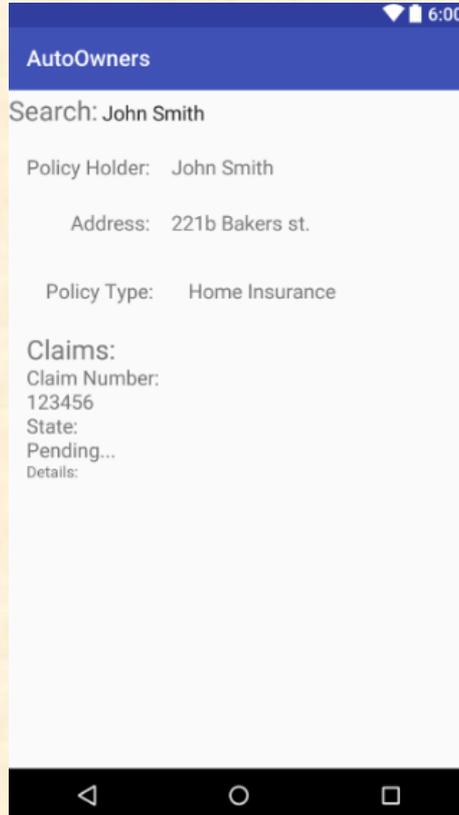
Team Auto-Owners

Seth Schmitz, Yunfei Peng, Alex Besinger, Josh Christ

Team Auto-Owners Project Plan Presentation

e.

Screen Mockups

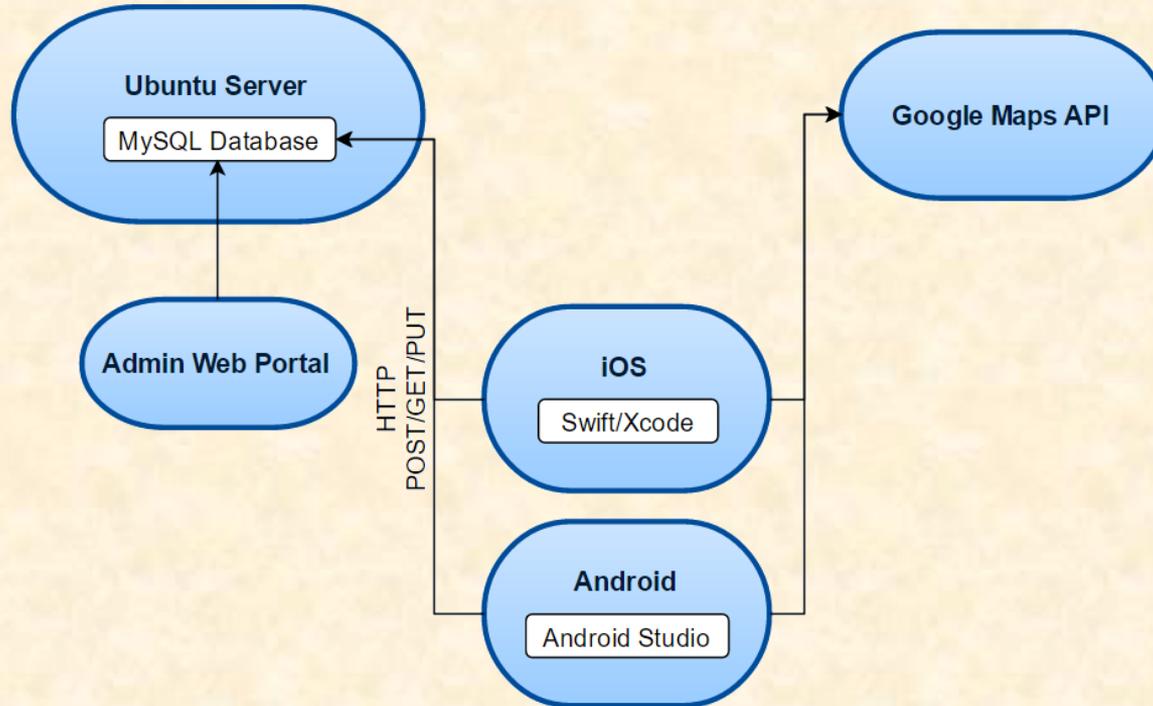




Team Auto-Owners Project Plan Presentation

Team Auto-Owners Project Plan Presentation

Architecture Diagram





Team Auto-Owners Project Plan Presentation

Team Auto-Owners Project Plan Presentation

Screen Mockup

Auto-Owners		Log Out				
ACTIONS		Users				
New User						
List Database Entries						
New Database Entry						
Id	Email	Password	Created	Modified	Actions	
4	christ2@msu.edu	\$2y\$10\$HyO2zGMwk67wXywKp9AAI.VOUNkZoFnL8uhqZuFHw1McJc.igT32S	1/23/17, 12:22 AM	1/23/17, 12:22 AM	View Edit Delete	
5	test@msu.edu	\$2y\$10\$LZmNw5Tj9gK04UXLaL97s.oLzETKS0yUsuRmVkkh6tn5jsYmEqDS	1/23/17, 1:47 AM	1/23/17, 1:47 AM	View Edit Delete	
6	test@gmail.com	\$2y\$10\$QVzz2Ua/5rrsIQCSKmSibe1MOGAxn39Z.Eh8RzhNYBy7VusHvq3Xu	1/24/17, 12:01 AM	1/24/17, 12:01 AM	View Edit Delete	
7	testing@msu.edu	\$2y\$10\$ZIEJNfsaddlDOKb109RUI.fW6Xptj9XHq1tPcIp2pbYQugwB/P6	1/24/17, 12:04 AM	1/24/17, 12:04 AM	View Edit Delete	
8	testing2@msu.edu	\$2y\$10\$A8cFdUDE1LDUXULzPuNSOsE8RxbzUmRB7mNjg2ybx6TvhA5c8IW	1/24/17, 12:06 AM	1/24/17, 12:06 AM	View Edit Delete	
9	testing5@msu.edu	\$2y\$10\$yf0Cc97ipEHndw2sowzwex6ze/Frm5VcXdLcF/LZB3/Zr169wXW	1/24/17, 12:13 AM	1/24/17, 12:13 AM	View Edit Delete	
10	testing6@msu.edu	\$2y\$10\$DbyaT1A.ppBK1WY7TfY5OMuMVl20oVuTbWIOKaAyk8OaSr4pVoO	1/24/17, 12:15 AM	1/24/17, 12:15 AM	View Edit Delete	
11	testing7@msu.edu	\$2y\$10\$zEf5PKYFoDcN8xrnR8LJ.ecVWNL9mPkvHlr/tkYOFIPsbBGDoGale	1/24/17, 12:18 AM	1/24/17, 12:18 AM	View Edit Delete	
12	testing8@msu.edu	\$2y\$10\$QLeuiB9y9jN6K1zKaMG9T.uwgrUAdYONo2FLSDjQZL/Owgl3Qka6	1/24/17, 12:20 AM	1/24/17, 12:20 AM	View Edit Delete	
13	testing9@msu.edu	\$2y\$10\$NendoTeTvEmBUgOnPsncee13zWbe8Cyk5Wof6Gac/C33IR4391QMS	1/24/17, 12:21 AM	1/24/17, 12:21 AM	View Edit Delete	



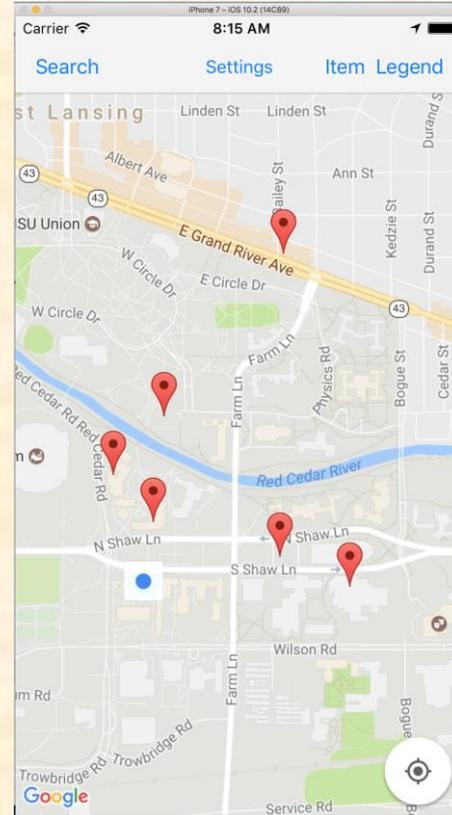
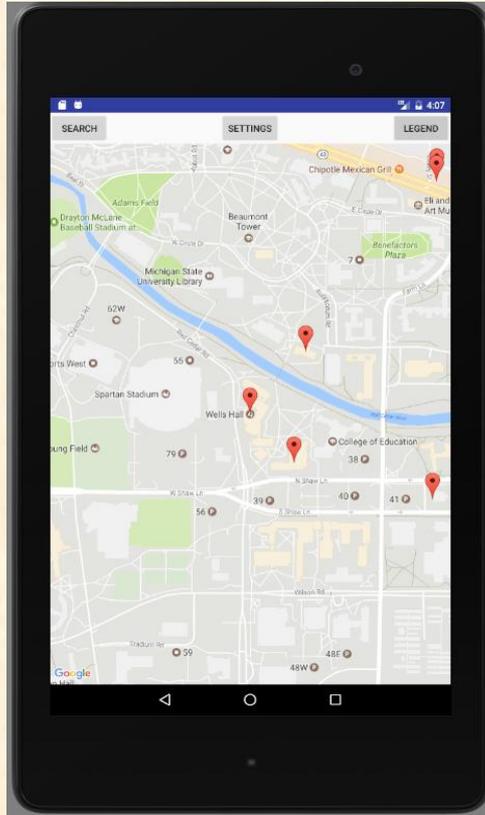


Team Auto-Owners Alpha Presentation

Team Auto-Owners Alpha Presentation

e.

Map Screen

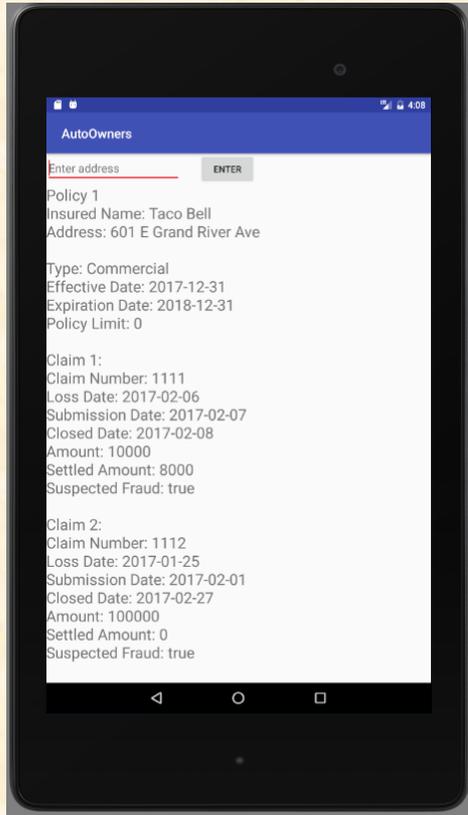


The Capstone Experience



Team Auto-Owners Alpha Presentation

Policy Search and Display Screen



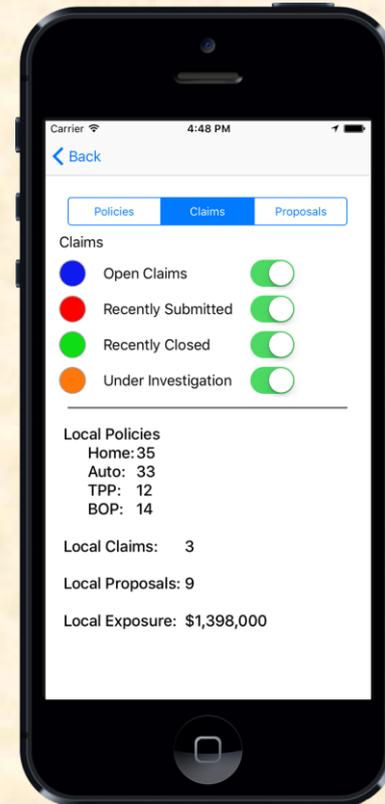
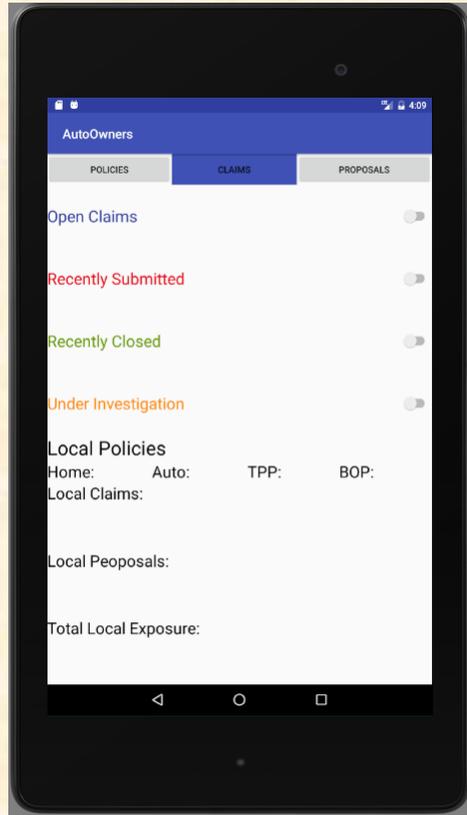


Team Auto-Owners Alpha Presentation

Team Auto-Owners Alpha Presentation

e.

Legend Screen



The Capstone Experience

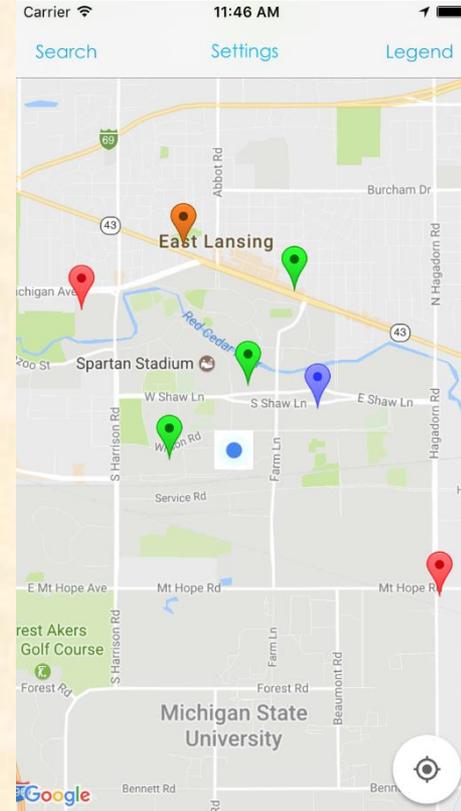
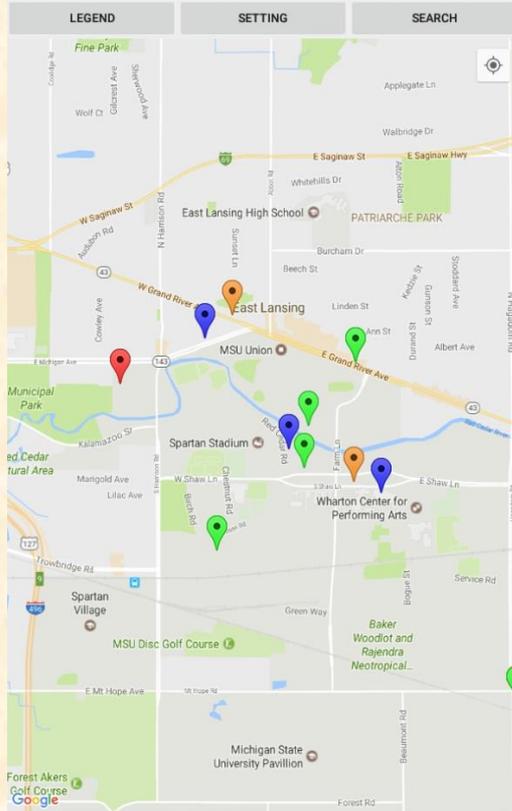




Team Auto-Owners Beta Presentation

Team Auto-Owners Beta Presentation

Map View



Team Auto-Owners Beta Presentation

Android Legend View

AutoOwners

POLICIES CLAIMS PROPOSALS

Policy Type

All: ●

Home: ●

Auto: ●

TPP: ●

BOP: ●

Min Value: \$ | _____

Max Value: \$ | _____

Time Insured ● _____

Local Policies

Home: 3 Auto: 1 TPP: 5 BOP: 2

Local Claims: 2

Local Proposals: 4

Total Local Exposure: 112019921

AutoOwners

POLICIES CLAIMS PROPOSALS

Open Claims ●

Recently Submitted ●

Recently Closed ●

Under Investigation ●

Local Policies

Home: 3 Auto: 1 TPP: 5 BOP: 2

Local Claims: 2

Local Proposals: 4

Total Local Exposure: 112019921

AutoOwners

POLICIES CLAIMS PROPOSALS

Proposal Type

All: ●

Home: ●

Auto: ●

TPP: ●

BOP: ●

Within X Days ● _____

Local Policies

Home: 0 Auto: 2 TPP: 1 BOP: 1

Local Claims: 2

Local Proposals: 4

Total Local Exposure: 112019921





Team Auto-Owners Beta Presentation

Team Auto-Owners Beta Presentation

e.

iOS Legend View

Carrier 11:58 AM

< Back

Policies Claims Proposals

Policy Type

- All
- Home
- Auto
- TPP
- BOP

Min Value: \$

Max Value: \$

Insured for any time

Local Policies:

Home:	3
Auto:	1
TPP:	5
BOP:	2

Local Claims: 2

Local Proposals: 5

Exposure: \$100000111999903

Carrier 11:58 AM

< Back

Policies Claims Proposals

Claims

- All
- Open Claims
- Recently Submitted
- Recently Closed
- Under Investigation

Local Policies:

Home:	3
Auto:	1
TPP:	5
BOP:	2

Local Claims: 2

Local Proposals: 5

Exposure: \$100000111999903

Carrier 11:58 AM

< Back

Policies Claims Proposals

Proposal Type

- All
- Home
- Auto
- TPP
- BOP

Within any time

Local Policies:

Home:	3
Auto:	1
TPP:	5
BOP:	2

Local Claims: 2

Local Proposals: 5

Exposure: \$100000111999903





Team Auto-Owners
Design Day

MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Team GE

Department of Computer Science and Engineering
Michigan State University
Spring 2017



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



Industry Brief

Industrial Manufacturing

01

GE expands asset performance management suite with Meridium buy

02

Gaining from the Industrial IoT: Industrial Internet Report

03

Using Big Data to Help Manufacturers Optimize Operations

04

Changing the Game of Digital Industry

05

GE Navigates, Carefully, the Industrial Internet of Things

Team GE

Project Overview

PETT: Predix Enabled Toy Train

- Functionalities
 - Visualize GE's Digital Industrial Strategy and Transformation
 - Demonstrate GE's Cloud-Base Predix Platform
 - Run N-Scale DCC Enabled Trains Autonomously
- Features
 - Run Multiple Trains Independently
 - Monitor Non-Train Based Events
 - Railroad Crossings
 - Items Falling on Tracks
 - Control Color of GE Logo Lights
 - Utilize GE's Predix Platform
 - Create Predictive and Prescriptive Analytics
 - Keep System Running Issue Free
 - Provide Interactive Educational Display
- Technologies
 - Digital Command Control for Model Railroads
 - Sensor Enablement and Automation
 - Raspberry Pi's, Arduinos, Intel Edison
 - GE's Predix Platform
 - Apple iPads and iPhones (iOS) / Swift
 - Google Android Tablets and Phones / Java
 - RESTful Web Services



Detroit, Michigan

The Capstone Experience



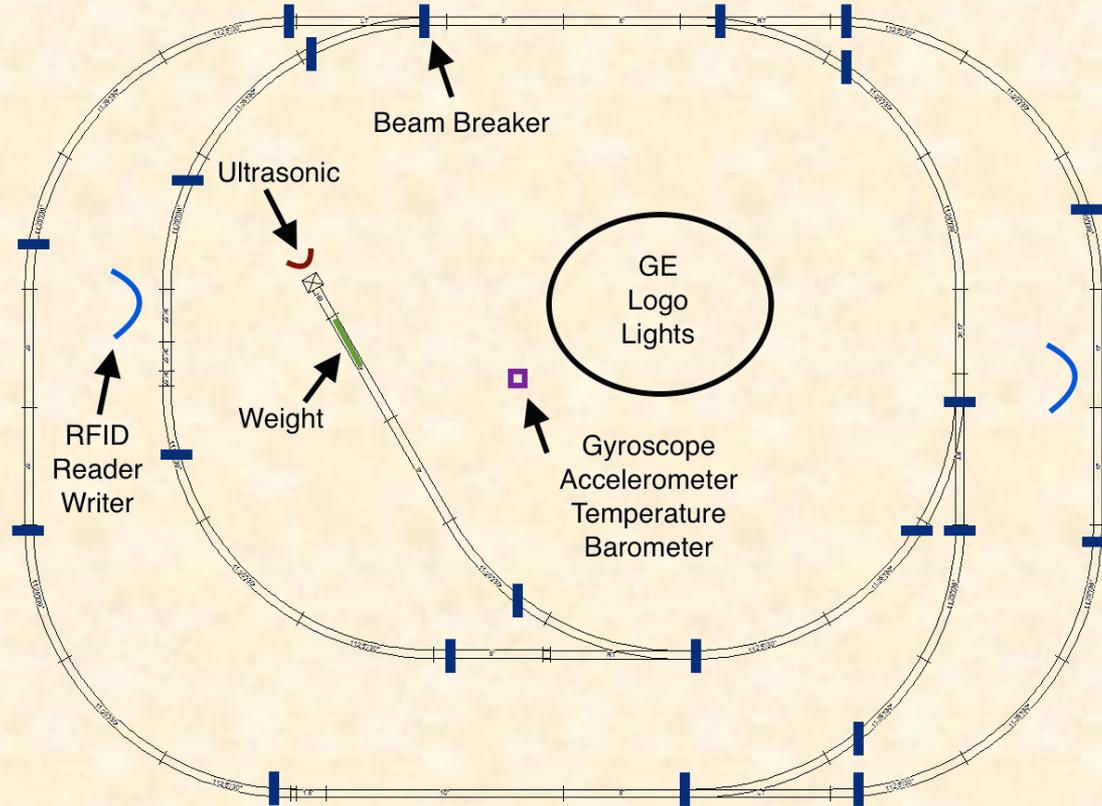


Team GE

Joshua Schwallier, Lucas Reynolds, Lama Aboubakr, Matt Sopata, Henok Alemayehu

Team GE Project Plan Presentation

Train Layout

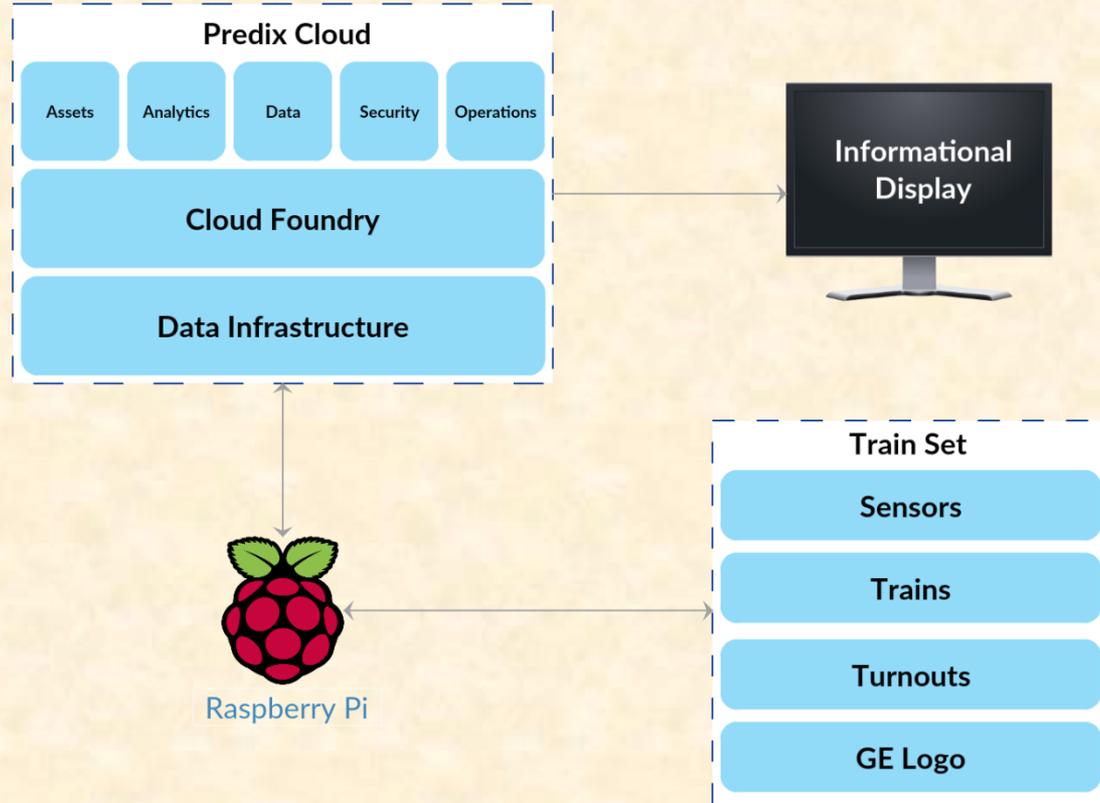




Team GE Project Plan Presentation

Team GE Project Plan Presentation

Architecture Diagram

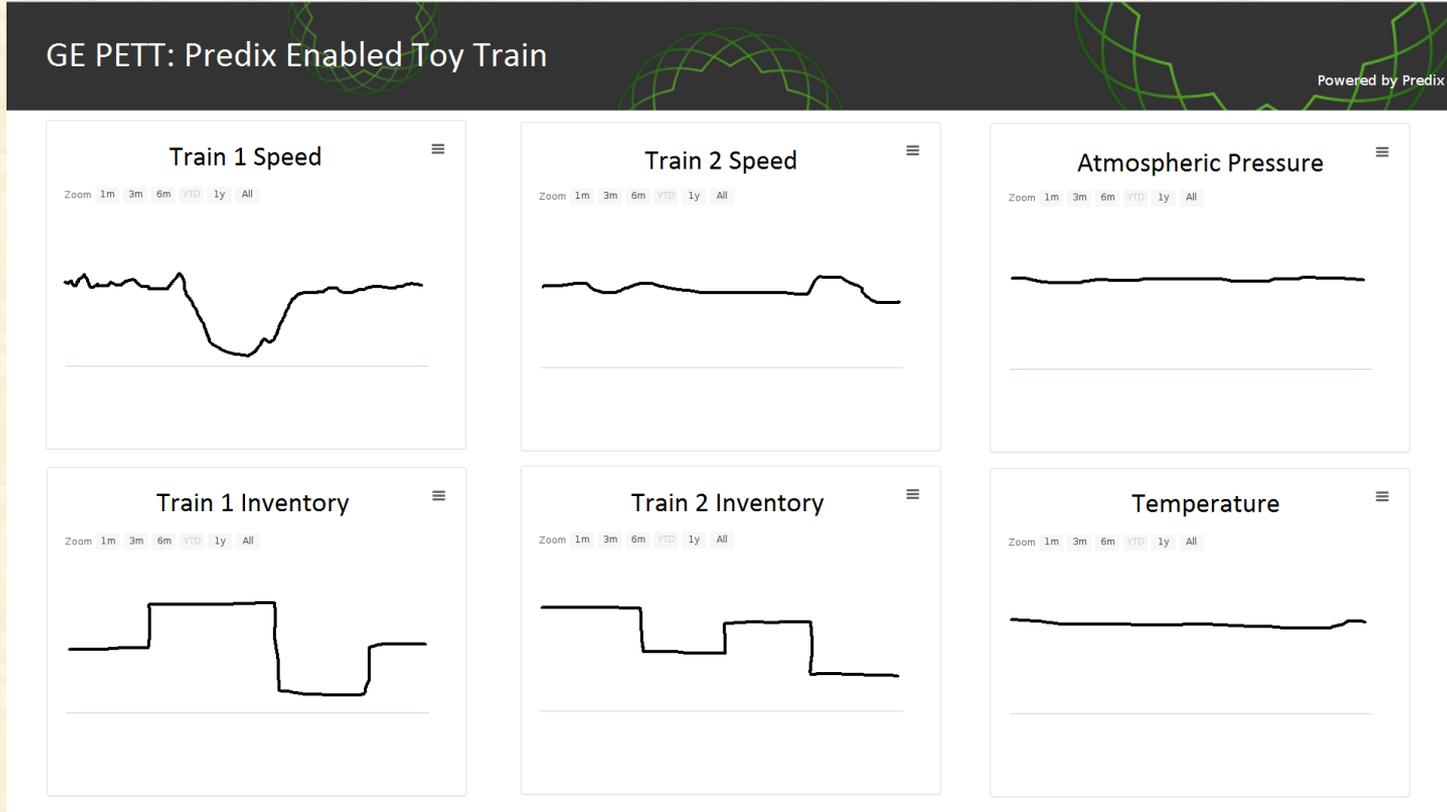




Team GE
Project Plan Presentation

Team GE Project Plan Presentation

Screen Mockup





Alpha Presentation

Predix Enabled Toy Train

The Capstone Experience Team GE

- Lucas Reynolds
- Henok Alem
- Lama Aboubakr
- Matt Sopata
- Josh Schwallier

Department of Computer Science and Engineering
Michigan State University
Spring 2017



From Students...
to Professionals!

Team GE Alpha Presentation

Team GE Alpha Presentation

e.

Sensors – Beam Breakers



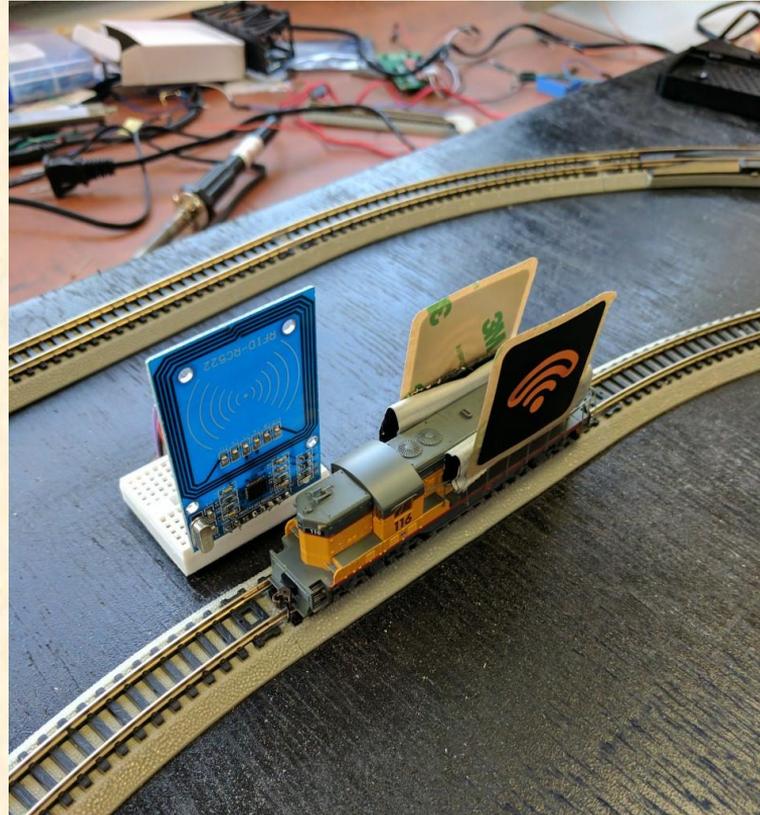
The Capstone Experience



Team GE Alpha Presentation

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Sensors – RFID Module and Tags



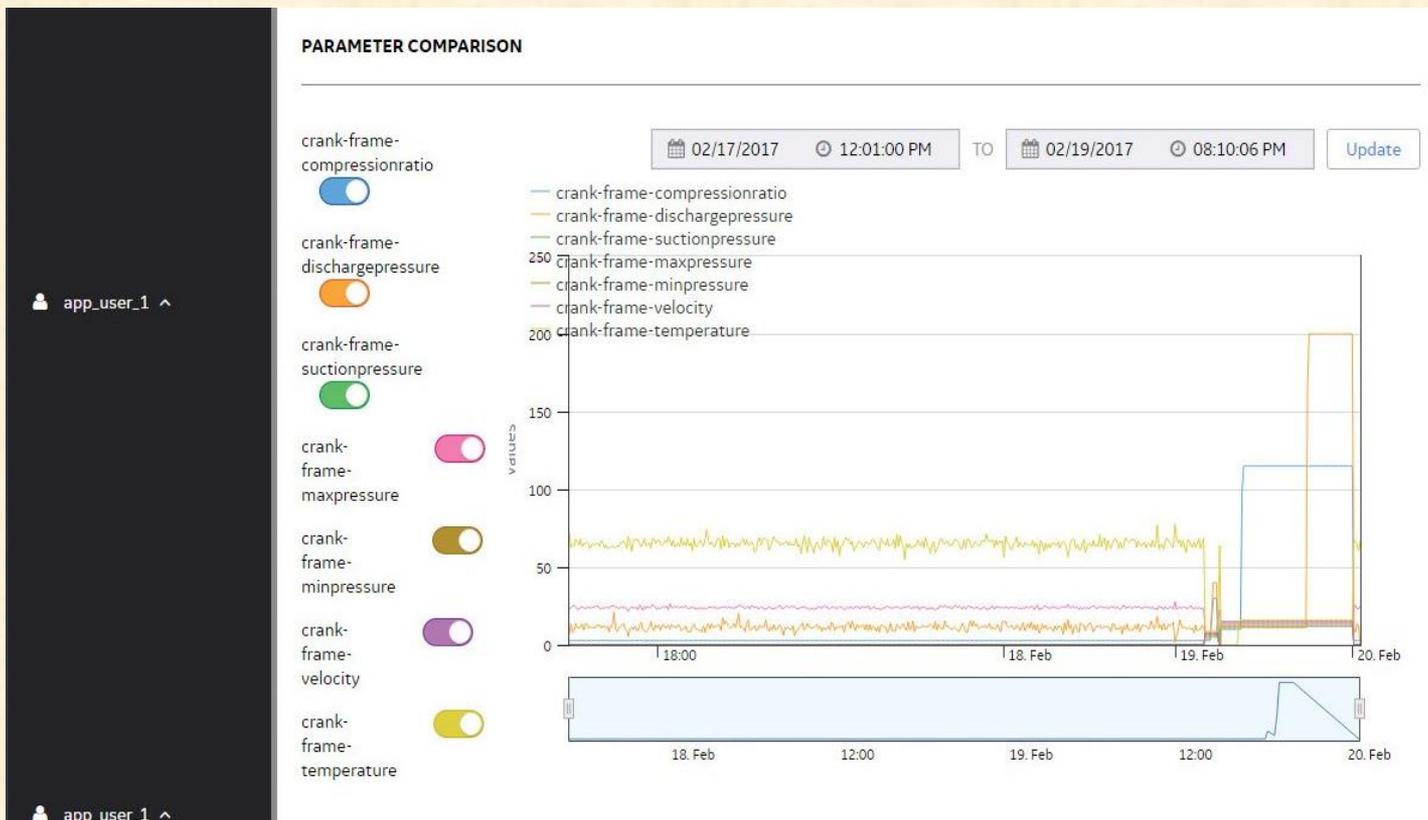


Team GE Alpha Presentation

Team GE Alpha Presentation

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Predix Dashboard



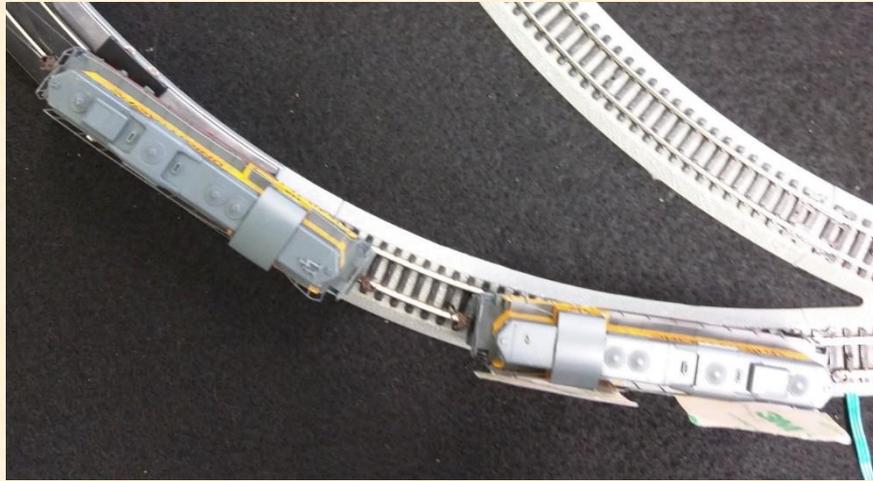


Team GE Beta Presentation

Team GE Beta Presentation

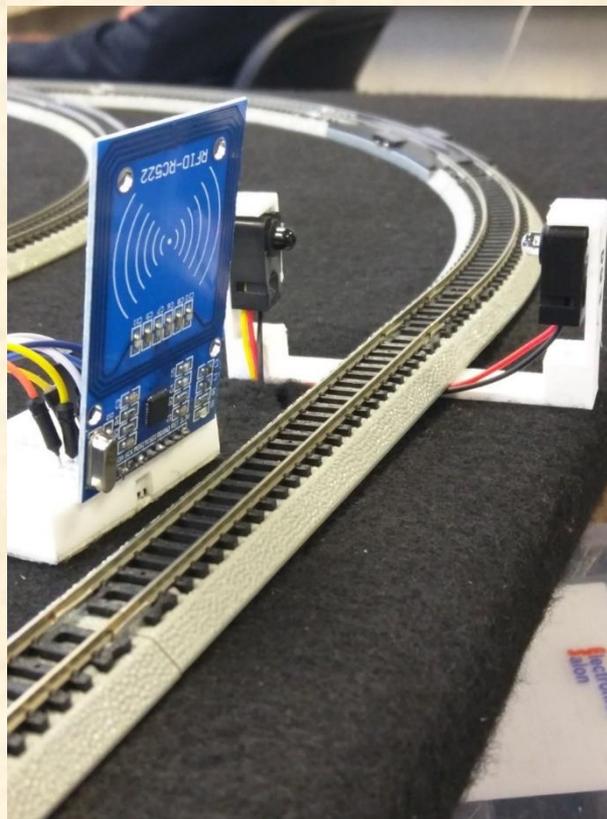
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Crash Scenarios



Team GE Beta Presentation

RFID and Beam Breakers



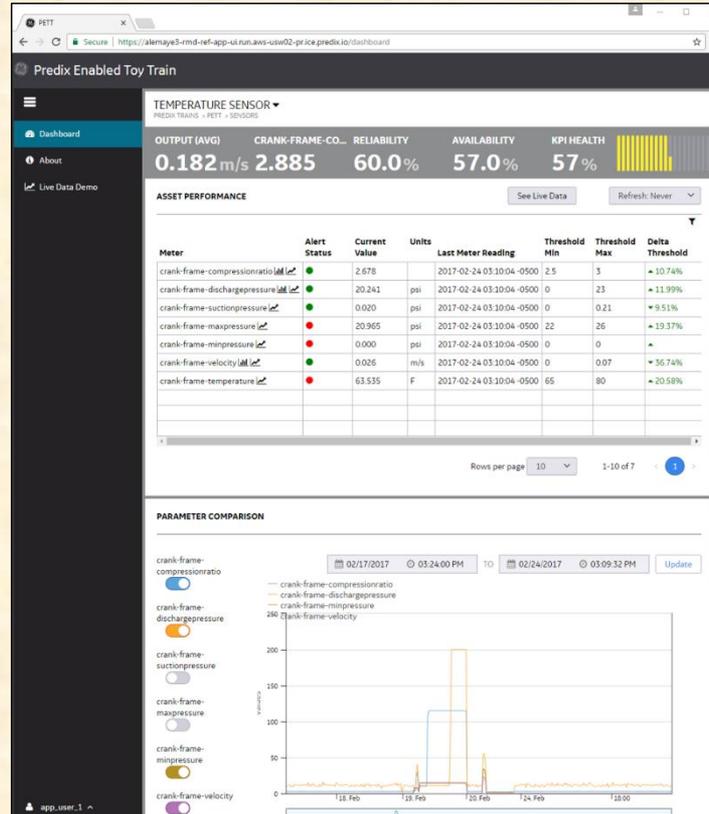


Team GE
Beta Presentation

Team GE Beta Presentation

e.

Predix Dashboard





Team GE
Design Day

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The Capstone Experience

Team GM

Department of Computer Science and Engineering
Michigan State University
Spring 2017



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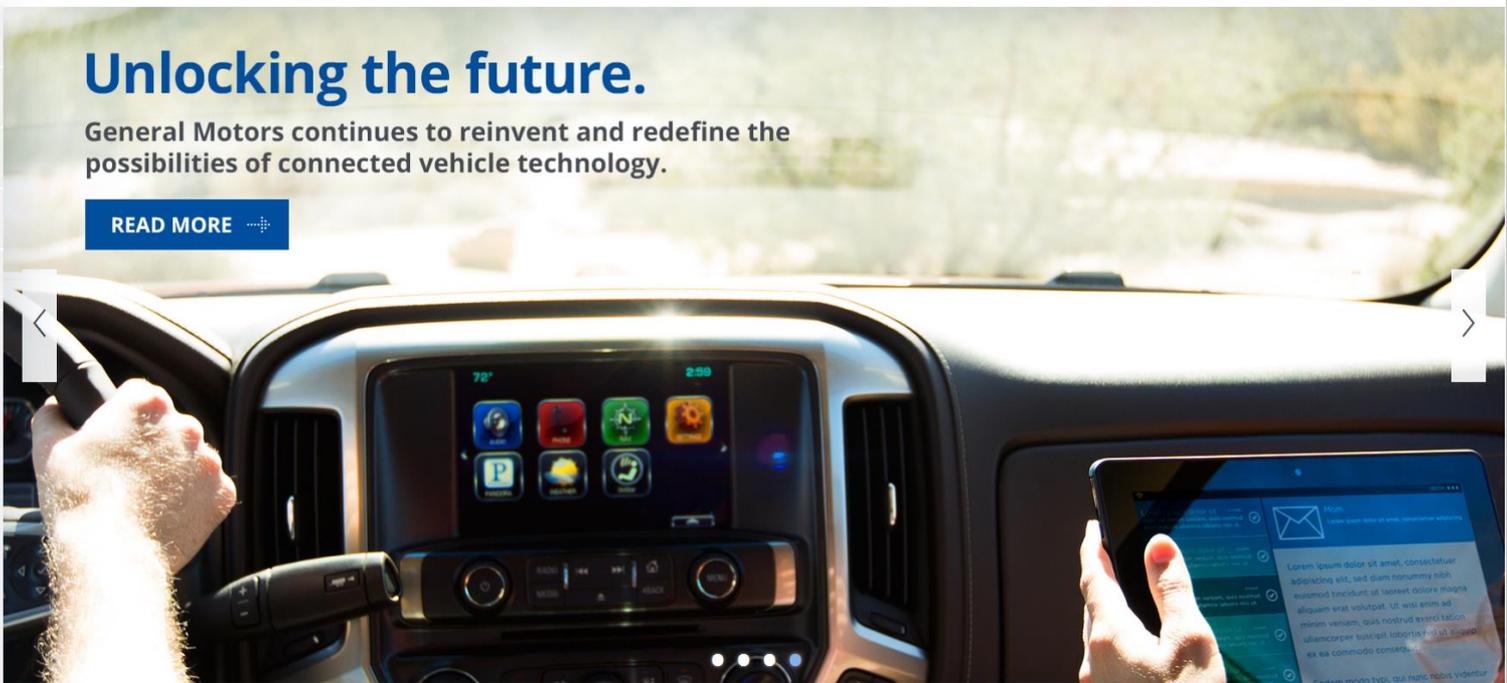
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Team GM

Project Overview

Employee Transportation Experience App

- Functionalities
 - Show Employee Where to Park on GM Campus
 - Determine Parking Space Characteristics
 - Garage
 - Metered
 - Badged
 - Display Available Shuttle Services
- Features
 - Interacts with Android Auto and Apple CarPlay
 - Leverages Geofencing
 - Provides Automatic Parking Management
 - Calls or Cancels a Lyft
 - Gives Directions to Buildings
 - Shows Shuttle Schedules
- Technologies
 - Android Auto
 - Apple CarPlay
 - Lyft API integration
 - Natural Language Processing
 - Google Maps API



Detroit, Michigan



Team GM

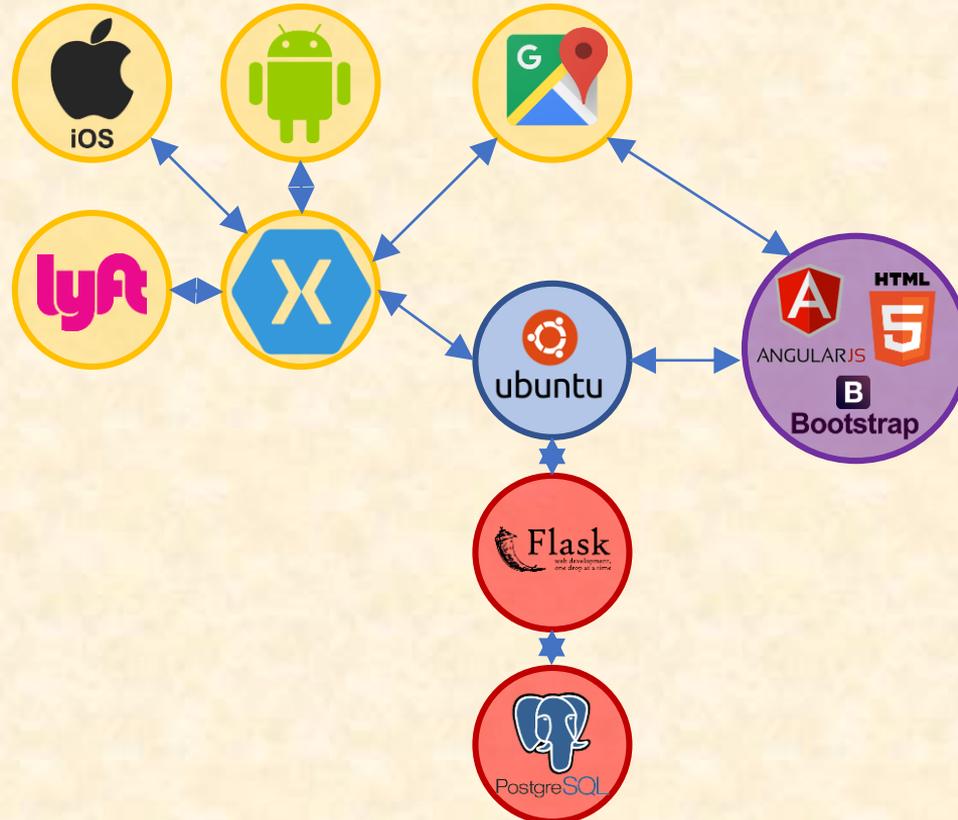
Brendan Carlson, Rob Cobau, Vince Cogswell, Phyllis Jin



Team GM Project Plan Presentation

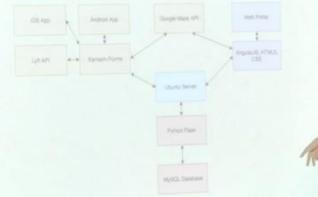
Team GM Project Plan Presentation

Architecture Diagram





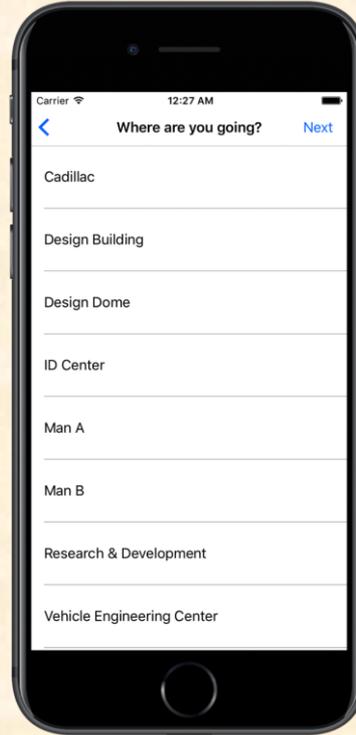
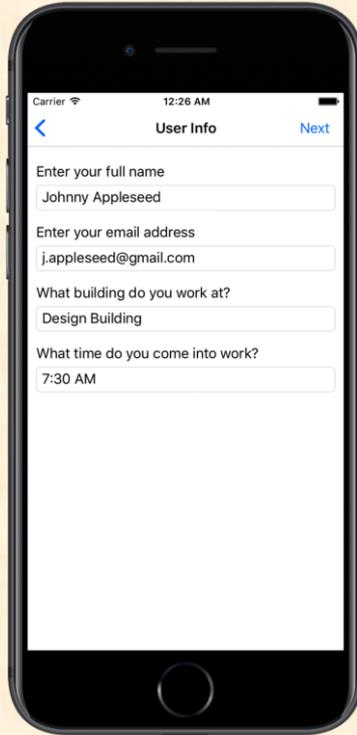
System Architecture



Team GM
Project Plan Presentation

Team GM Project Plan Presentation

Screen Mockups



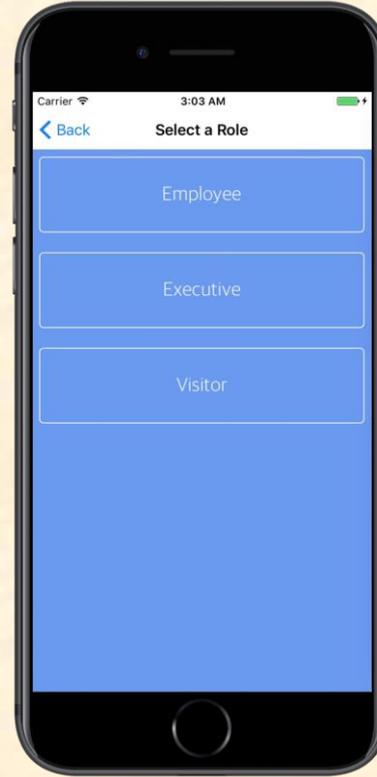


Team GM Alpha Presentation

Team GM Alpha Presentation

e.

Login Screen



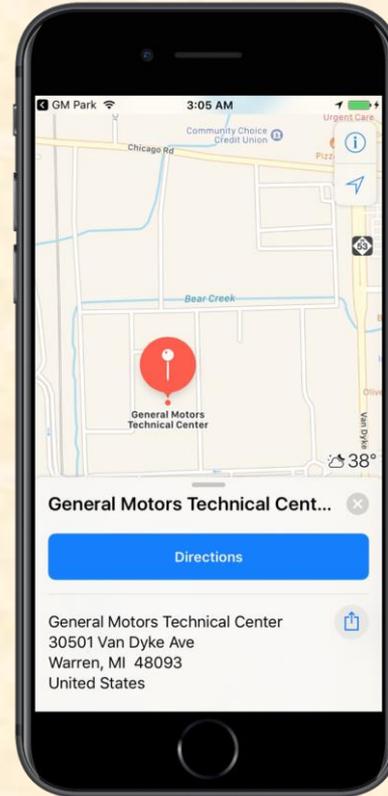
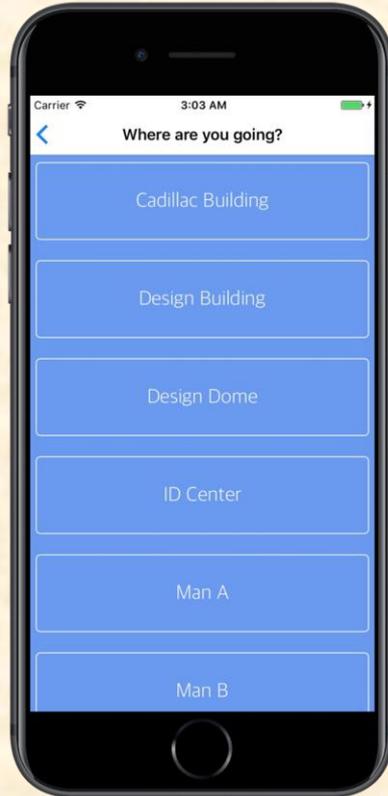
The Capstone Experience



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e.

Building Selection



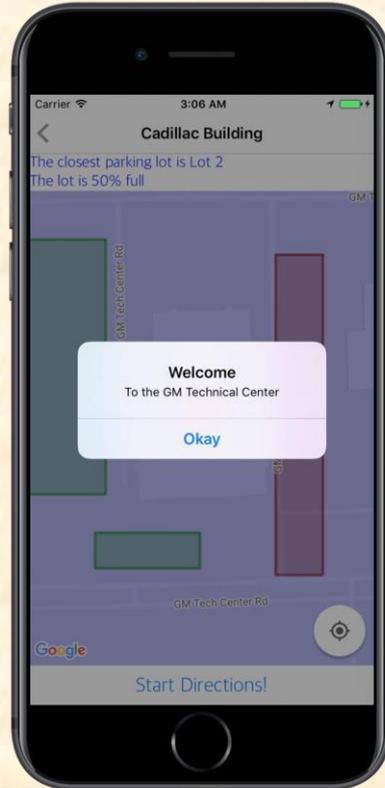


Team GM Alpha Presentation

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e.

Building Located



The Capstone Experience



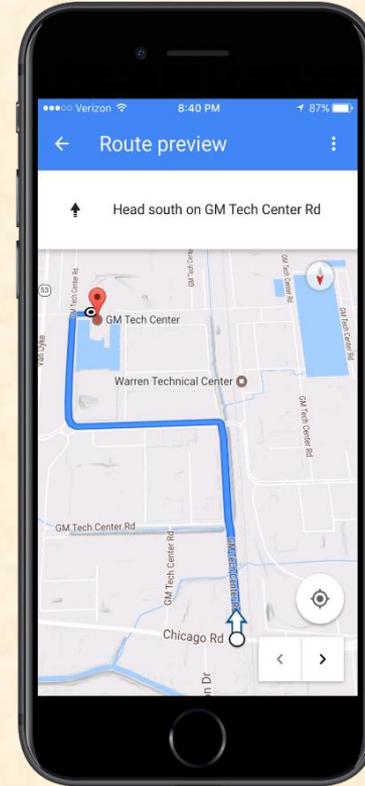
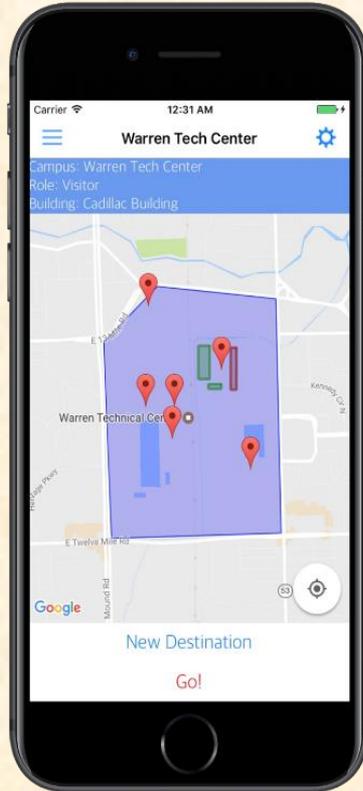


Team GM Beta Presentation

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e.

Home Page and Navigation



Team GM Beta Presentation

e.

Web Portal: Campuses Page

GM Transportation Experience x

35.9.22.105/static/#!/campuses

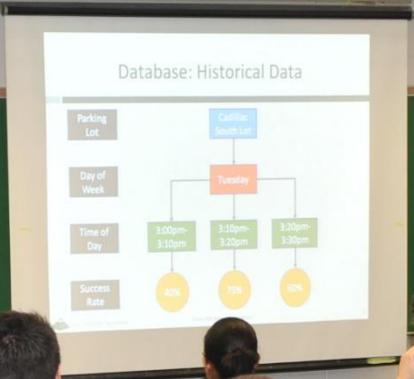
Campuses

+ Add Campus

Name	Status	Roles	No. of Buildings	No. of Parking Lots	No. of Gates
GM Technical Center	Active	Executive, Employee, Visitor	2	3	1

The Capstone Experience





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e.

Web Portal: Add a Campus

The screenshot displays a web browser window with the URL `35.9.22.105/static/#/campuses`. The page title is "Campuses". On the left, there is a map of the United States with a red pin over the Warren, Michigan area. Below the map is a green button labeled "+ Add Campus".

The main content area is titled "Add Campus" and contains the following form elements:

- Name:** A text input field containing "Warren Tech Center".
- Roles:** Three stacked text input fields containing "Employee", "Executive", and "Visitor". To the right of each field is a red circular button with a white minus sign.
- + Add Role:** A green button with a white plus sign and the text "Add Role".
- Location:** A map showing the "Warren Technical Center, GM Tech Center Road, Warren, MI, United States". The map includes a street view and a red outline of the campus perimeter. Below the map is a green button labeled "+ Add Campus".

At the bottom of the page, there is a table with the following data:

Name	No. of Gates
GM Technical Center	1



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Team Humana

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Michigan State University
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Humana



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Sign In

Medicare

Insurance

Health & Wellness

Member Resources

Now is the time to enroll in a 2017 Medicare plan

Shop now

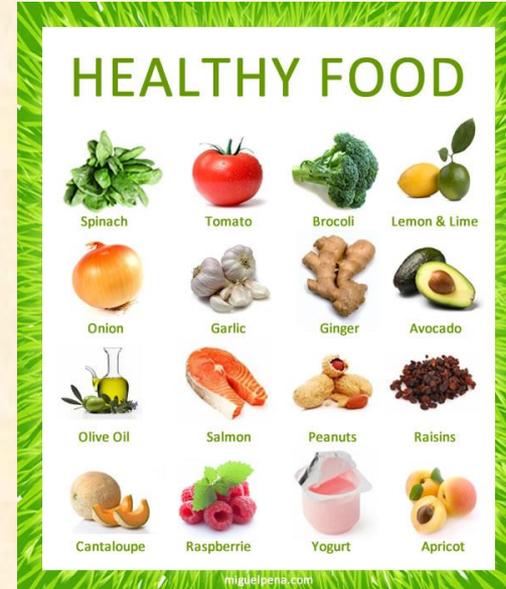
Feedback



Team Humana Project Overview

Humana Kids

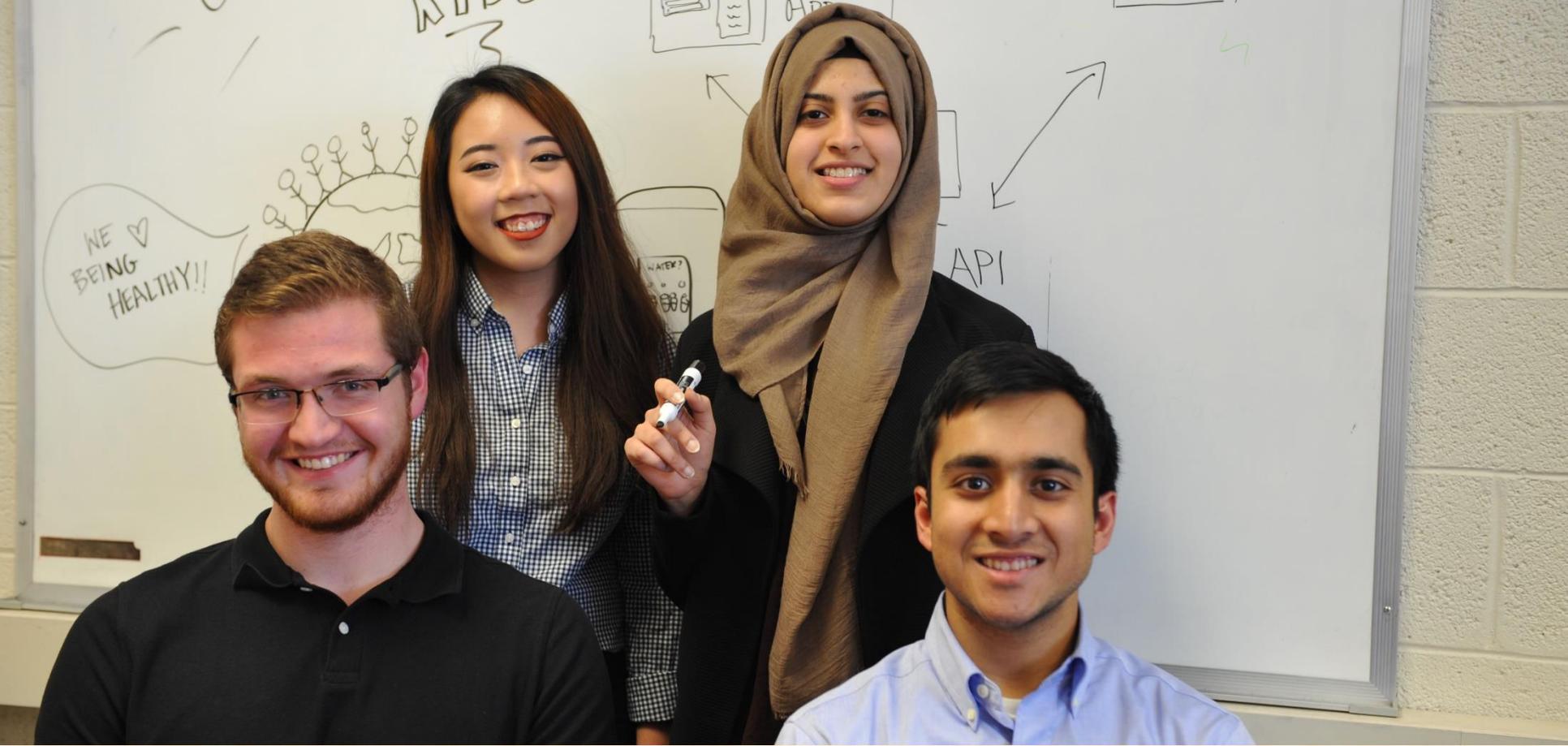
- Functionalities
 - Reduce Obesity in Kids
 - Teach Kids and Parents About Nutrition
 - Encourage Healthy Behavior in Kids
- Features
 - Usable by 6 – 12 Year Olds
 - Implement as Android Launcher
 - Handle Various Interactions
 - Surveys for Parents and Kids
 - Tips for Parents
 - Quizzes for Kids
 - Include Coins and Badges as Awards
 - Utilize Natural Language Processing and Machine Learning
 - Provide Web App for Parents
- Technologies
 - Google Android Tablets and Phones / Java
 - Android Studio
 - Natural Language Processing
 - Machine Learning
 - Web Application Frameworks (Django, Ruby)



Humana

Louisville, Kentucky





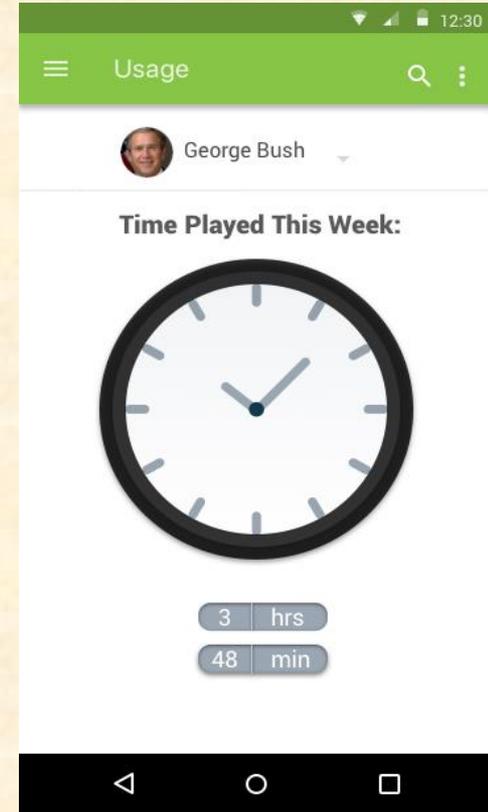
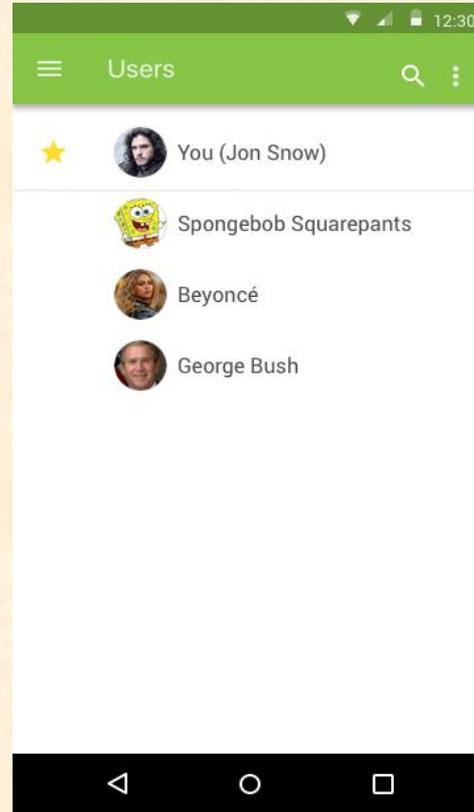
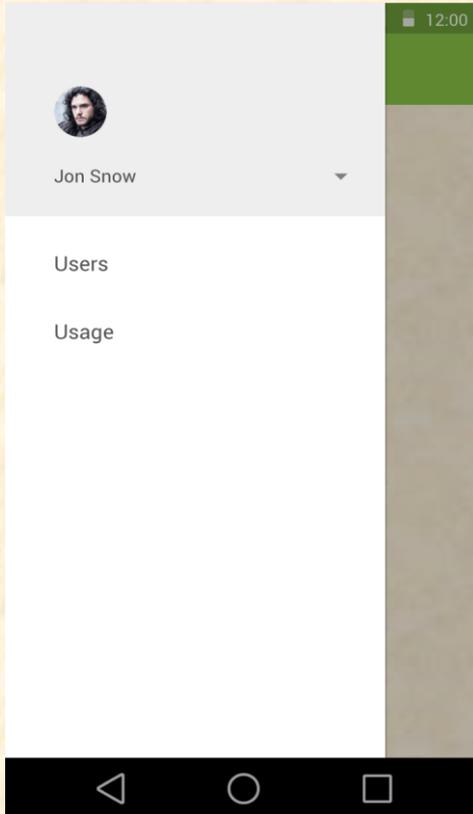
Team Humana

Mike Hanlon, Lisa Doan, Yaqeen Almahdi, Ayush Agrawal

Team Humana Project Plan Presentation

e.

Screen Mockups

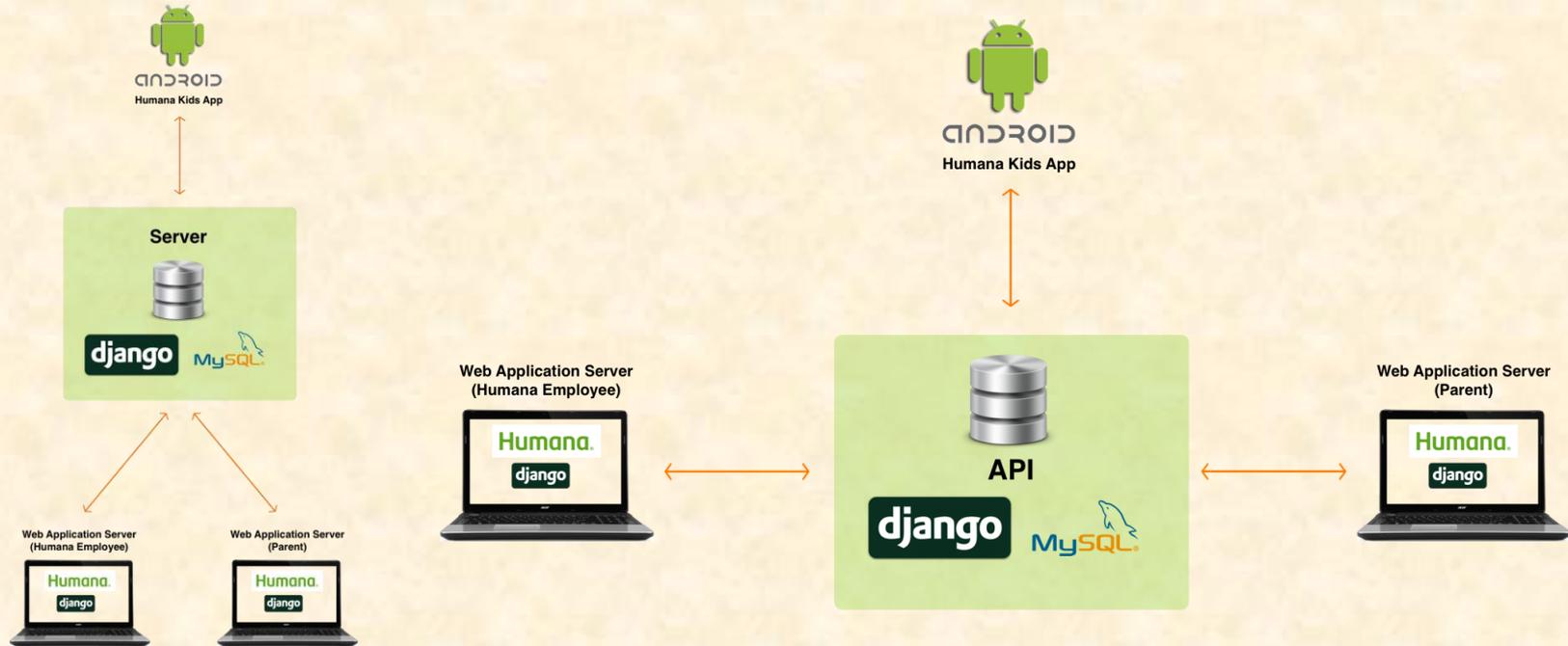




Team Humana Project Plan Presentation

Team Humana Project Plan Presentation

Architecture Diagram





Team Humana Project Plan Presentation

Team Humana Project Plan Presentation

e.

Screen Mockup

Welcome to Humana.

Create your account by filling the form below.

Email
imhealthy@gmail.com

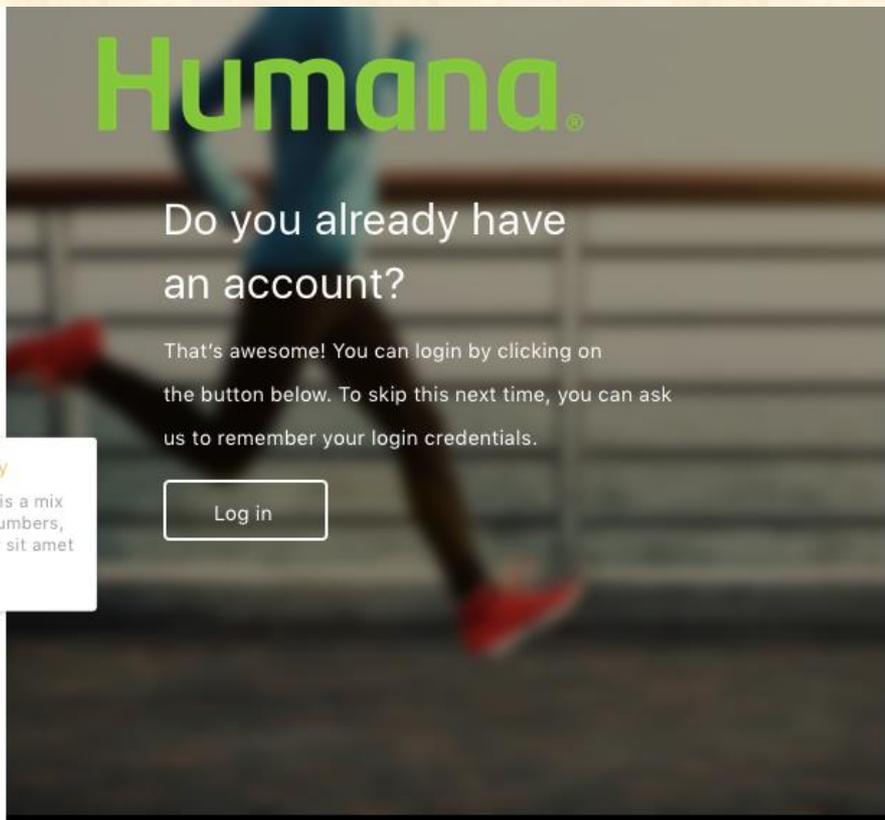
Password
●●●●●●●●

Remember me.

Sign up

© 2017 Humana, IncTerms Privacy ●●●

Medium security
A good password is a mix with letters and numbers, lorem ipsum dolor sit amet et unc secetur.



The Capstone Experience



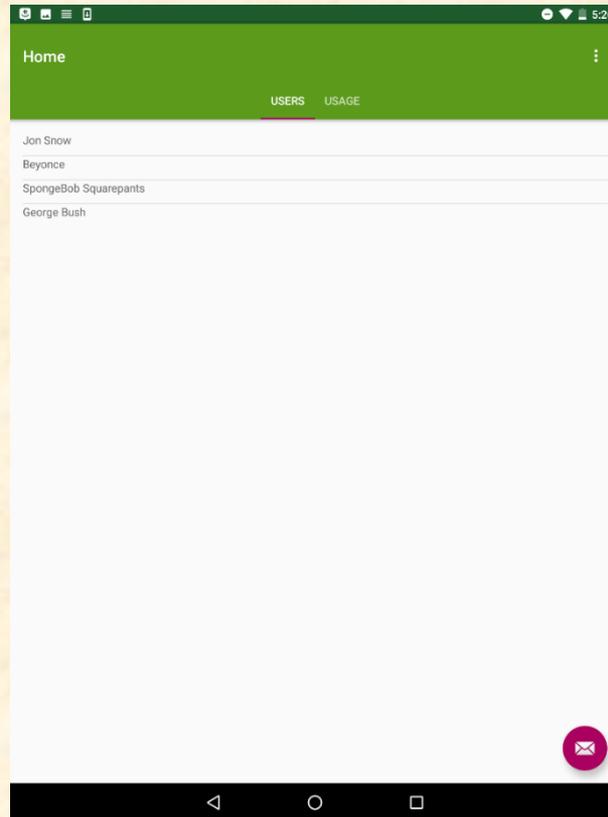


Team Humana
Alpha Presentation

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e.

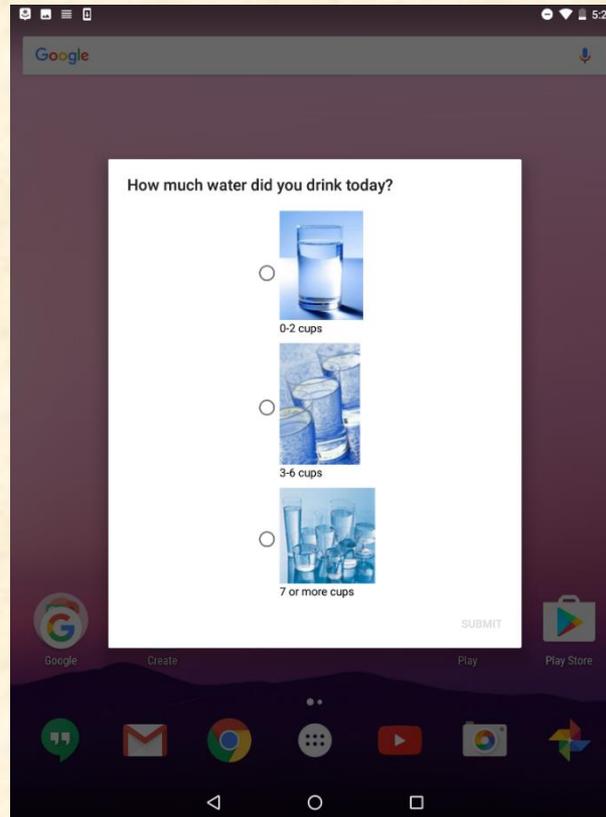
Mobile App Parent Homepage



Team Humana Alpha Presentation

e.

Survey Pop-up



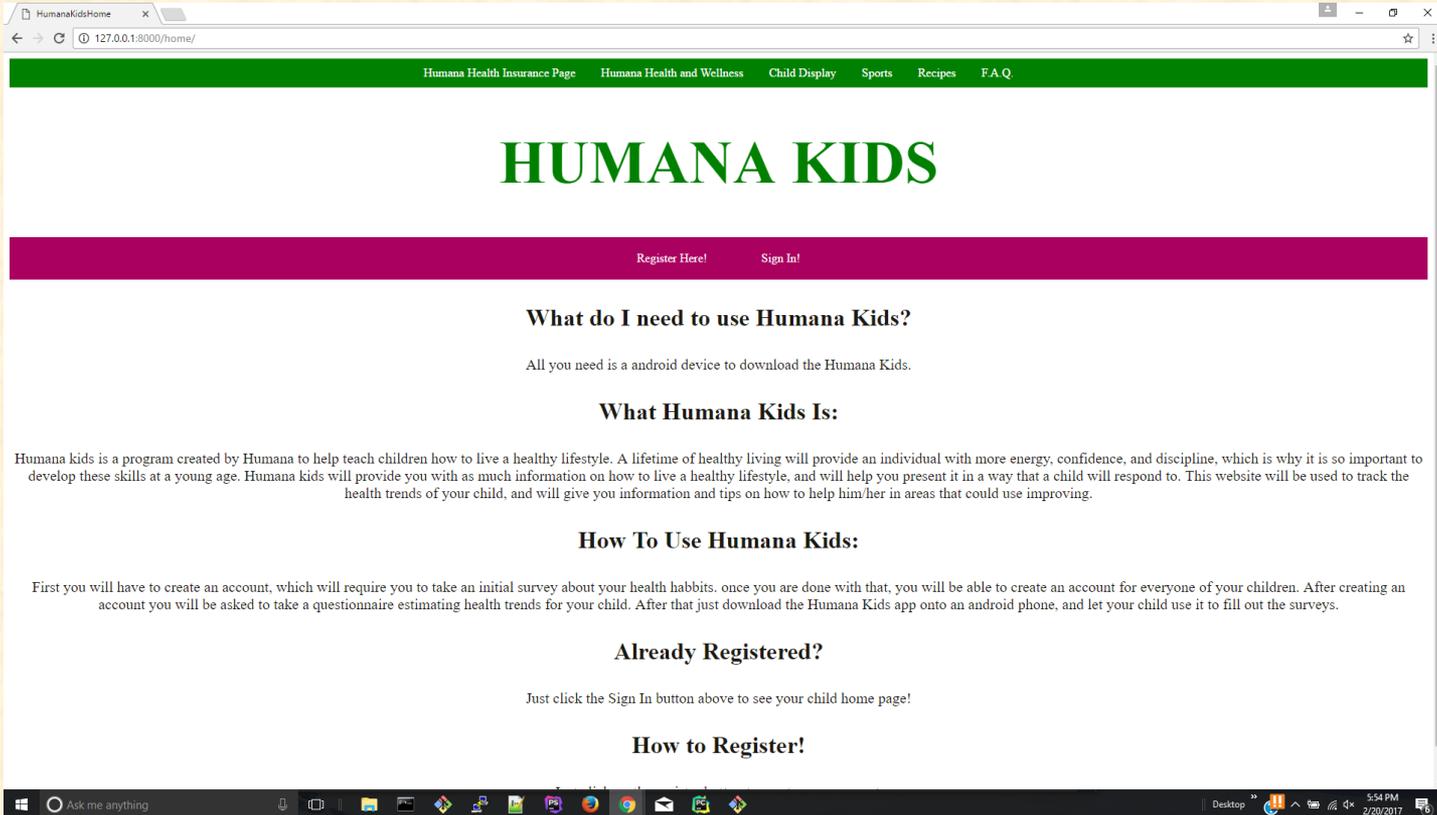


Team Humana Alpha Presentation

Team Humana Alpha Presentation

e.

Web App Homepage



The screenshot shows a web browser window with the URL 127.0.0.1:8000/home/. The page features a green navigation bar with links: Humana Health Insurance Page, Humana Health and Wellness, Child Display, Sports, Recipes, and F.A.Q. Below the navigation bar is a large green header with the text "HUMANA KIDS". A purple bar contains two buttons: "Register Here!" and "Sign In!". The main content area includes sections for "What do I need to use Humana Kids?", "What Humana Kids Is:", "How To Use Humana Kids:", and "Already Registered?".

Humana Health Insurance Page Humana Health and Wellness Child Display Sports Recipes F.A.Q.

HUMANA KIDS

[Register Here!](#) [Sign In!](#)

What do I need to use Humana Kids?

All you need is a android device to download the Humana Kids.

What Humana Kids Is:

Humana kids is a program created by Humana to help teach children how to live a healthy lifestyle. A lifetime of healthy living will provide an individual with more energy, confidence, and discipline, which is why it is so important to develop these skills at a young age. Humana kids will provide you with as much information on how to live a healthy lifestyle, and will help you present it in a way that a child will respond to. This website will be used to track the health trends of your child, and will give you information and tips on how to help him/her in areas that could use improving.

How To Use Humana Kids:

First you will have to create an account, which will require you to take an initial survey about your health habits. once you are done with that, you will be able to create an account for everyone of your children. After creating an account you will be asked to take a questionnaire estimating health trends for your child. After that just download the Humana Kids app onto an android phone, and let your child use it to fill out the surveys.

Already Registered?

Just click the Sign In button above to see your child home page!

How to Register!



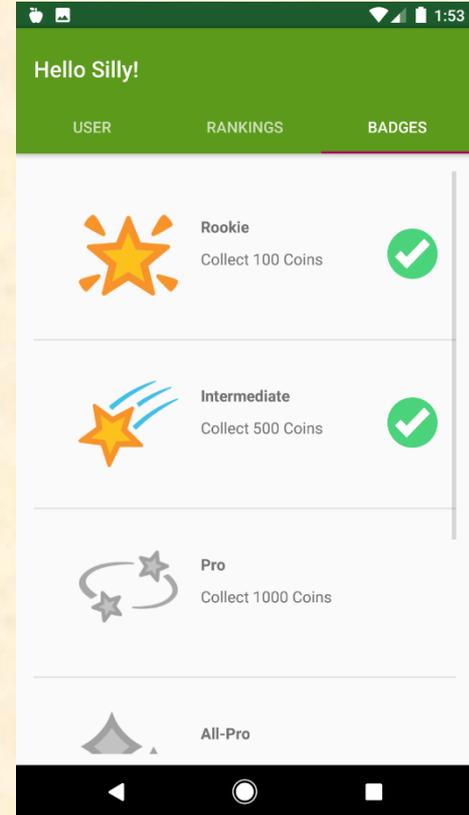
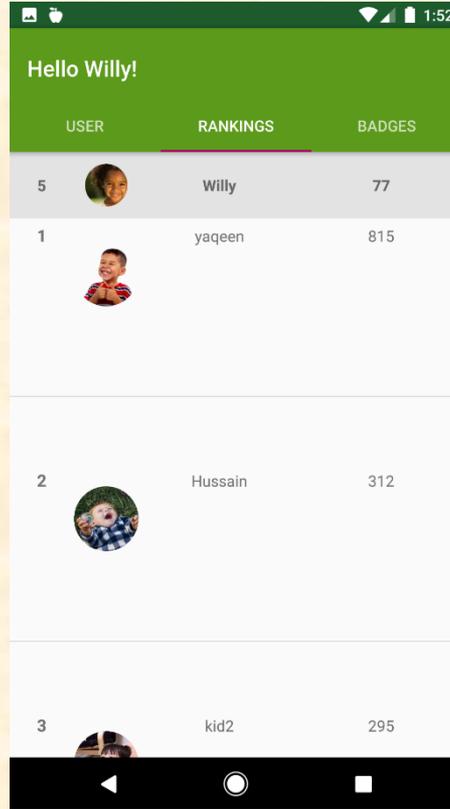
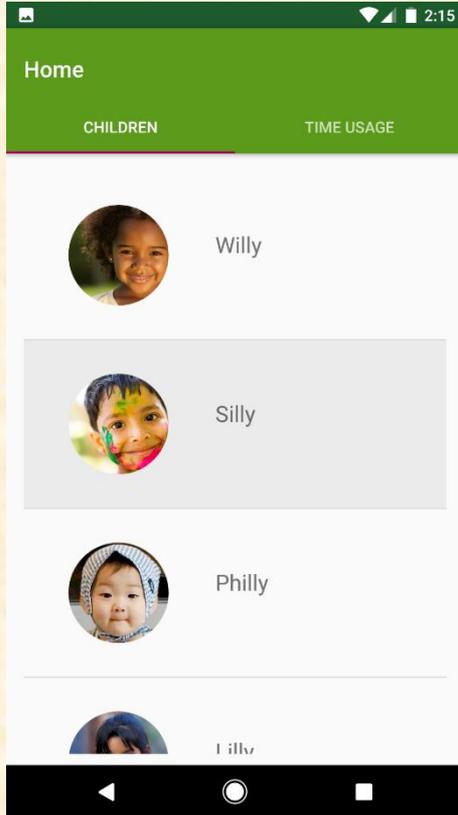


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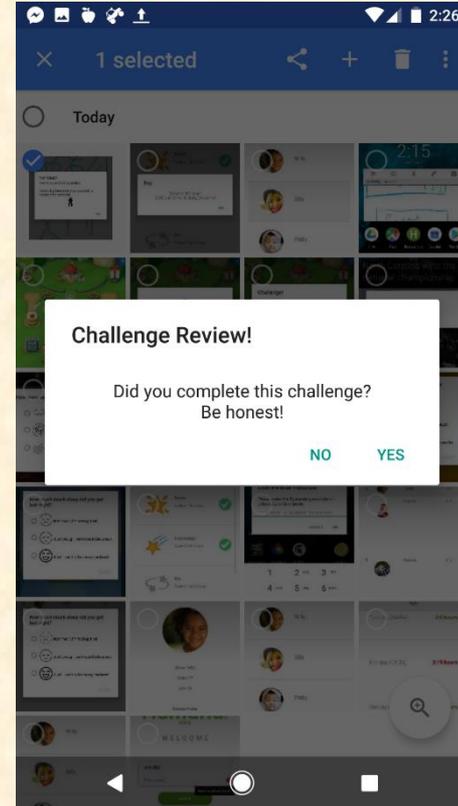
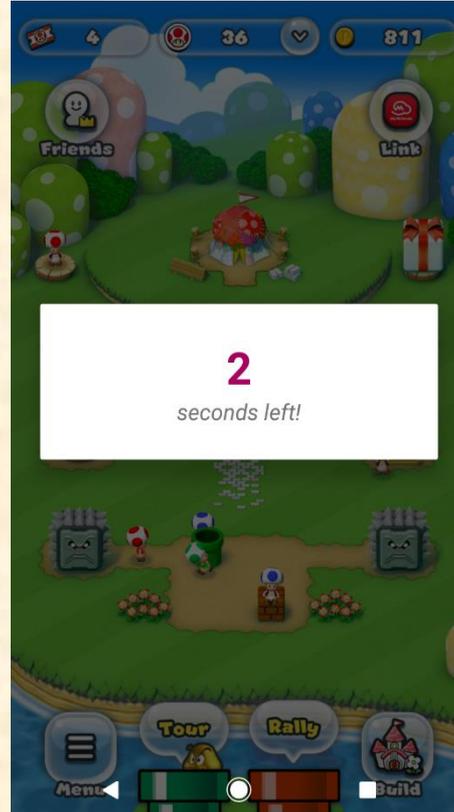
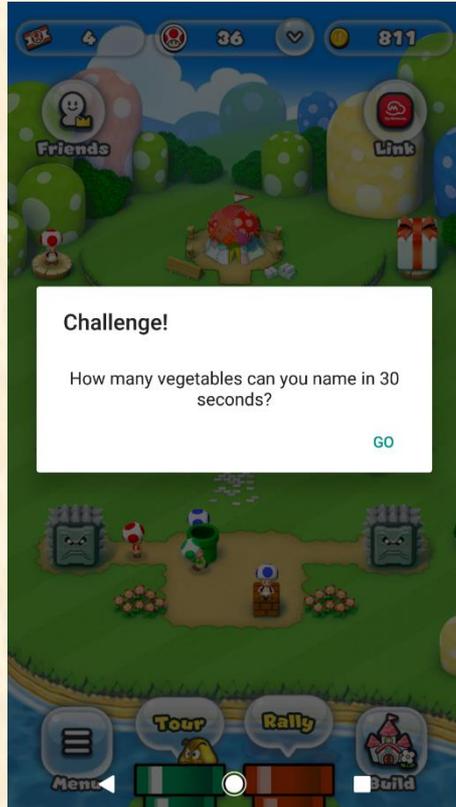
Mobile App



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e.

Challenge Pop-Up

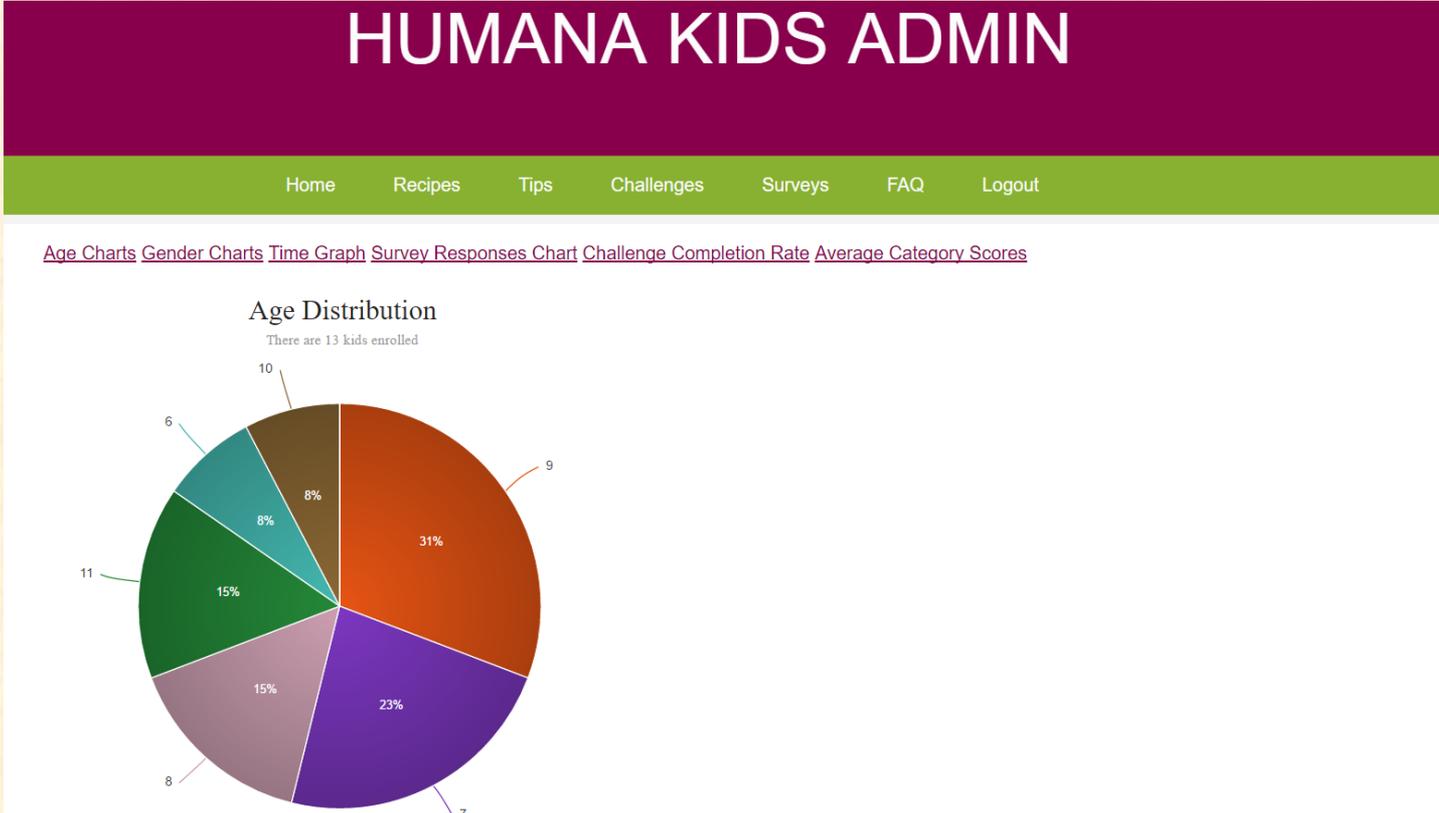




Team Humana Beta Presentation

Team Humana Beta Presentation

Web App: Admin Graph



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Team Meijer

Department of Computer Science and Engineering
Michigan State University
Spring 2017



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Sign In

Create Account

FAQ | About mPerks | Contact Us



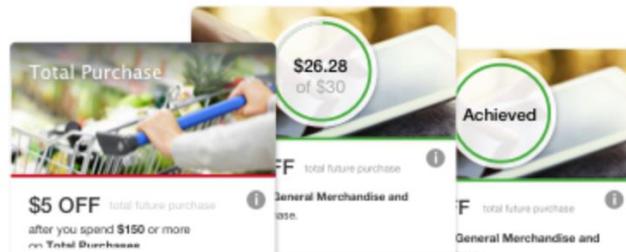
you're minutes
from saving

Join Now

Sign up for free & get the most
out of your trips to Meijer

Rewards

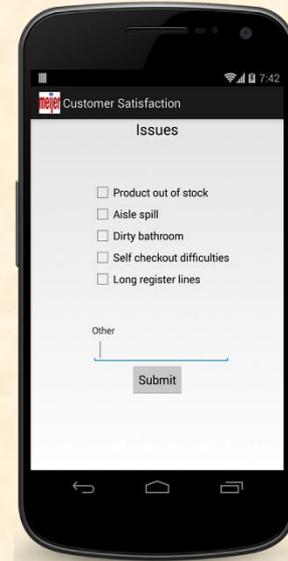
Get rewarded for the way you shop at Meijer, plus earn extra savings with Pharmacy and mCard Rewards. Rewards apply when you enter your mPerks ID and PIN at checkout



Team Meijer Project Overview

MyMeijer: Crowdsourcing Shopping

- Functionalities
 - Improve In-Store Shopping Experience Immediately
 - Feedback from Customers
 - Response by Store Team Members
 - Provide Companion Mobile Apps
 - Reward Users for Participation
- Features
 - Link with mPerks Account
 - Support Various Feedback
 - Item Out-of-Stock by Scanning UPC
 - Concern with Cleanliness via Location Tracking
 - Request for Assistance
 - Provide Web App for Corporate Scoreboard
- Technologies
 - Xamarin Mobile App Development
 - Bluebird Mobile Device Development
 - Microsoft .NET Framework
 - Microsoft Visual Studio Team Server
 - Microsoft Azure Services
 - C#, ASP.NET MVC, ASP.NET Web API, HTML 5, .NET 5
 - Hockey App for Deployment
 - Meijer Web Services
 - SQL Server / Mongo Database
 - App Insights for Analytics

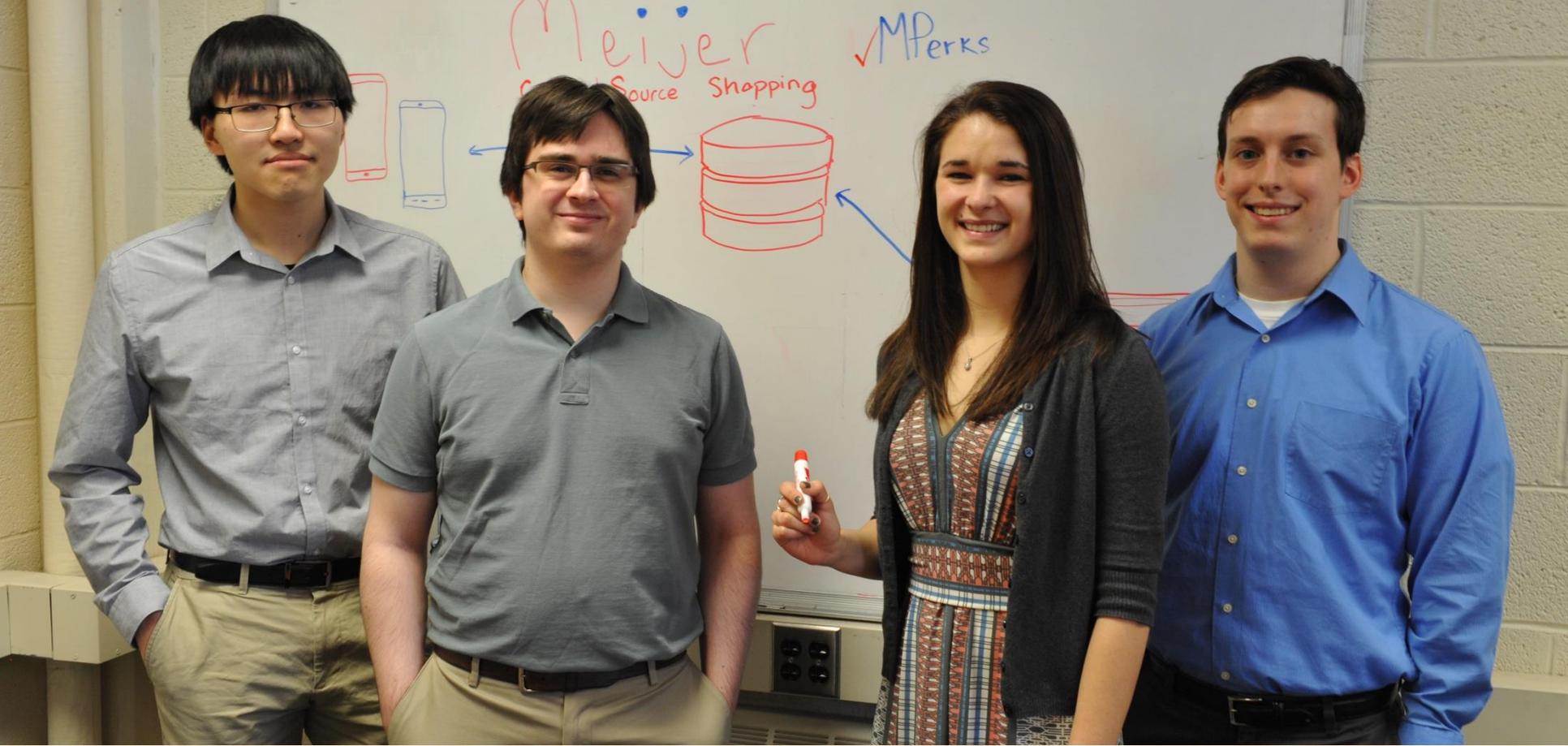


meijer[®]

Grand Rapids, Michigan

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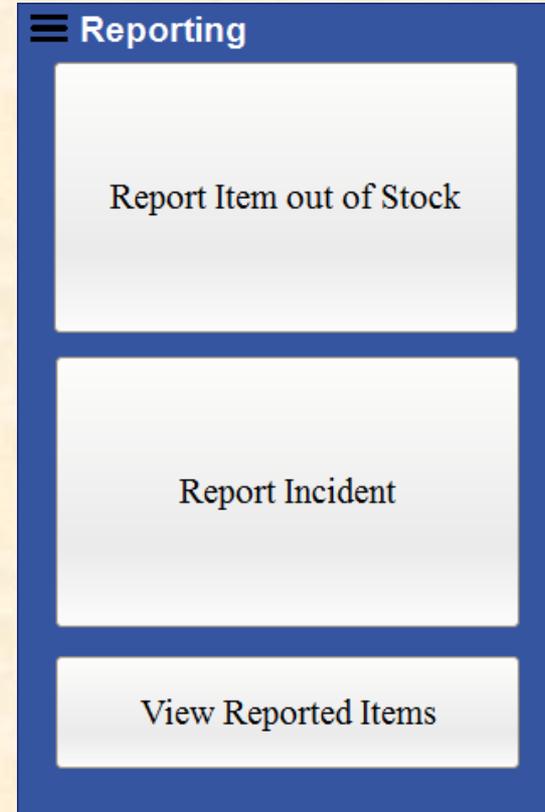
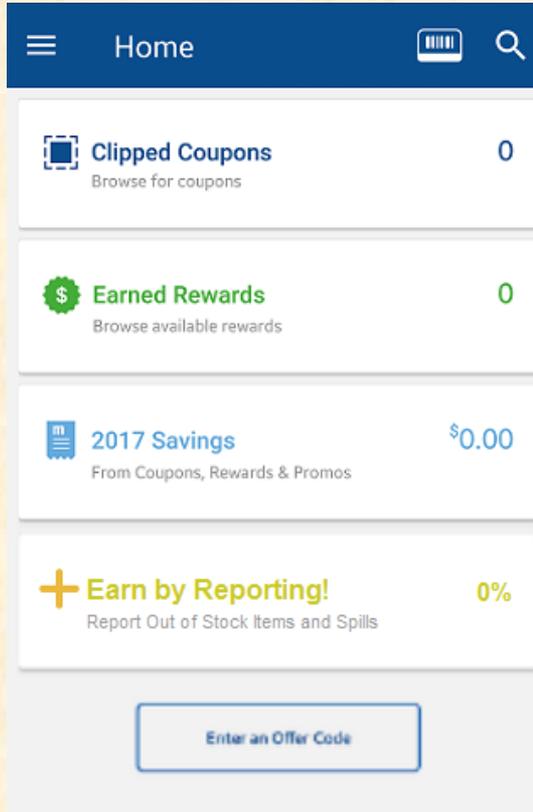
Team Meijer

Mike Mei, Mark Mangliers, Nancy Krutty, Matt Bender

Team Meijer Project Plan Presentation

e.

Screen Mockups

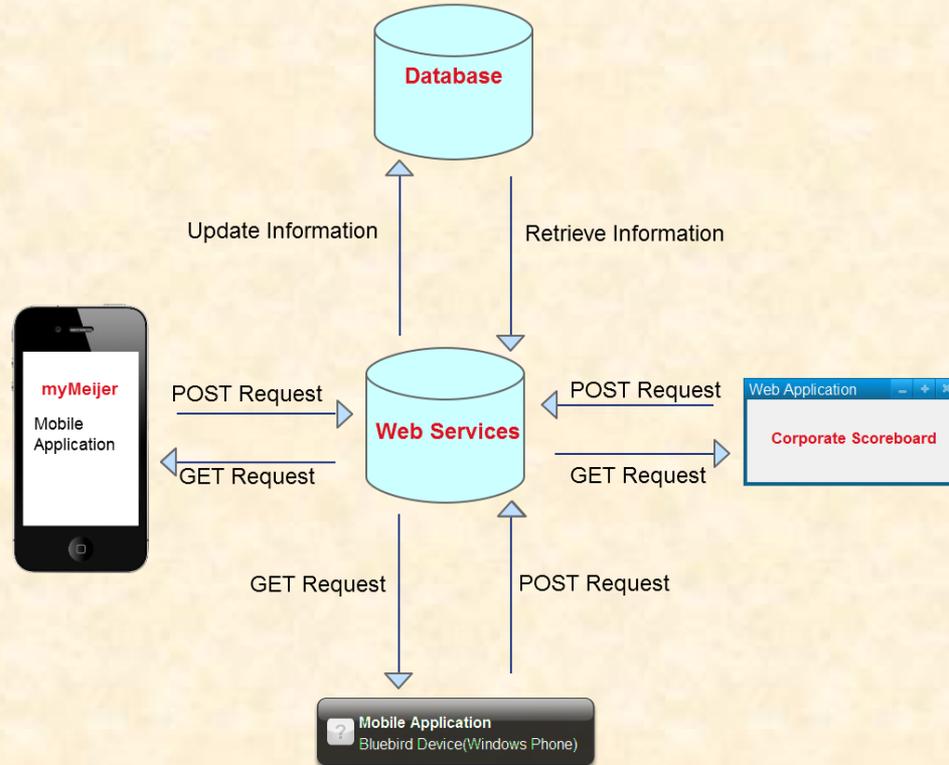


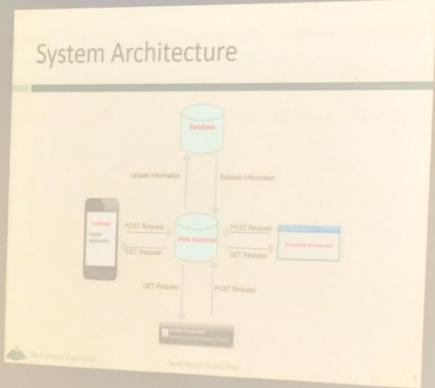


Team Meijer Project Plan Presentation

Team Meijer Project Plan Presentation

Architecture Diagram



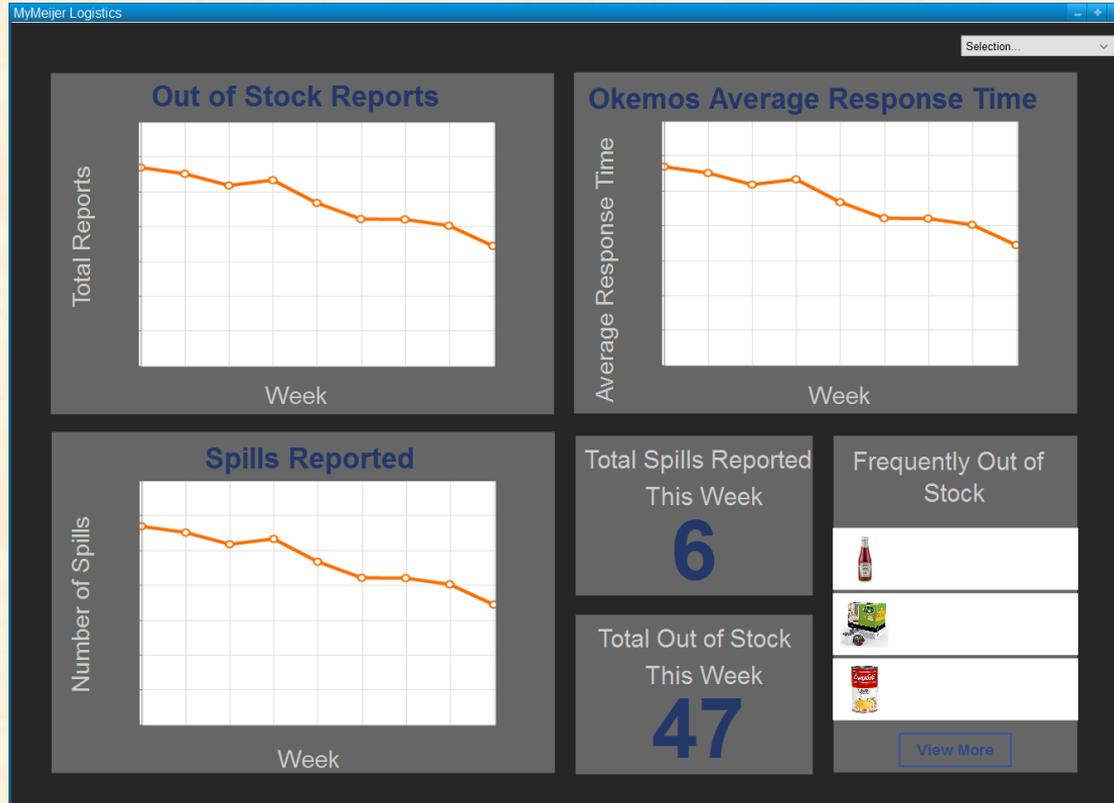


Team Meijer
Project Plan Presentation

Team Meijer Project Plan Presentation

e.

Screen Mockup



The Capstone Experience



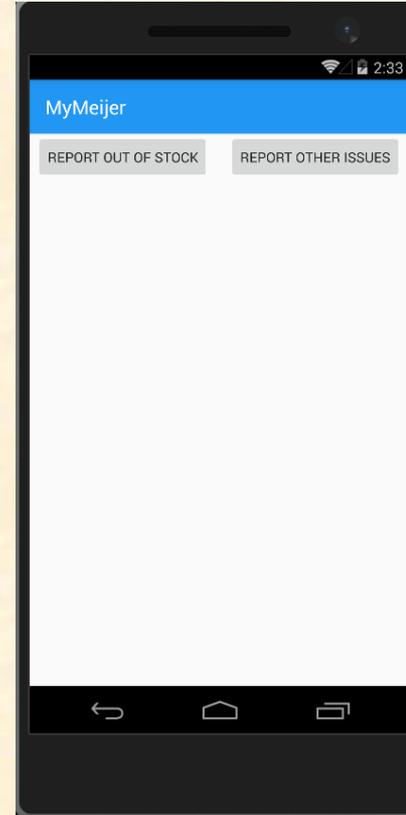


Team Meijer Alpha Presentation

Team Meijer Alpha Presentation

e.

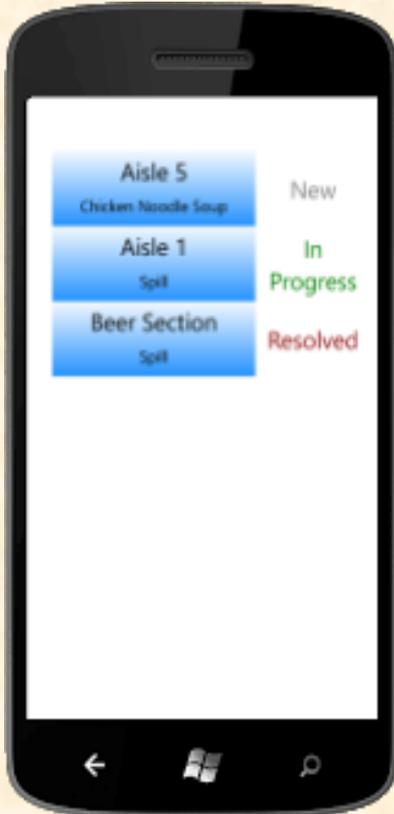
Shopper Application



Team Meijer Alpha Presentation

e.

Meijer Team Member App



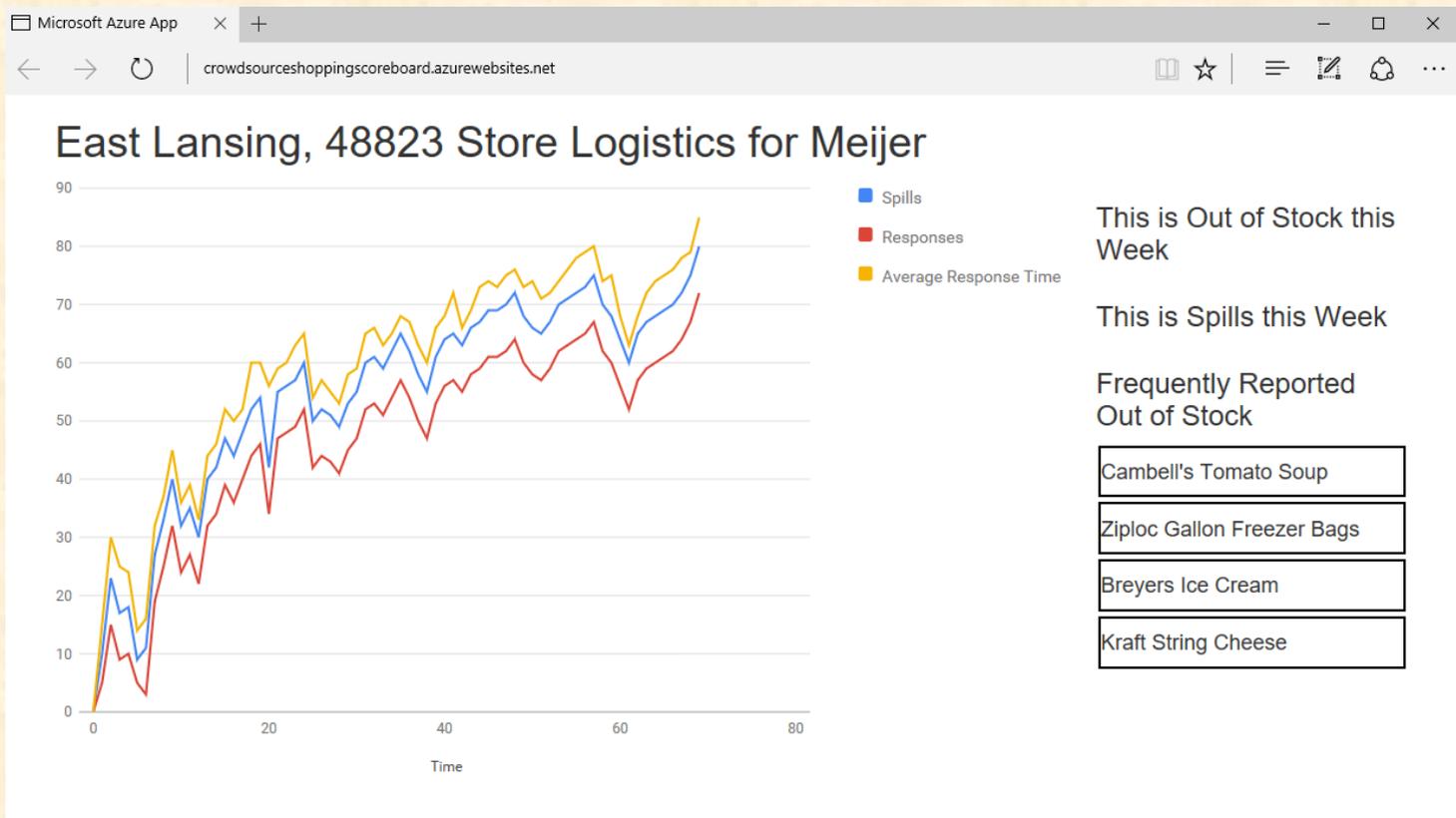


Team Meijer Alpha Presentation

Team Meijer Alpha Presentation

e.

Meijer Corporate Web App



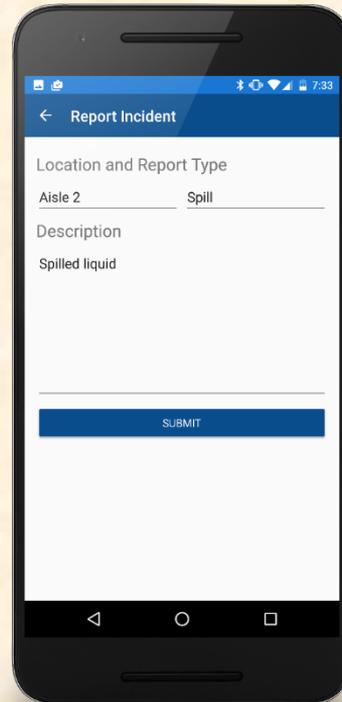
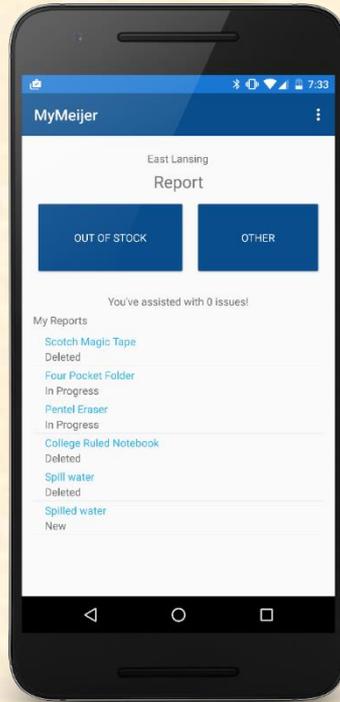


Team Meijer Beta Presentation

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Consumer App



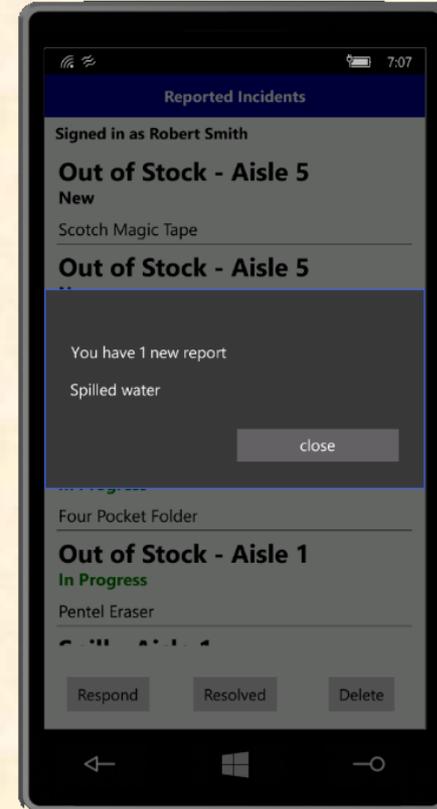
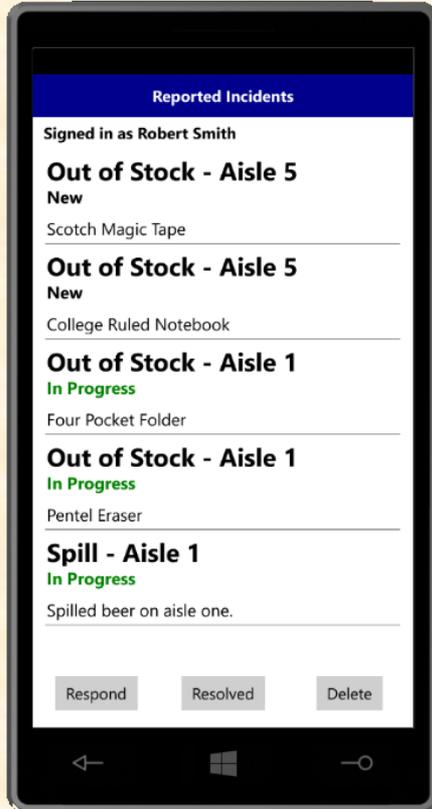
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Meijer Associate App





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Corporate Web App

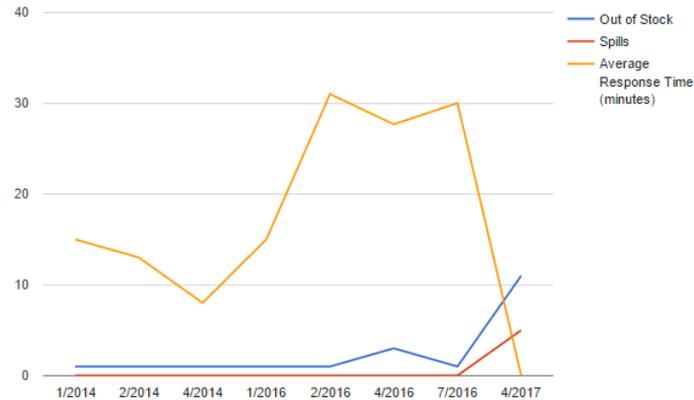


ALL LOCATIONS

Select time frame...

Select Meijer Location

MyMeijer Crowdsource Shopping



Reported Out of Stock this Month

11

Spills Reported this Month

5

Frequently Reported Out of Stock

Months to look back...

Scotch Magic Tape
Reported: 4 times

College Ruled Notebook
Reported: 3 times

Four Pocket Folder
Reported: 2 times



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Team Michigan State University

Department of Computer Science and Engineering
Michigan State University
Spring 2017



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2016

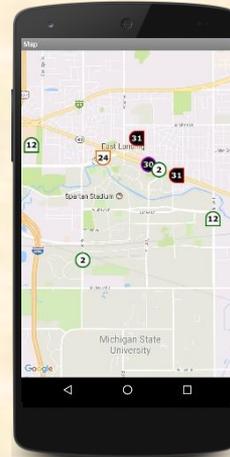
Year in Review

[VIEW VIDEO](#)

Team Michigan State University Project Overview

CATALyst: Mapping CATA Routes and Buses in Real-Time

- Functionalities
 - Map CATA Bus Routes
 - Show Location of Buses in Real-Time
- Features
 - View Map of All Available Routes
 - See Current Location of All Buses
 - Predict Bus Arrival Time
 - Filter by Route Number and/or Destination
 - Display Bus Stops Nearest the User
 - Enable Users to Upload Personal Schedules
- Technologies
 - Apple iPads and iPhones (iOS) / Swift
 - Google Android Tablets and Phones / Java
 - Global Positioning Systems
 - RESTful Web Services



Information Technology Services
East Lansing, Michigan





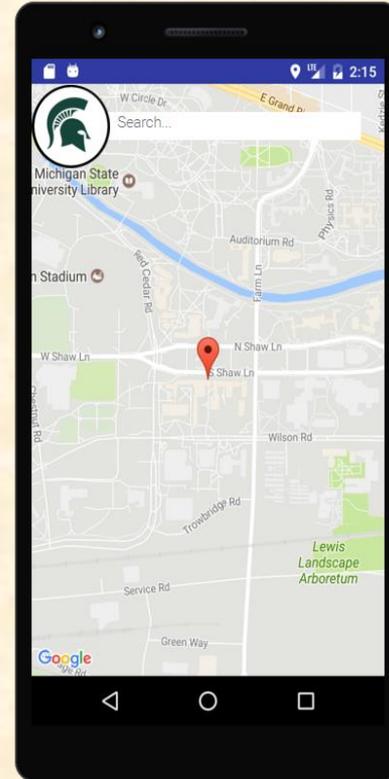
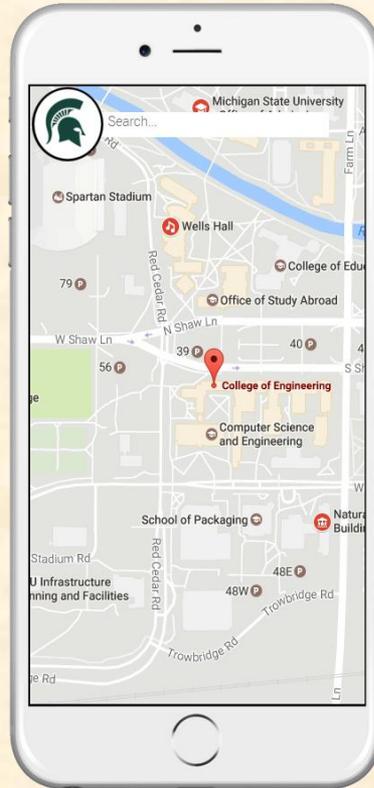
Team Michigan State University

Jimmy Mkude, Charlie Ward, Cathy Dinsmoor, James Dodge, Tom Beaver

Team Michigan State University Project Plan Presentation

e.

Screen Mockups



The Capstone Experience

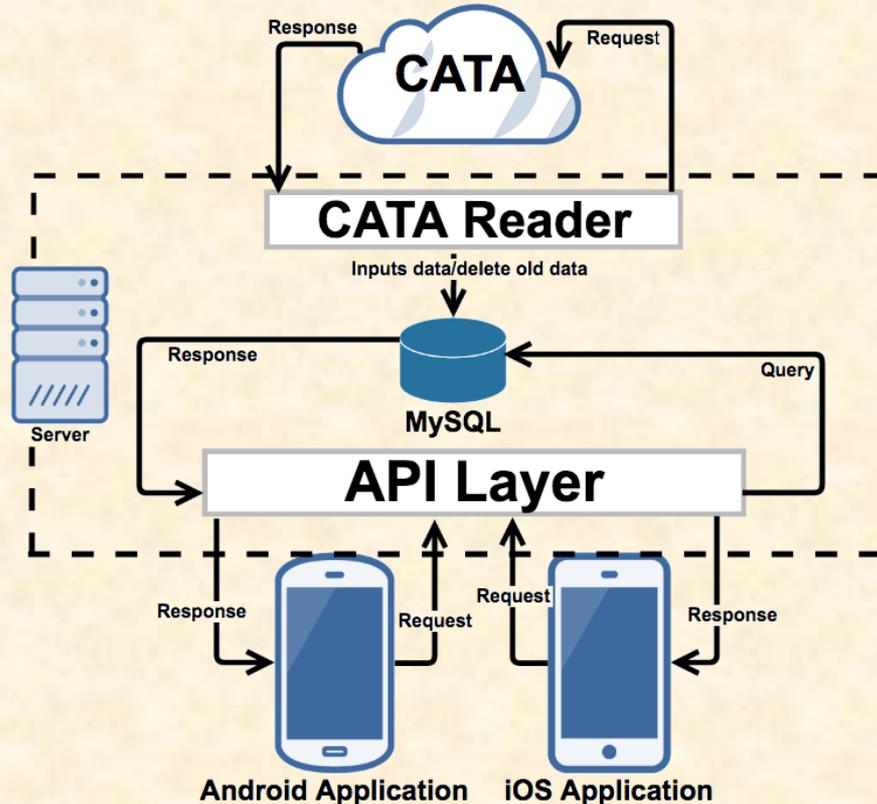


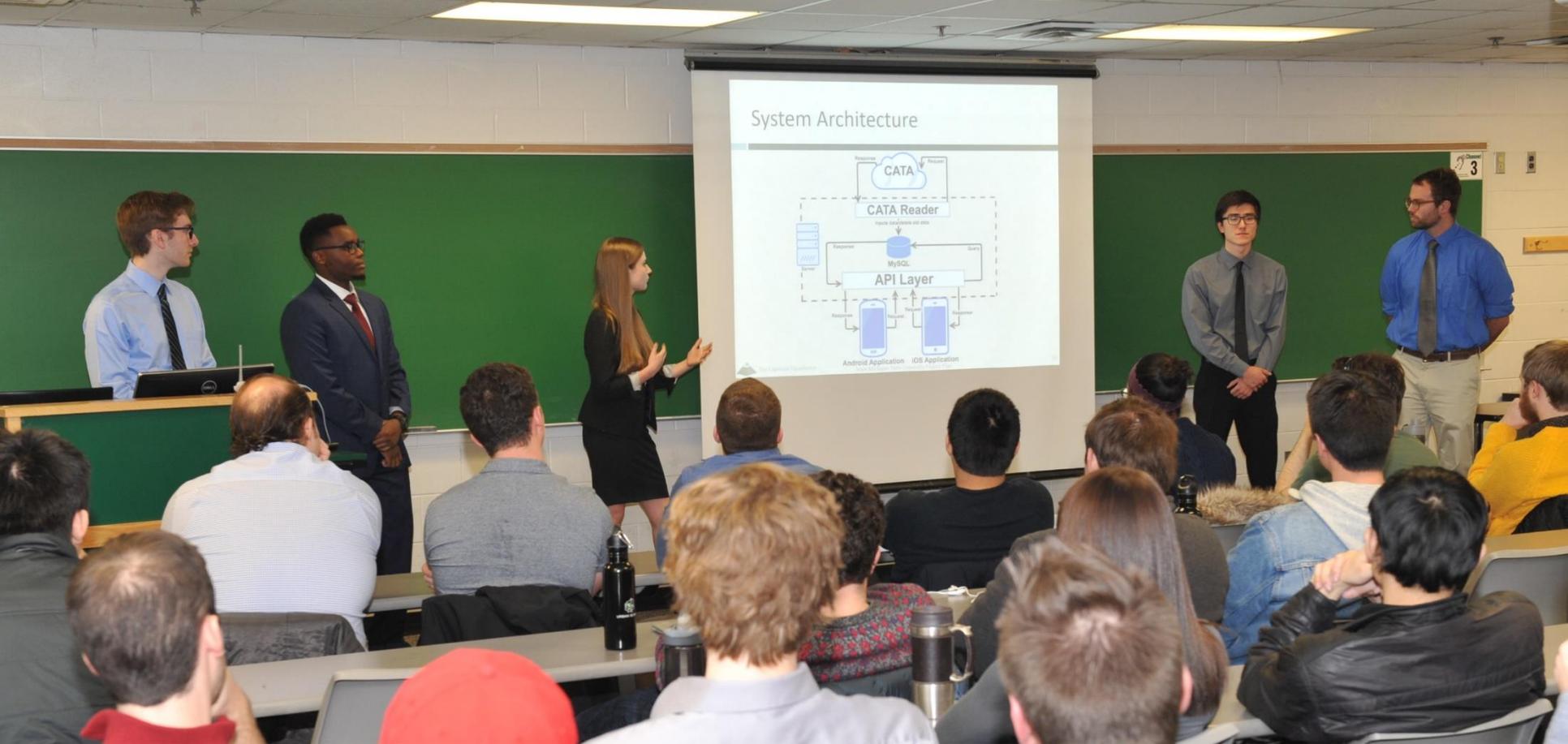


Team Michigan State University Project Plan Presentation

Team Michigan State University Project Plan Presentation

Architecture Diagram



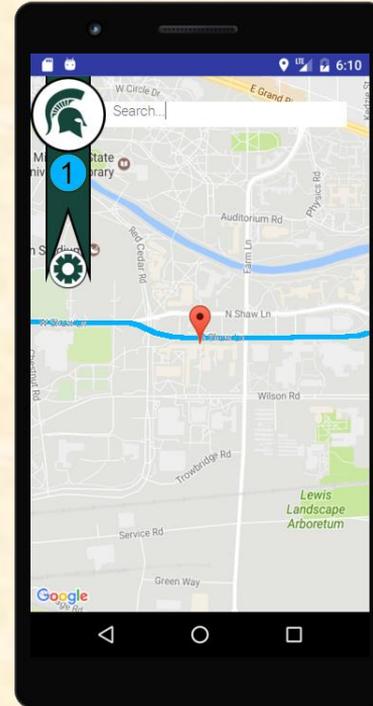


Team Michigan State University
Project Plan Presentation

Team Michigan State University Project Plan Presentation

e.

Screen Mockups



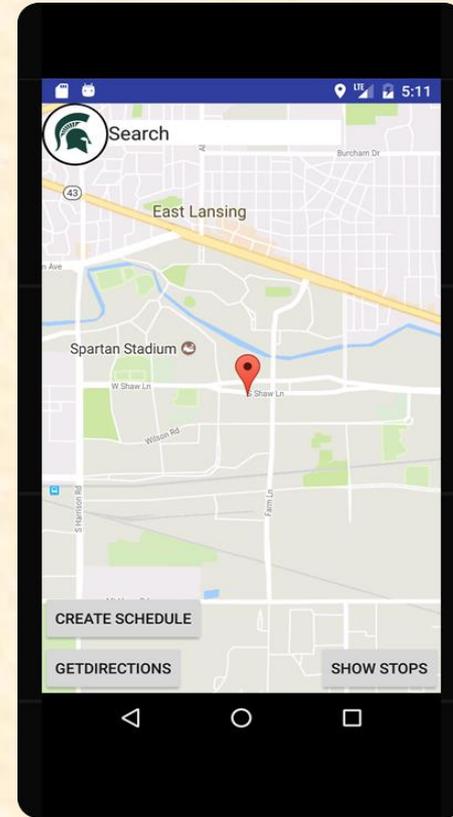
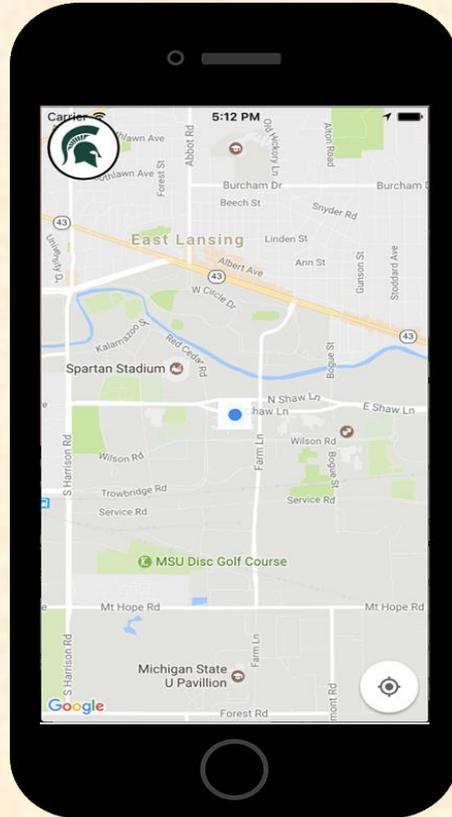


Team Michigan State University
Alpha Presentation

Team Michigan State University Alpha Presentation

e.

Home Screen



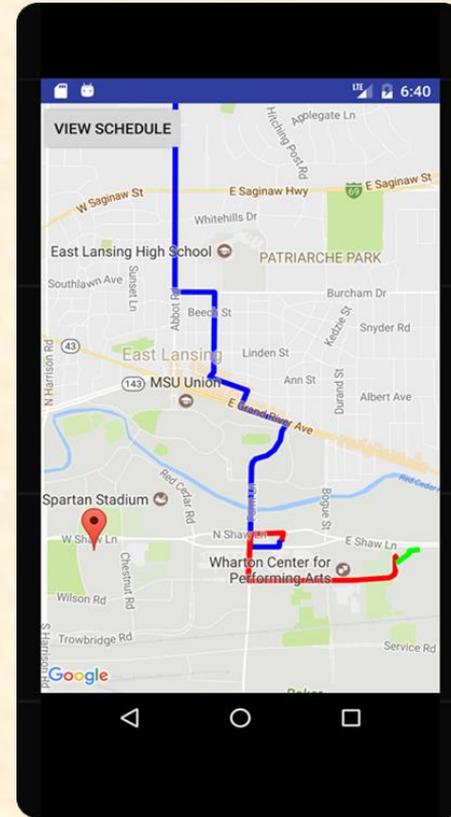
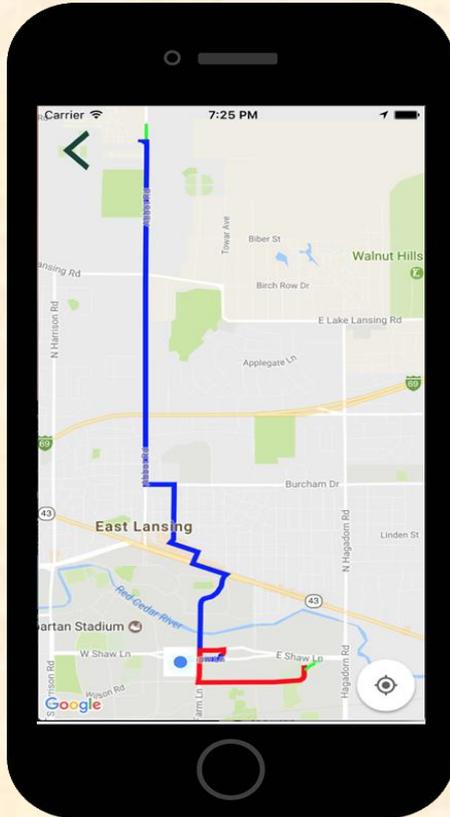
The Capstone Experience



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Scheduled Directions



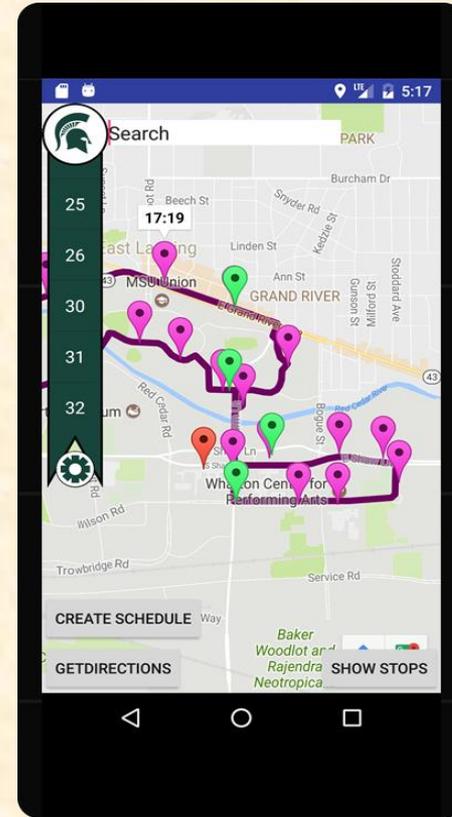
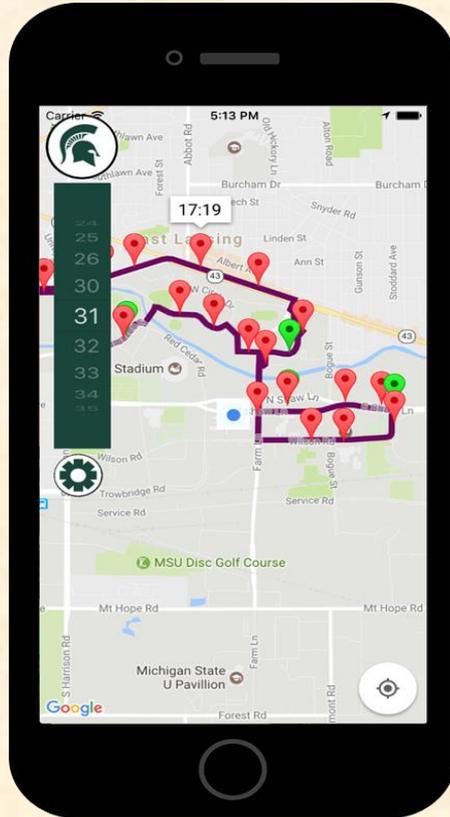


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Alpha Presentation

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e.

Displaying Next Bus Arrival



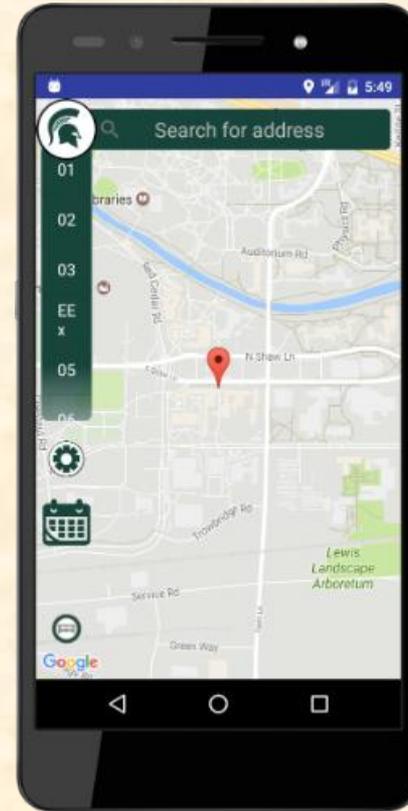
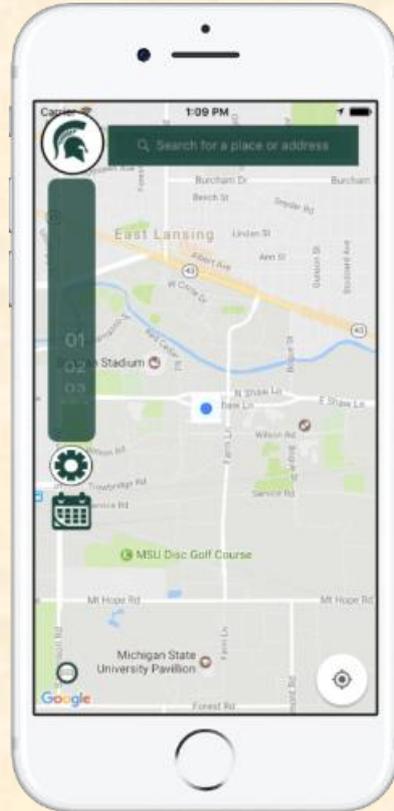


Team Michigan State University
Beta Presentation

Team Michigan State University Beta Presentation

e.

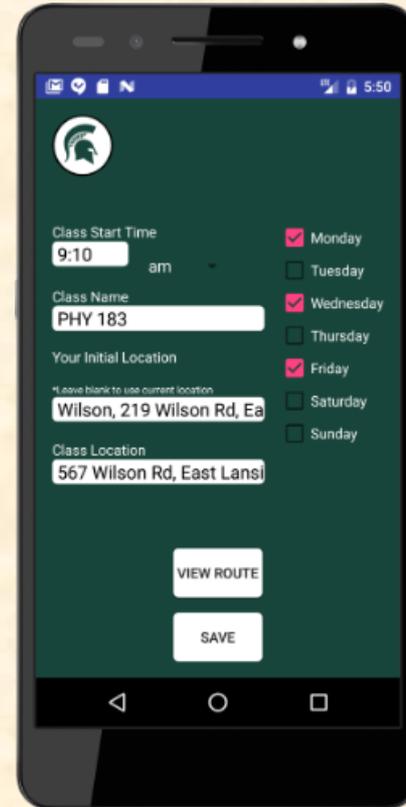
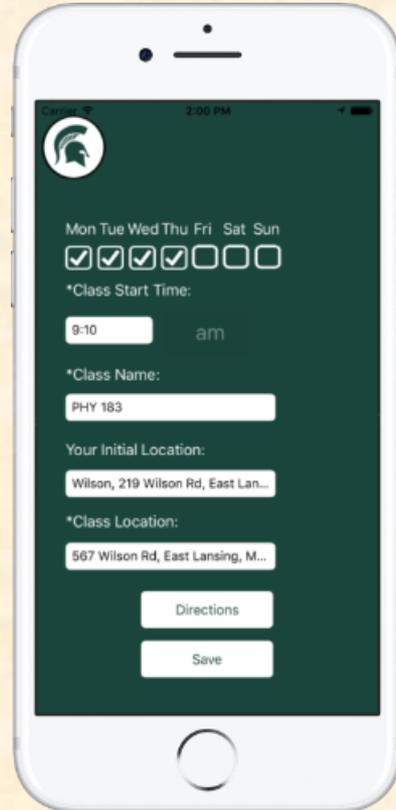
Route Filtering Drop-Down



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Schedule Input



The Capstone Experience



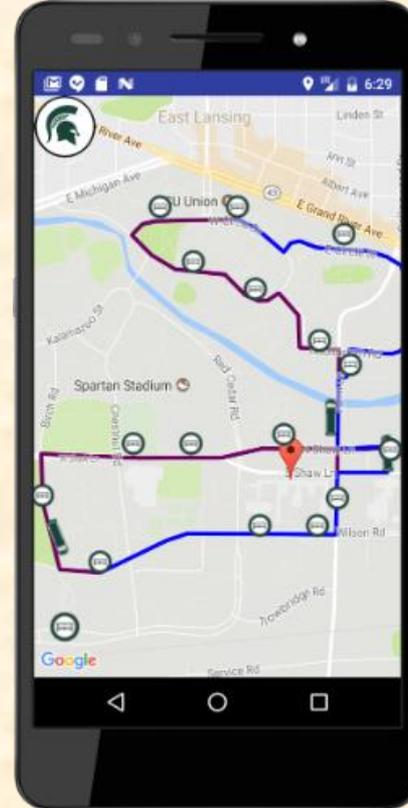
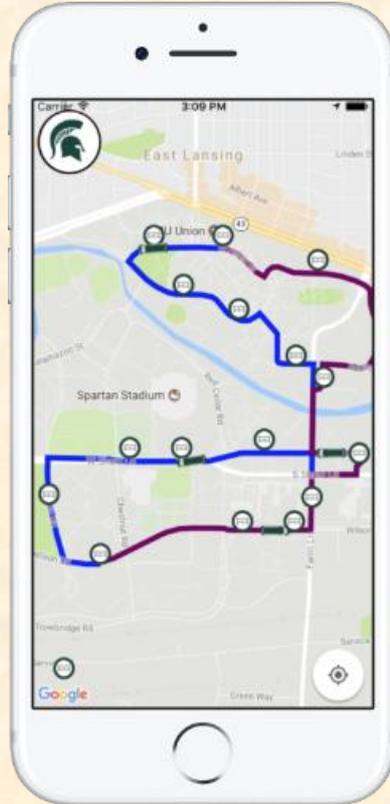


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Beta Presentation

Team Michigan State University Beta Presentation

e.

Route Highlighting



The Capstone Experience





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Design Day

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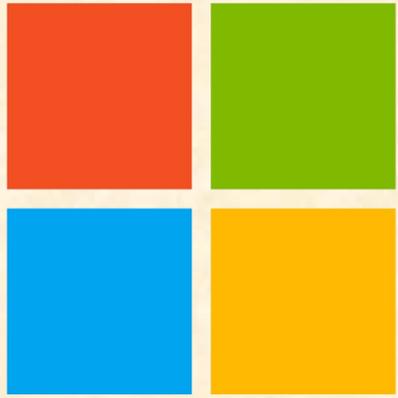
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Department of Computer Science and Engineering
Michigan State University
Spring 2017



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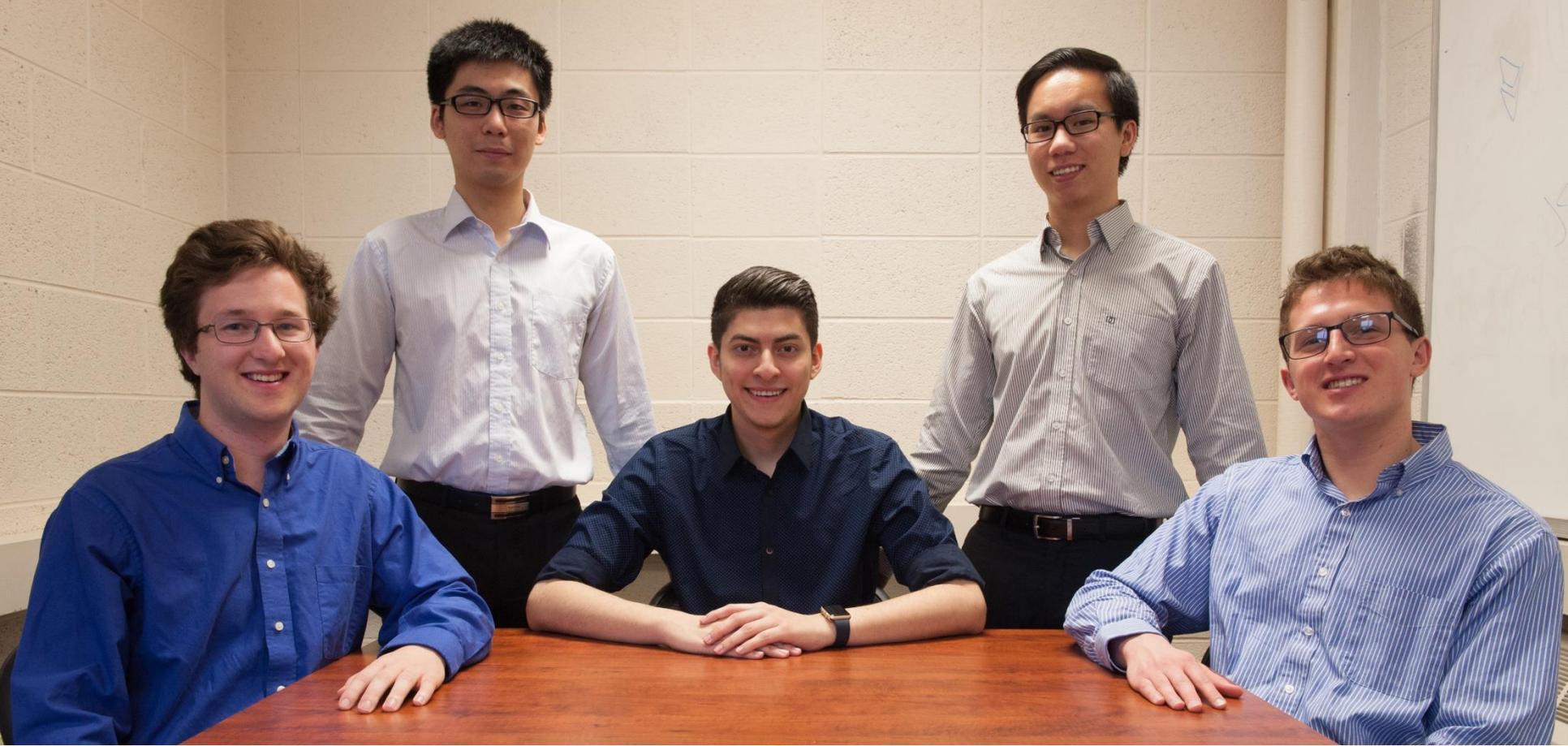


Team Microsoft Project Overview

Intune Company Portal Helper Bot

- Functionalities
 - Provide Automated Help for Intune Users
 - Walk Through Common Scenarios
 - Use Natural Language Processing Bot
- Features
 - Gather Text, Audio and Video Input from User
 - Convert Natural Language to Search Terms
 - Create Bot to Determine the Problem
 - Present Resources for Problem Resolution
 - Use Microsoft Bot Framework
 - Support Android, iOS and Windows Devices
- Technologies
 - Google Android Tablets and Phones / Java
 - Apple iPads and iPhones (iOS) / Swift
 - Microsoft Windows / C#
 - Microsoft Bot Framework
 - Natural Language Processing
 - RESTful Web Services





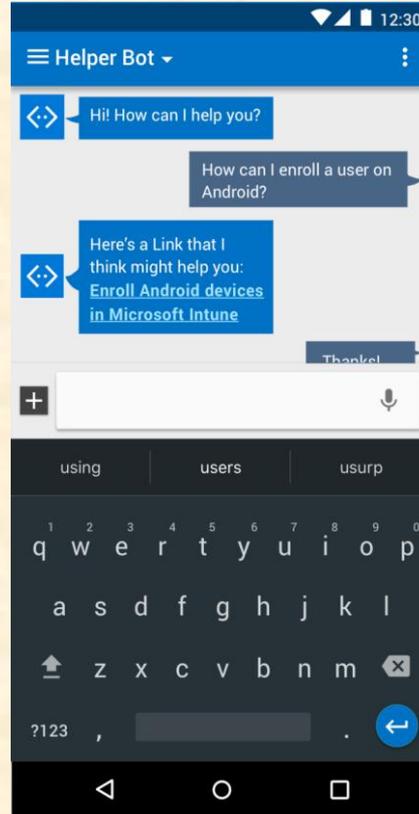
Team Microsoft

David Saksa, Lefan Zhang, Ramon Niebla, Anh Nguyen, Nick Bunton

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e.

Screen Mockup



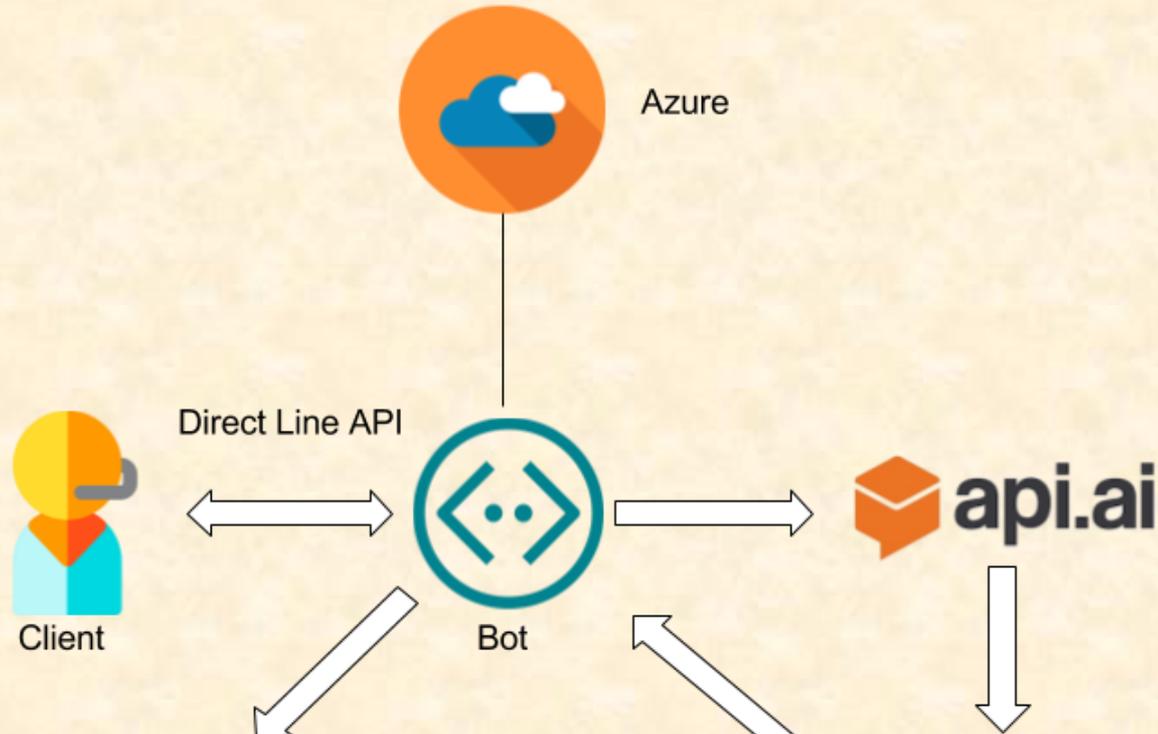


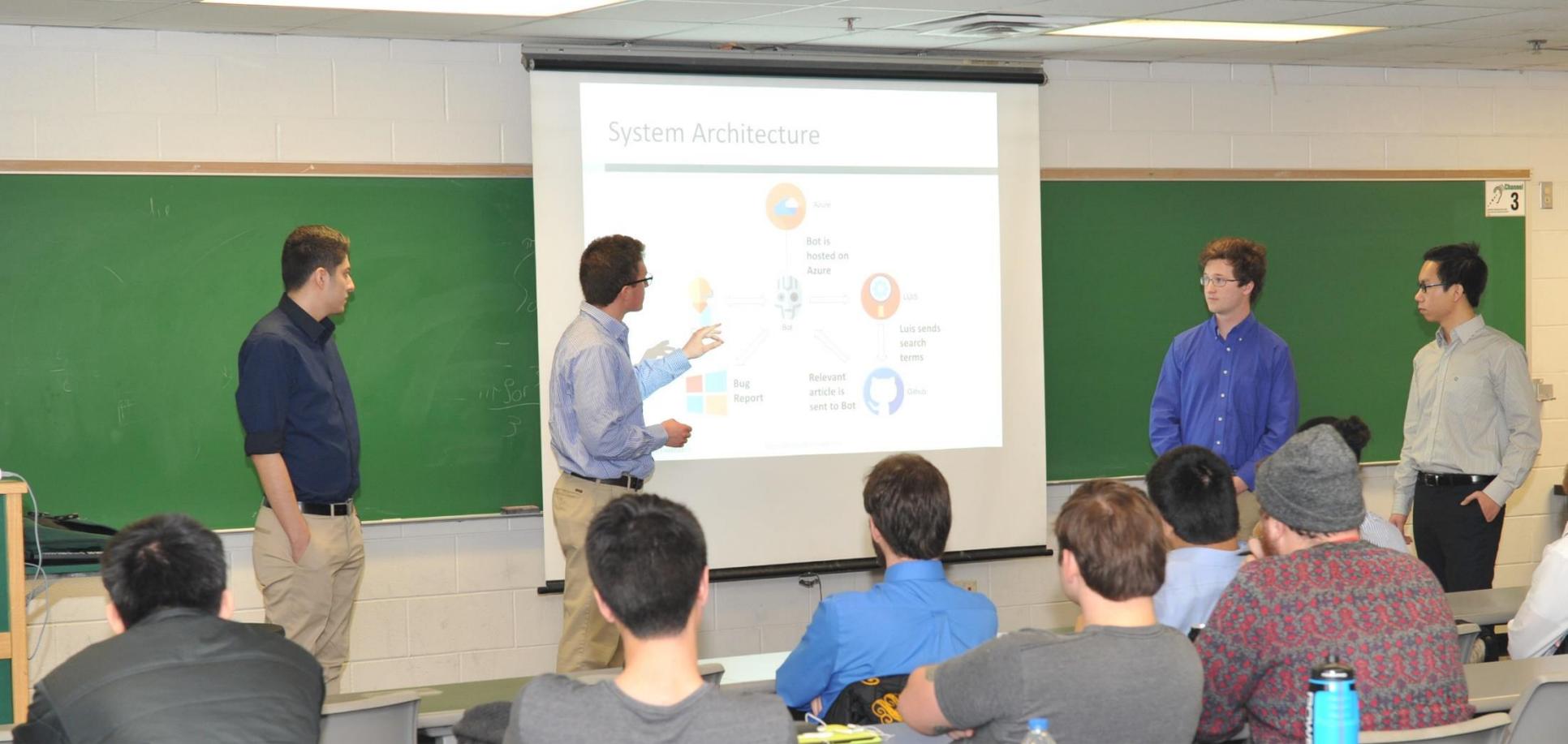
Team Microsoft Project Plan Presentation

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e.

Architecture Diagram

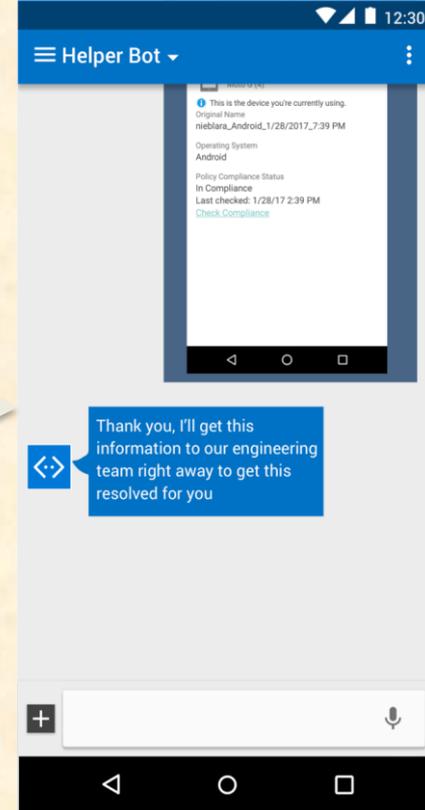
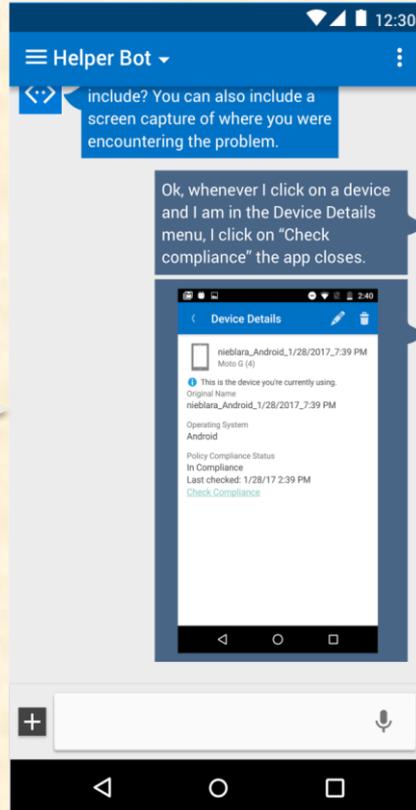
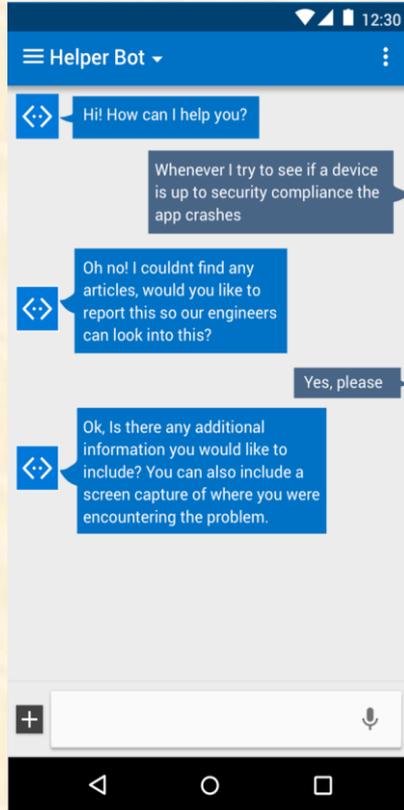




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Screen Mockups



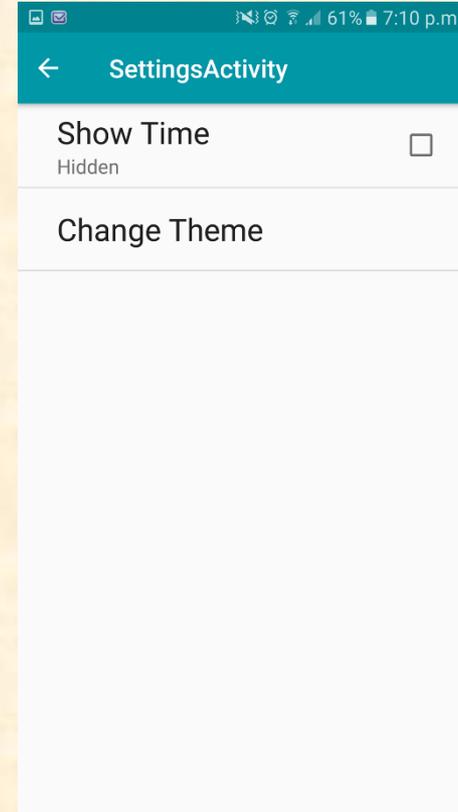
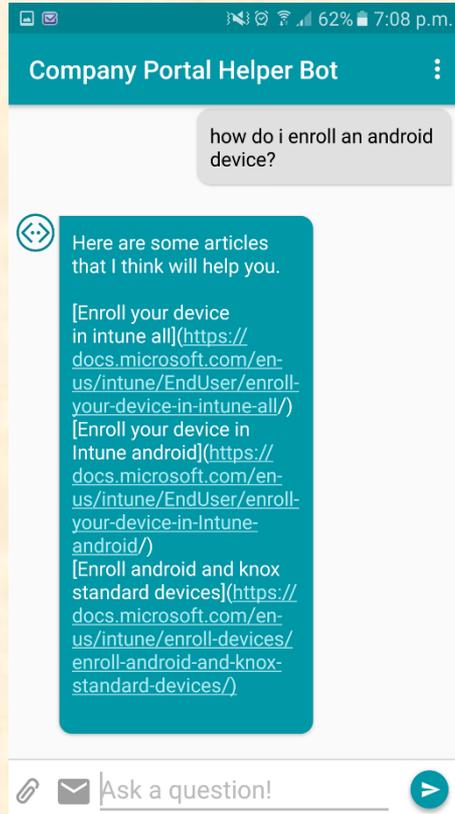


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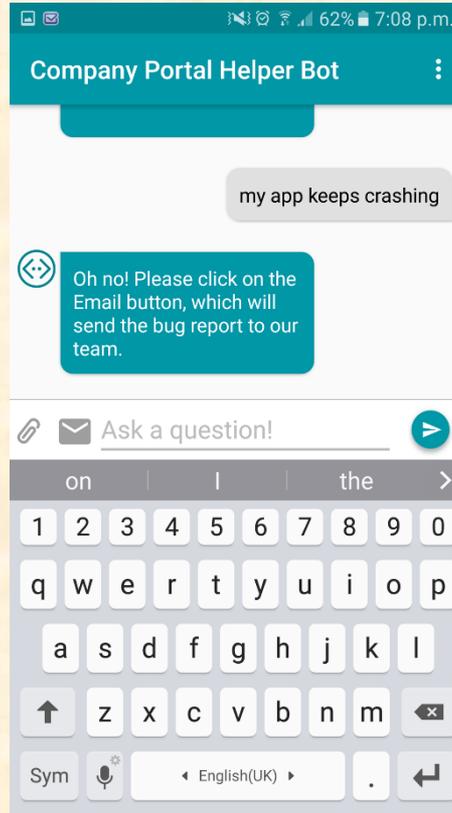
Finding an Article



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Bug Report

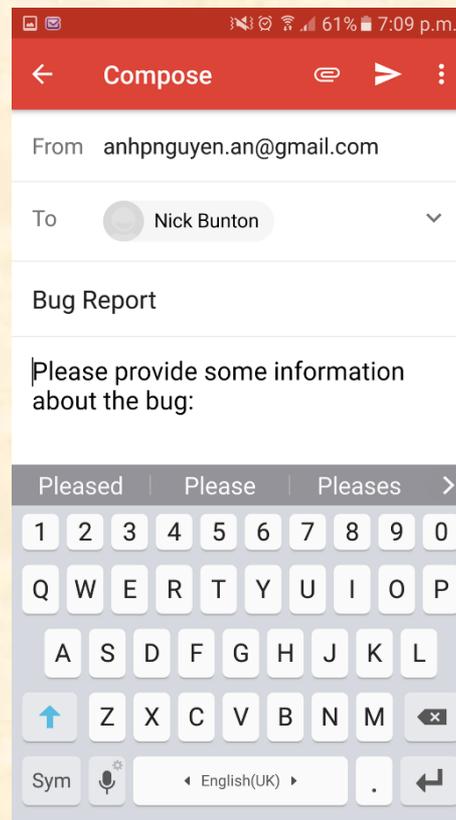
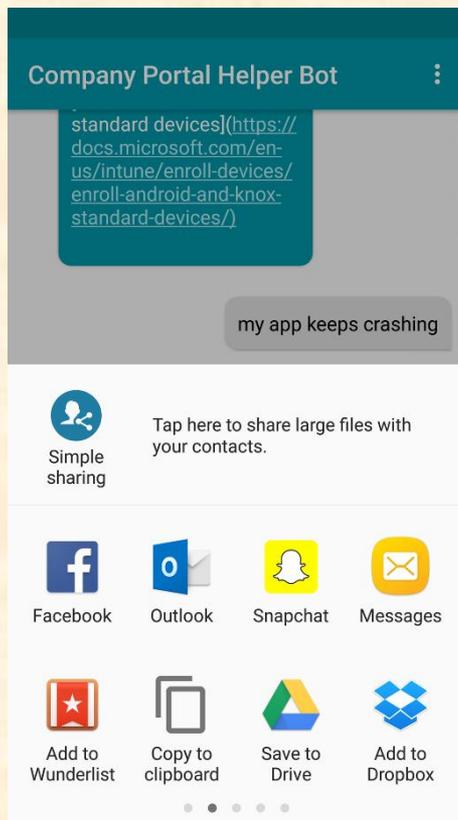




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Bug Report



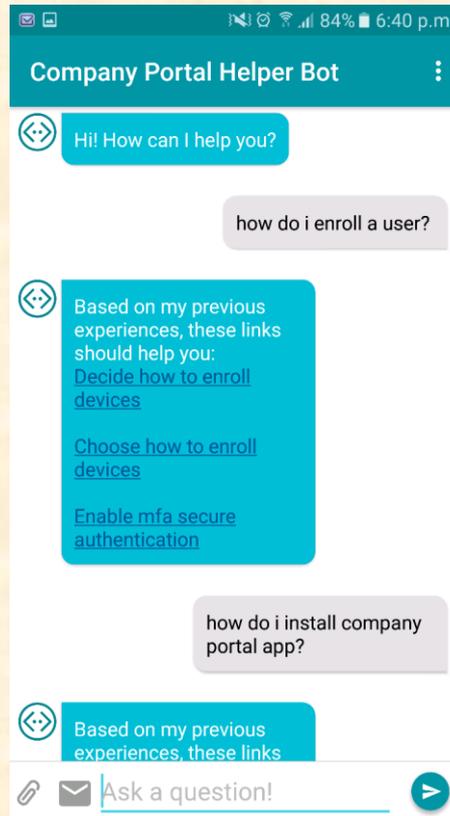


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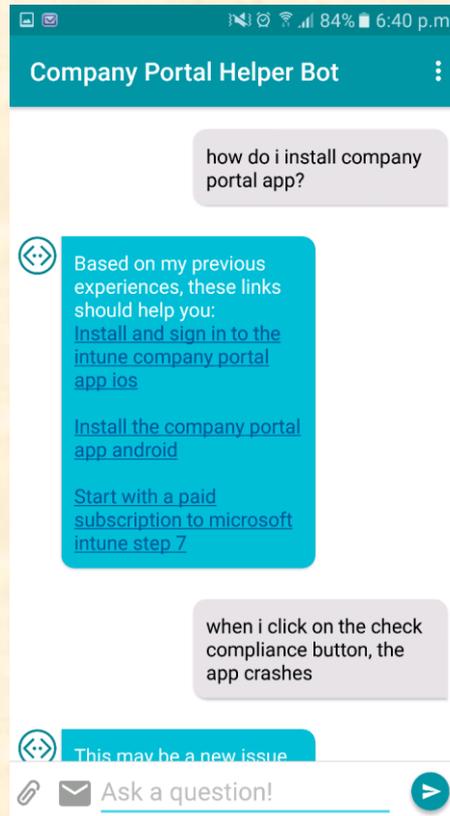
Welcome Screen



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Article Suggestions

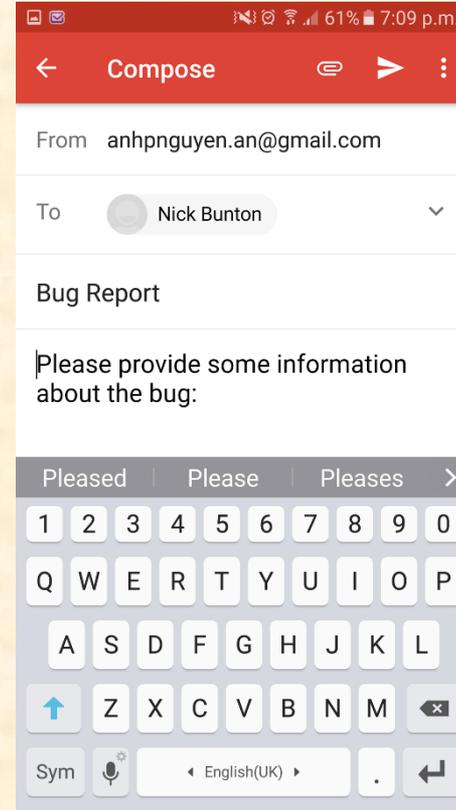
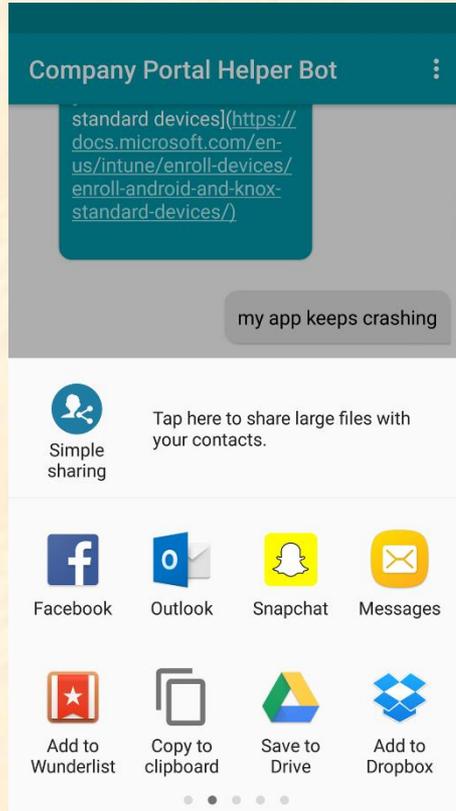




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Sending a Bug Report





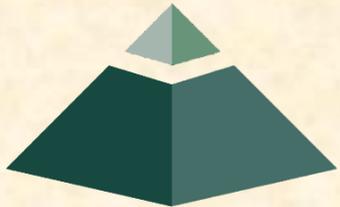
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Firefox[®]

mozilla



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One Firefox.



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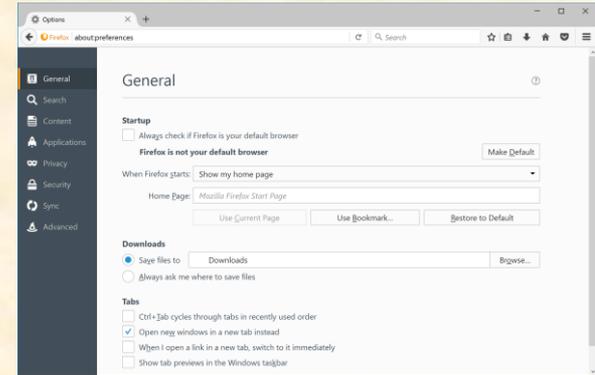
Download
Firefox



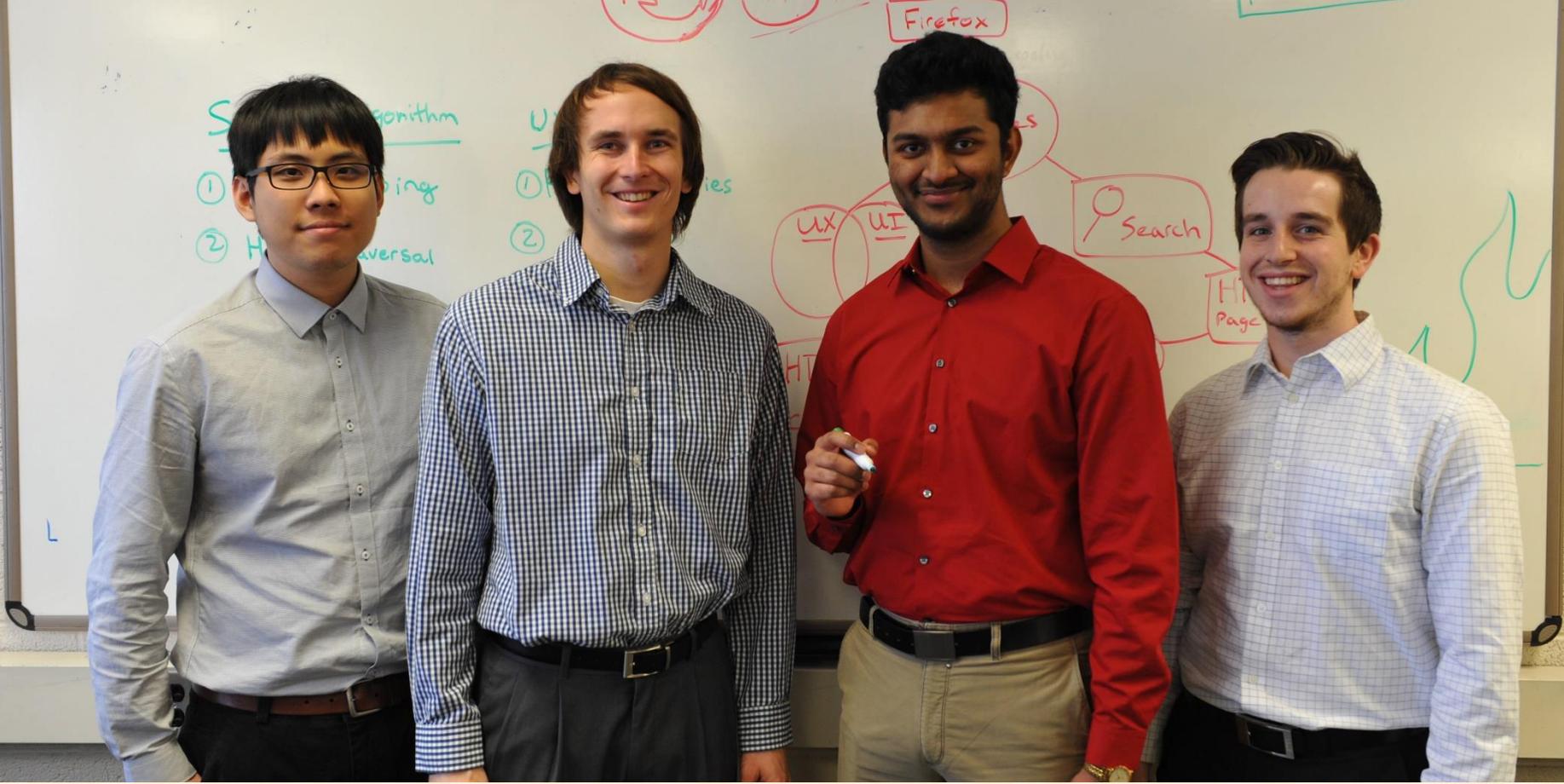
Team Mozilla Project Overview

Improvements to Firefox's about:preferences

- Functionalities
 - Improve Firefox's about:preferences
 - Make about:preferences Easier to Use
 - Ensure Changes Have Appropriate Impact
- Features
 - Implement User Experience Specifications
 - Make More Internally Consistent
 - Reorganize about:preferences Sections
 - Enable Measurement of Effects of Changes
 - Add Search Capability
- Technologies
 - XUL
 - XHTML
 - JavaScript / EcmaScript 2016 & 2017
 - CSS
 - IRC
 - Bugzilla
 - Mercurial



Mountain View, California



Team Mozilla

Avalon Long, Ian Ferguson, Manotej Meka, Zack Herrick

Team Mozilla Project Plan Presentation

Screen Mockup

General

Browser

Startup

Search Engines

Tabs

Accessibility

Language

Fonts & Colours

Browsing

Downloads & links

Downloads

File Type Handler

Link Type Handler

Privacy & Security

History

Forms & Passwords

Private Browsing

Tracking Protection

Pop-ups

Notifications

Location bar

Security Options

Certificates

DRM Content

Connection

Firefox Account

Sync Options

Updates

Firefox Updates

Automatically Update

Reports (Data Choices)





Screen Mockup: Tab Reorganization (After)

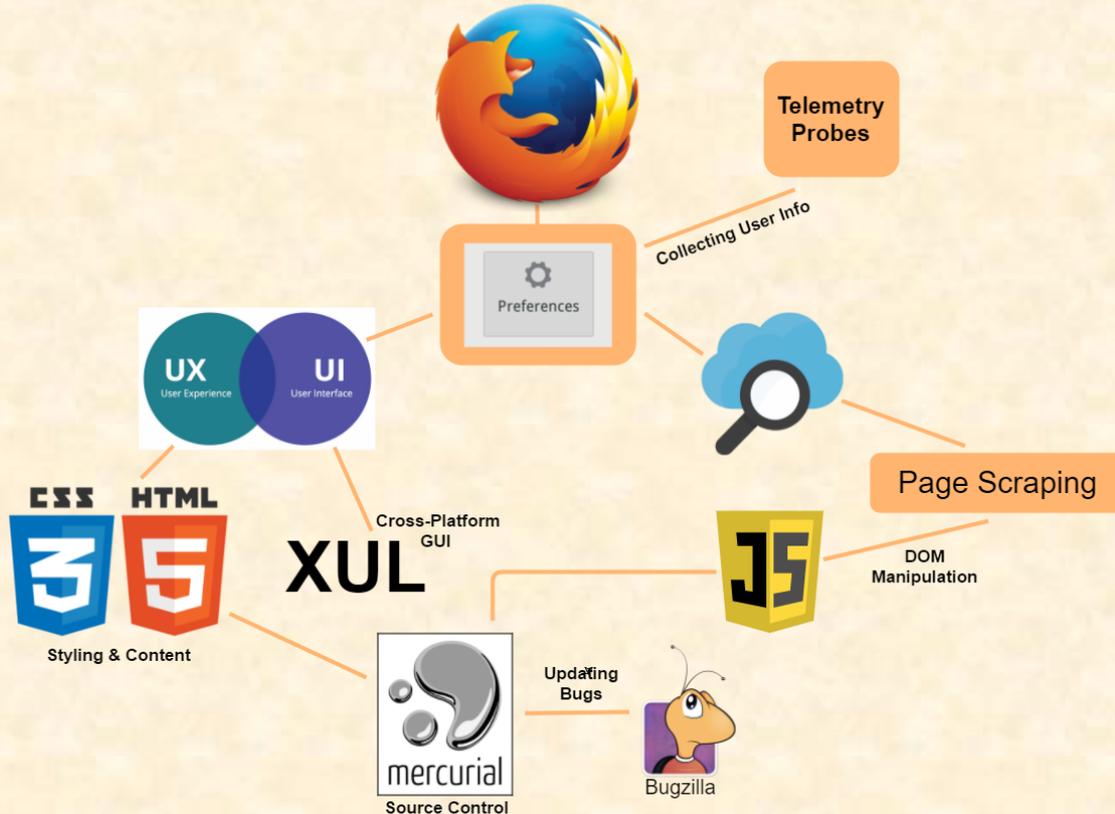
General	Downloads & Links	Privacy & Security
Browser	Downloads	Privacy
Settings	File Support	Privacy Settings
Search Engines	Link Support	Privacy History
Tools		Privacy Protection
Accessibility		Privacy
Language		Accessibility
Font & Colors		Accessibility
Extensions		Security

Firefox Account	Updates
Sync Options	Firefox Updates
	Accessibility Updates
	Firefox Sync Updates

Team Mozilla
Project Plan Presentation

Team Mozilla Project Plan Presentation

Architecture Diagram





System Architecture



Team Mozilla
Project Plan Presentation

Team Mozilla Project Plan Presentation

Screen Mockup

History

Clear your recent history Clear...

Remember my browsing and download history

Allow storing cookies and site data:

Always

Except for 3rd-party cookies

Except for non-visited 3rd-party cookies

Cookies and site data are currently 30 MB of disk space [Learn more](#) Settings...

Clear history when Firefox closes Settings...

Forms & Passwords

Remember search and form history

Remember logins and passwords for sites Manage...

Use a master password Change master password...

Private Browsing

Always use private browsing mode



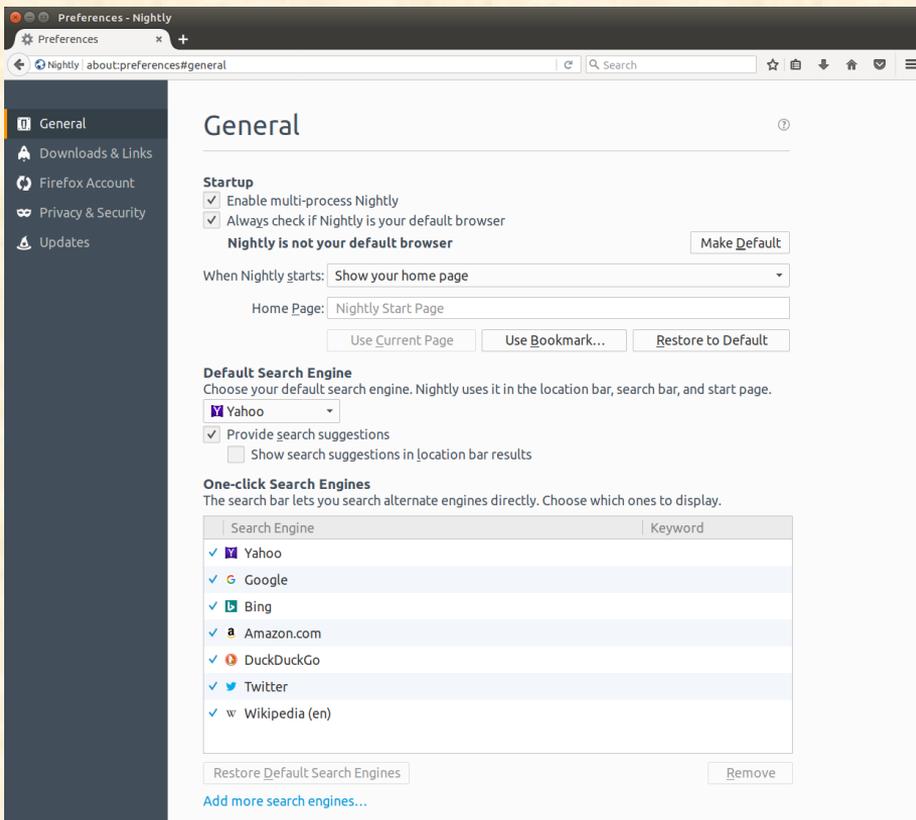


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e.

Preferences Tab Reorganization



The screenshot shows the Firefox Nightly Preferences window, specifically the General tab. The window title is "Preferences - Nightly". The address bar shows "about:preferences#general". The left sidebar contains the following categories: General (selected), Downloads & Links, Firefox Account, Privacy & Security, and Updates.

General

Startup

- Enable multi-process Nightly
- Always check if Nightly is your default browser

Nightly is not your default browser [Make Default](#)

When Nightly starts: [Show your home page](#)

Home Page: [Nightly Start Page](#)

[Use Current Page](#) [Use Bookmark...](#) [Restore to Default](#)

Default Search Engine

Choose your default search engine. Nightly uses it in the location bar, search bar, and start page.

[Y](#) Yahoo

- Provide search suggestions
- Show search suggestions in location bar results

One-click Search Engines

The search bar lets you search alternate engines directly. Choose which ones to display.

Search Engine	Keyword
<input checked="" type="checkbox"/> Y Yahoo	
<input checked="" type="checkbox"/> G Google	
<input checked="" type="checkbox"/> B Bing	
<input checked="" type="checkbox"/> a Amazon.com	
<input checked="" type="checkbox"/> D DuckDuckGo	
<input checked="" type="checkbox"/> T Twitter	
<input checked="" type="checkbox"/> W Wikipedia (en)	

[Restore Default Search Engines](#) [Remove](#)

[Add more search engines...](#)



Team Mozilla Alpha Presentation

Preferences Search Functionality

The screenshot shows the Firefox Preferences page with a search bar at the top right containing the text "password". Below the search bar, the "Search Results" section is displayed. Under the heading "Forms & Passwords", there are two checked options: "Remember logins and passwords for sites" and "Use a master password". To the right of these options are three buttons: "Exceptions...", "Change Master Password...", and "Saved Logins...". Below this section is the "Take Your Web With You" section, which includes a paragraph about synchronizing data across devices and a "Connect with a Firefox Account" box with "Create Account" and "Sign In" buttons. At the bottom, there is a diagram showing a cloud connected to a tablet, a smartphone, and a laptop, with arrows indicating synchronization. Below the diagram, it says "Download Firefox for Android or iOS to sync with your mobile device."



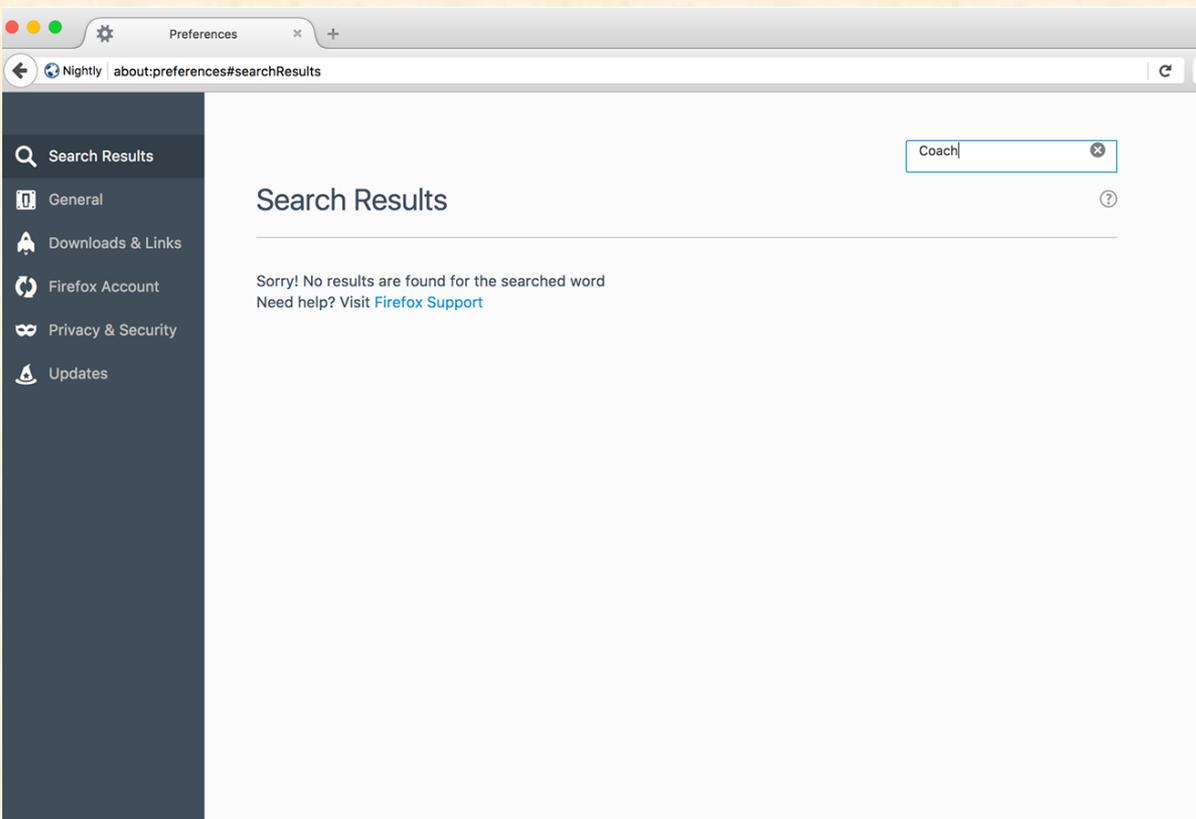


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Preferences Search Functionality



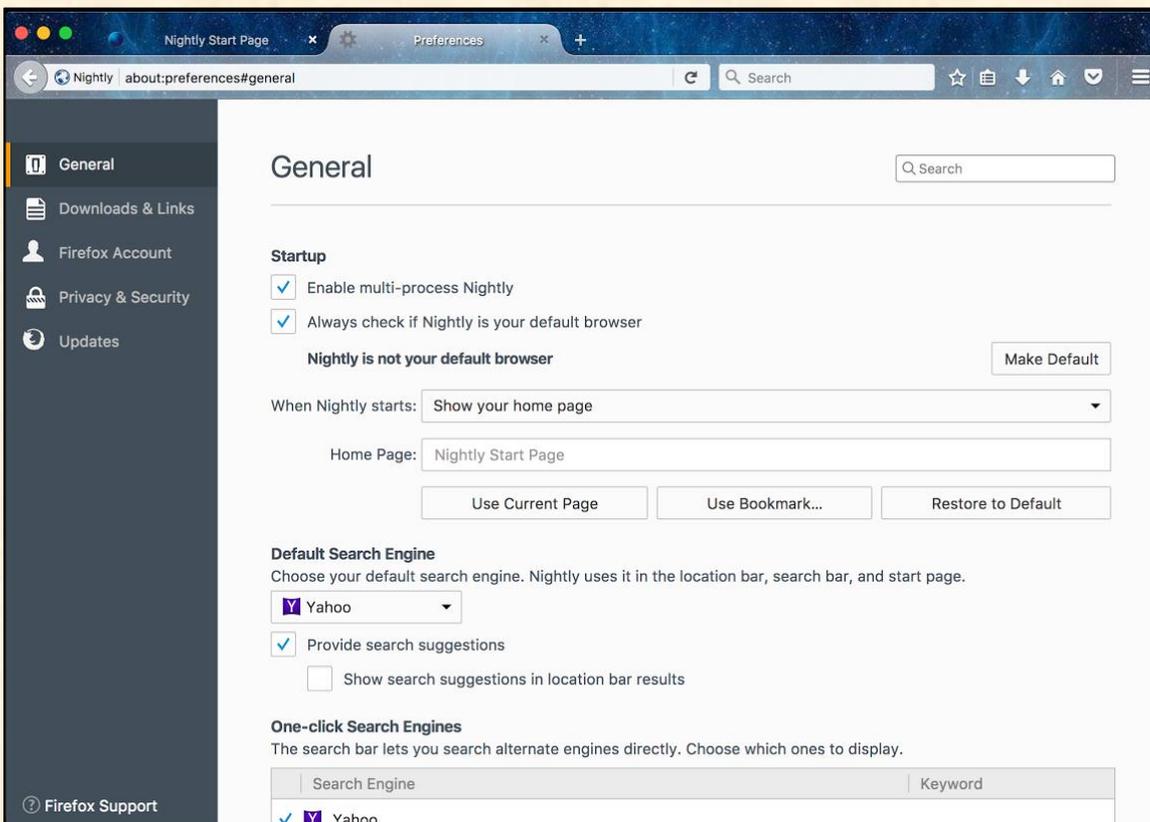


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Tab Reorganization



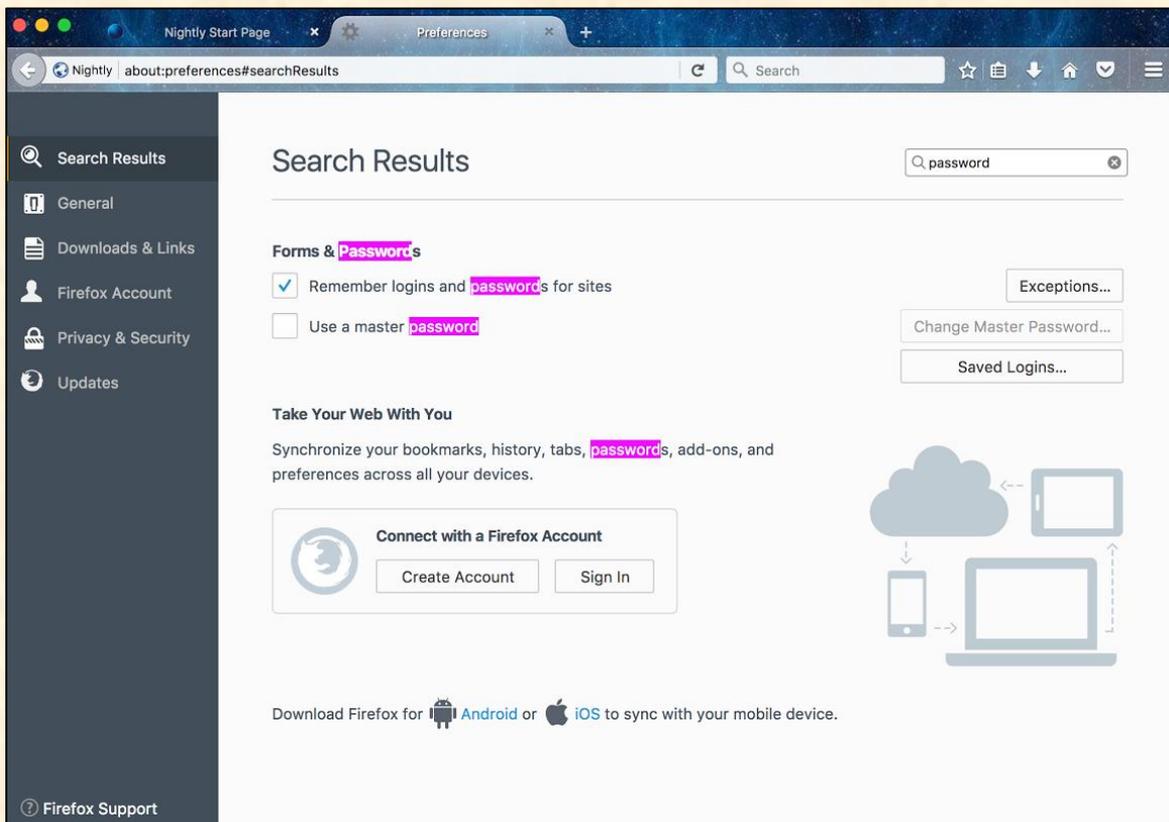
The screenshot shows the Firefox Nightly Preferences window, specifically the General tab. The browser's address bar shows "about:preferences#general". The left sidebar contains navigation links for General, Downloads & Links, Firefox Account, Privacy & Security, and Updates. The main content area is titled "General" and includes a search bar. Under the "Startup" section, there are two checked checkboxes: "Enable multi-process Nightly" and "Always check if Nightly is your default browser". Below these, it states "Nightly is not your default browser" with a "Make Default" button. The "When Nightly starts:" dropdown is set to "Show your home page", and the "Home Page:" field contains "Nightly Start Page". There are three buttons below: "Use Current Page", "Use Bookmark...", and "Restore to Default". The "Default Search Engine" section has a dropdown menu set to "Yahoo" and two checked checkboxes: "Provide search suggestions" and "Show search suggestions in location bar results". The "One-click Search Engines" section has a description and a table with columns for "Search Engine" and "Keyword". The table lists "Yahoo" with a checked checkbox.

Firefox Support

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e.

Search Functionality



The screenshot shows the Firefox Nightly Preferences page with the search bar set to "password". The search results are categorized into "Forms & Passwords" and "Take Your Web With You".

Search Results

Search: password

Forms & Passwords

- Remember logins and passwords for sites
- Use a master password

Buttons: Exceptions..., Change Master Password..., Saved Logins...

Take Your Web With You

Synchronize your bookmarks, history, tabs, passwords, add-ons, and preferences across all your devices.

Connect with a Firefox Account

Buttons: Create Account, Sign In

Download Firefox for  Android or  iOS to sync with your mobile device.

Firefox Support

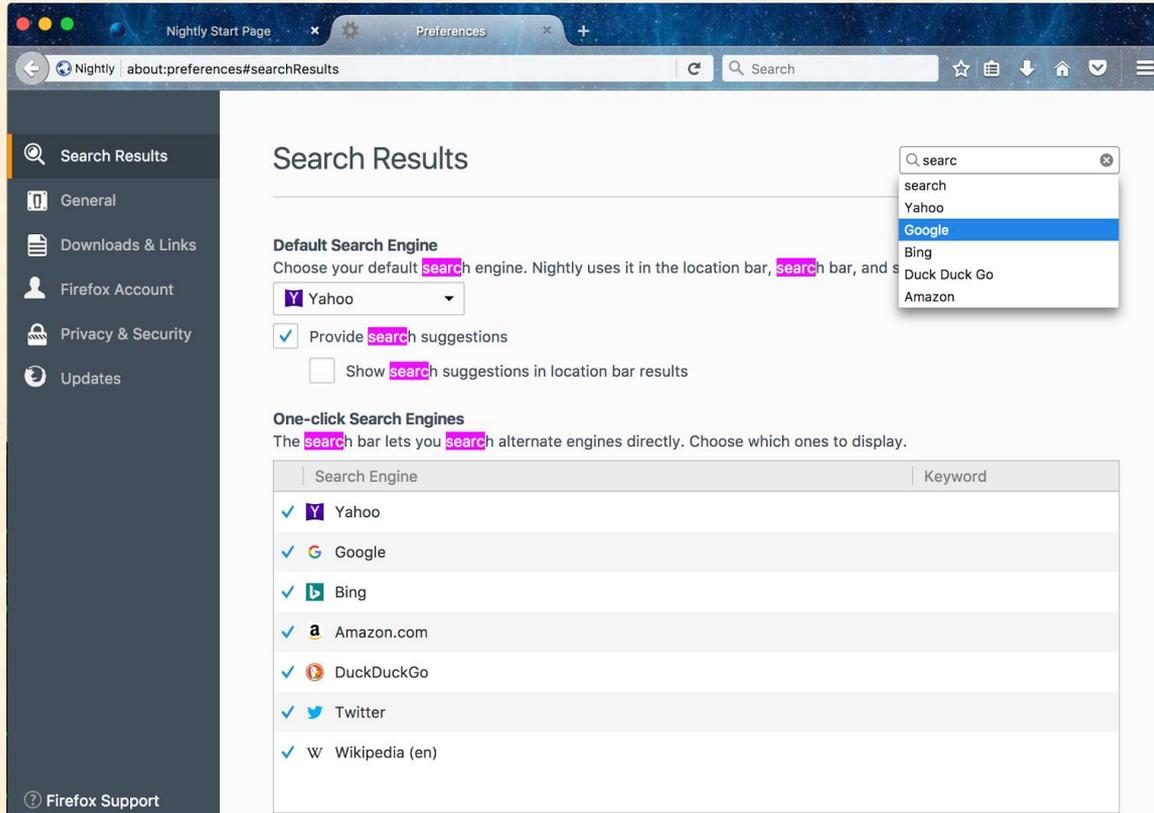


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Search Suggestions



The screenshot shows the Firefox Preferences window for the 'Search Results' section. The browser's address bar shows 'about:preferences#searchResults'. The left sidebar contains navigation options: Search Results (selected), General, Downloads & Links, Firefox Account, Privacy & Security, and Updates. The main content area is titled 'Search Results' and includes a search bar with the text 'search' and a dropdown menu showing suggestions: 'search', 'Yahoo', 'Google' (highlighted), 'Bing', 'Duck Duck Go', and 'Amazon'. Below the search bar, the 'Default Search Engine' is set to 'Yahoo'. There are two checkboxes: 'Provide search suggestions' (checked) and 'Show search suggestions in location bar results' (unchecked). The 'One-click Search Engines' section contains a table with columns 'Search Engine' and 'Keyword'. The table lists several engines with checkmarks in the 'Search Engine' column.

Search Engine	Keyword
✓ Yahoo	
✓ Google	
✓ Bing	
✓ Amazon.com	
✓ DuckDuckGo	
✓ Twitter	
✓ Wikipedia (en)	





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Team MSUFCU

Department of Computer Science and Engineering
Michigan State University
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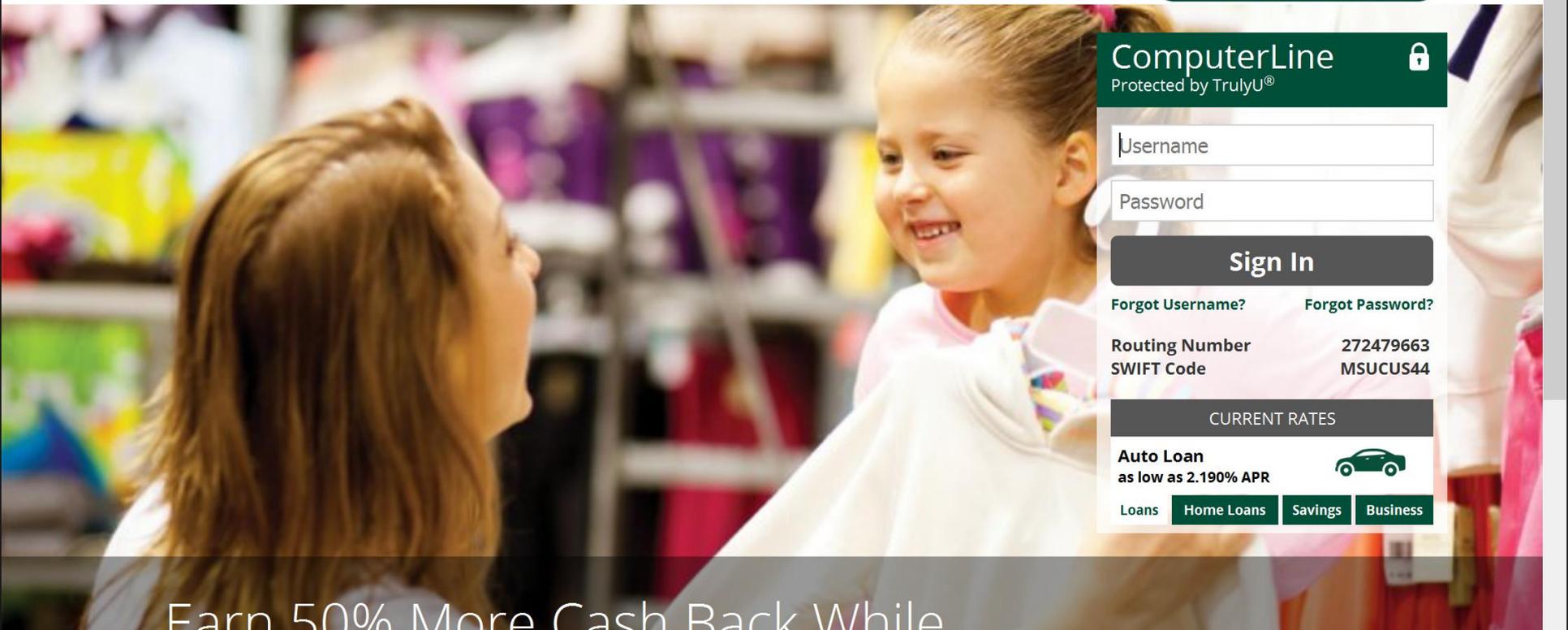
ACCOUNTS

SERVICES

BUSINESS

RESOURCES

OPEN AN ACCOUNT



ComputerLine



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Sign In

Forgot Username?

Forgot Password?

Routing Number

272479663

SWIFT Code

MSUCUS44

CURRENT RATES

Auto Loan

as low as 2.190% APR



Loans

Home Loans

Savings

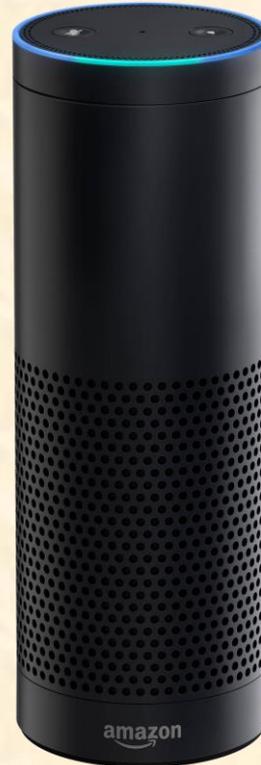
Business

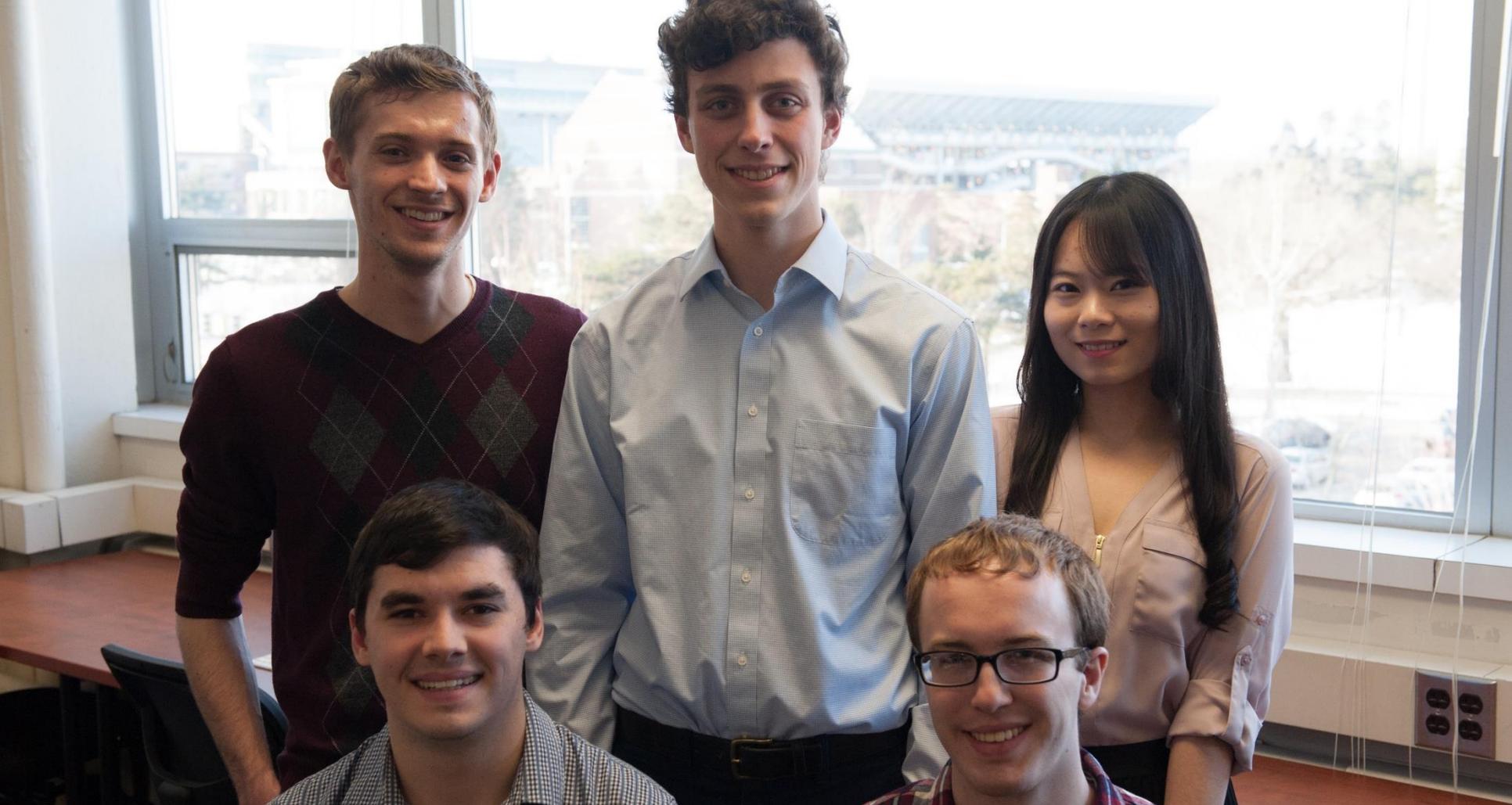
Earn 50% More Cash Back While

Team MSUFCU Project Overview

Banking with Amazon's Alexa and Apple's Siri

- Functionalities
 - Expand Digital Banking Offerings
 - Build Amazon Alexa Service
 - Develop Apple Watch App
- Features
 - Handle Voice Input
 - Amazon Alexa
 - Apple Siri
 - Support Amazon Echo and Apple Watch
 - Provide Access to Various Information
 - User Accounts (Balances, Recent Transactions, ...)
 - MSUFCU Branches (Locations, Hours, ...)
 - MSUFCU Products (Mortgage Rates, Auto Loan Rates, ...)
 - Create Middleware Layer
 - MSUFCU Databases
 - Alexa and Siri
 - Build Administrative Web Portal
- Technologies
 - Amazon Echo
 - Amazon Skills Kit
 - Apple iPads and iPhones (iOS) / Swift
 - Apple WatchOS
 - CSS / HTML / JavaScript / PHP
 - MySQL

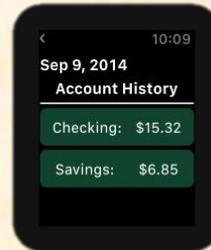
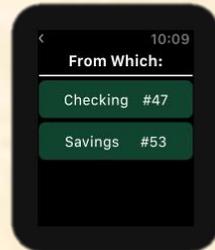
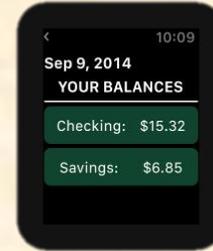
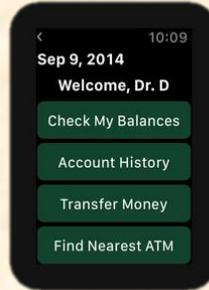
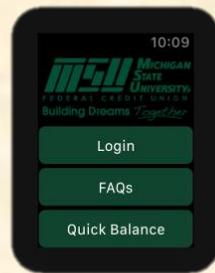




Steven Jorgensen, Kieran Hall, Will Rudnick, Ethan Boyd, Qiuning Ren

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Apple Watch Mockups





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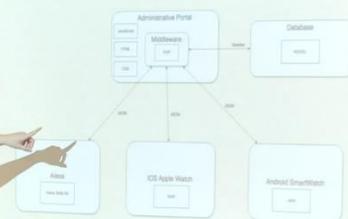
Team MSUFCU Project Plan Presentation

Architecture Diagram





System Architecture



Team MSUFCU
Project Plan Presentation

Team MSUFCU Project Plan Presentation

Alexa, ask
MSUFCU how
much I have in my
checking account

1 2 3 4

Please state your
authentication PIN

Thank you. Your
current checking
balance is \$2345.67



Source: Computer
(Auto)
Signal
Display Help, press the button



Team MSUFCU Alpha Presentation

Team MSUFCU Alpha Presentation

e.

Apple Watch Interface



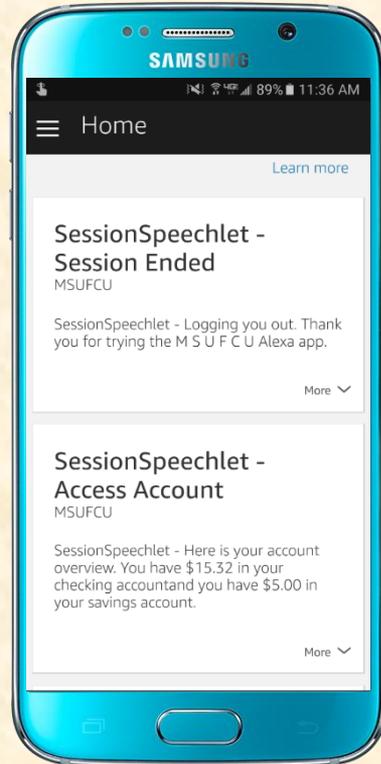
The Capstone Experience



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e.

Alexa Card



The Capstone Experience

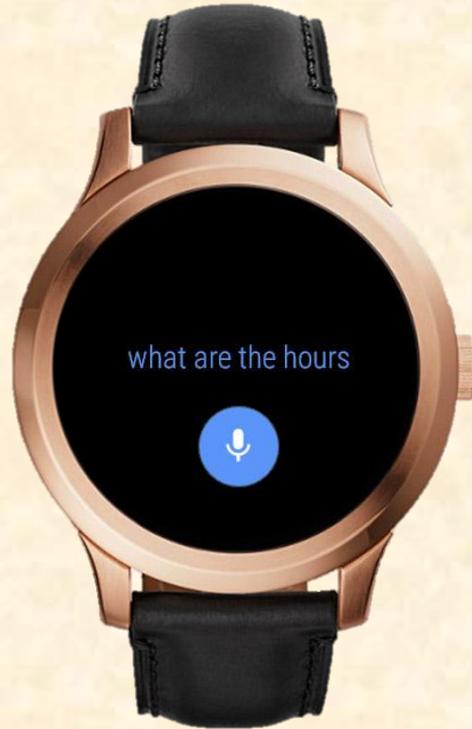




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Android Watch Interface



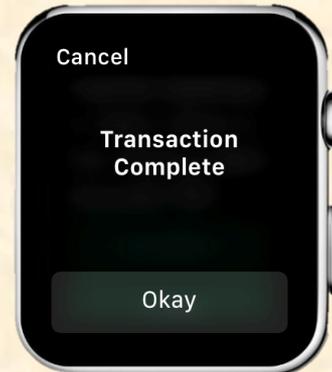
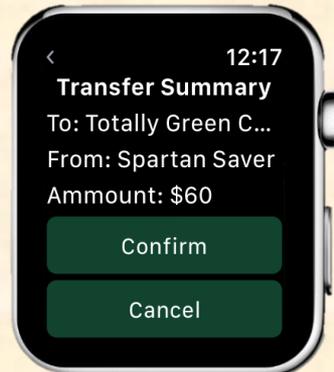
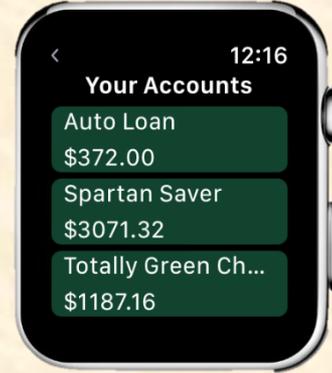


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e.

Apple Watch Interface



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Android Watch Interface



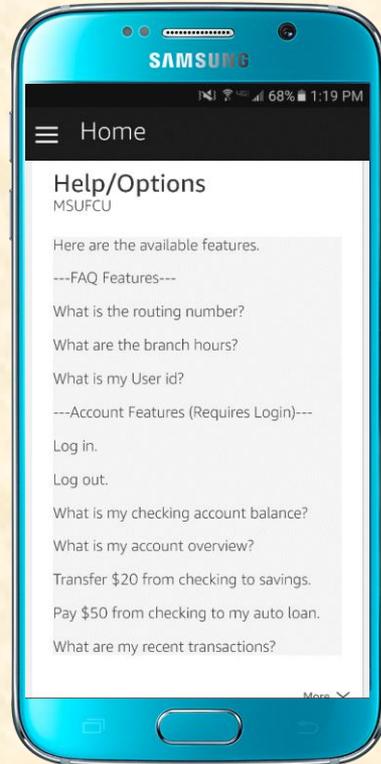


Team MSUFCU Beta Presentation

Team MSUFCU Beta Presentation

e.

Alexa Card



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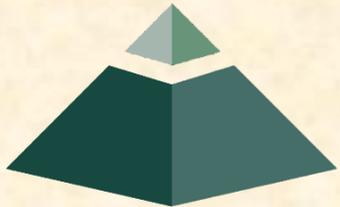
Team MSUFCU
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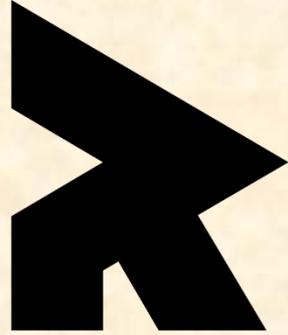
The Capstone Experience

Team Rook

Department of Computer Science and Engineering
Michigan State University
Spring 2017



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ROOK SECURITY



HOME

WHO WE ARE

WHAT WE DO

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UNIFIED INCIDENT MANAGEMENT



Team Rook Project Overview

FORCE Integration Tool with Alert Correlation

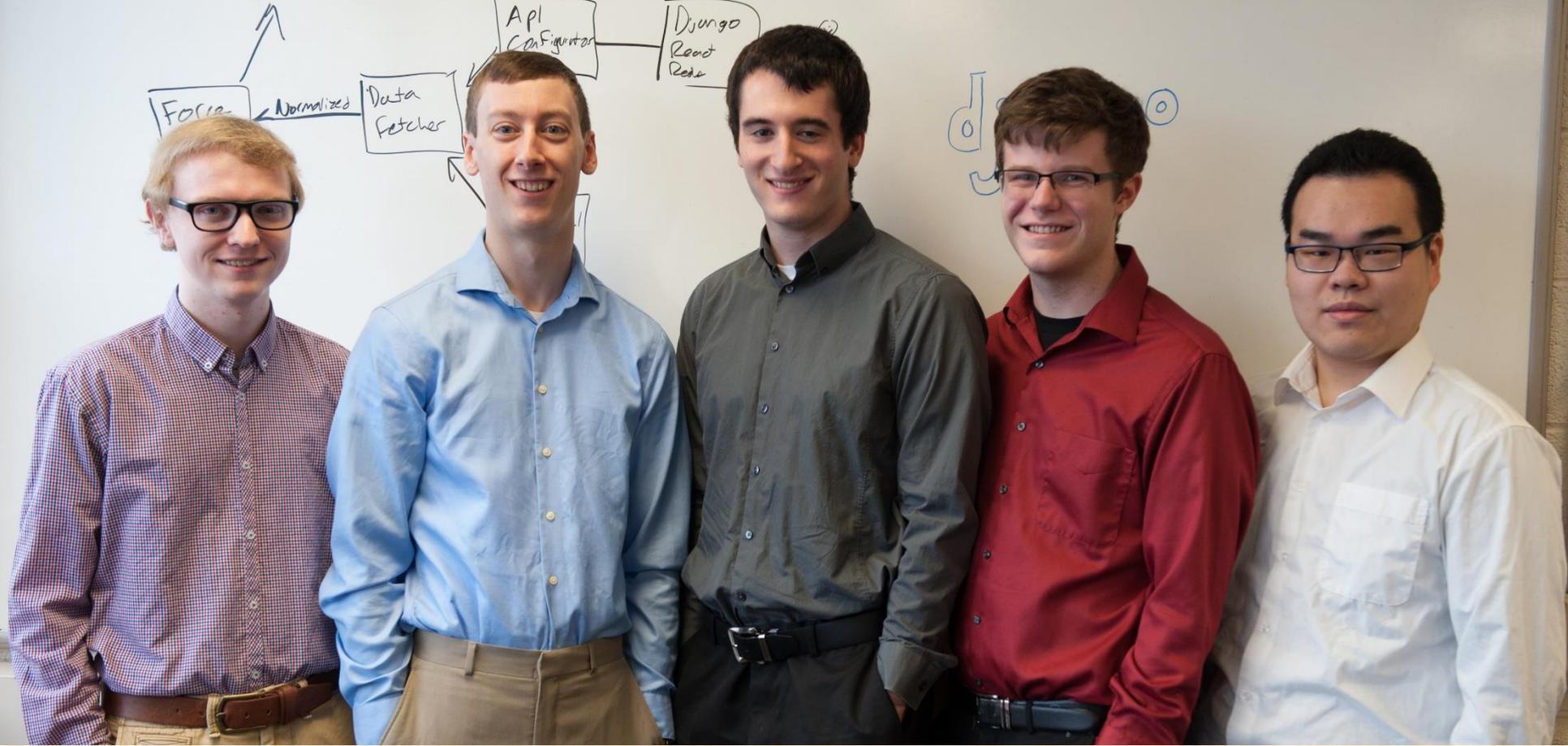
- Functionalities
 - Monitor, Detect and Eliminate Security Threats
 - Ingest Security Alerts into Rook's FORCE Platform
- Features
 - Normalize Disparate Inputs to JSON
 - Firewalls
 - Intrusion Detection Systems
 - Endpoint Detection and Response Systems
 - Store Credentials and Contexts Securely
 - Correlate Alerts During Ingestion
 - Leverage Machine Learning
 - Pre-screen for Additional Human Analysis
 - Provide Administrative Web App
 - Configure API Connectors
 - Resource Scheduling
 - Query API Endpoint to Request Alerts
- Technologies
 - CSS / HTML / JavaScript / React / Redux
 - Python / Python Django
 - Ubuntu Linux
 - MySQL / DynamoDB / Elasticsearch
 - RESTful Web Services
 - Machine Learning



ROOK
SECURITY
Indianapolis, Indiana

The Capstone Experience





Team Rook

Will McGee, Mark Velez, Roy Barnes, Matthew Hammerly, Chiyu Song

Team Rook Project Plan Presentation

Screen Mockup

Welcome back, *insert employee name* LOG OFF Name of tool or 'Force'

+ Add connection Edit Cases Make case Add to case

Each of these are alerts

API A EDIT

Visual dividing space

API B EDIT

◆	Alert type	Time	IP address	other fields	etc.
◆	Alert type	Time	IP address	other fields	etc.
◆	Alert type	Time	IP address	other fields	etc.
◆	Alert type	Time	IP address	other fields	etc.

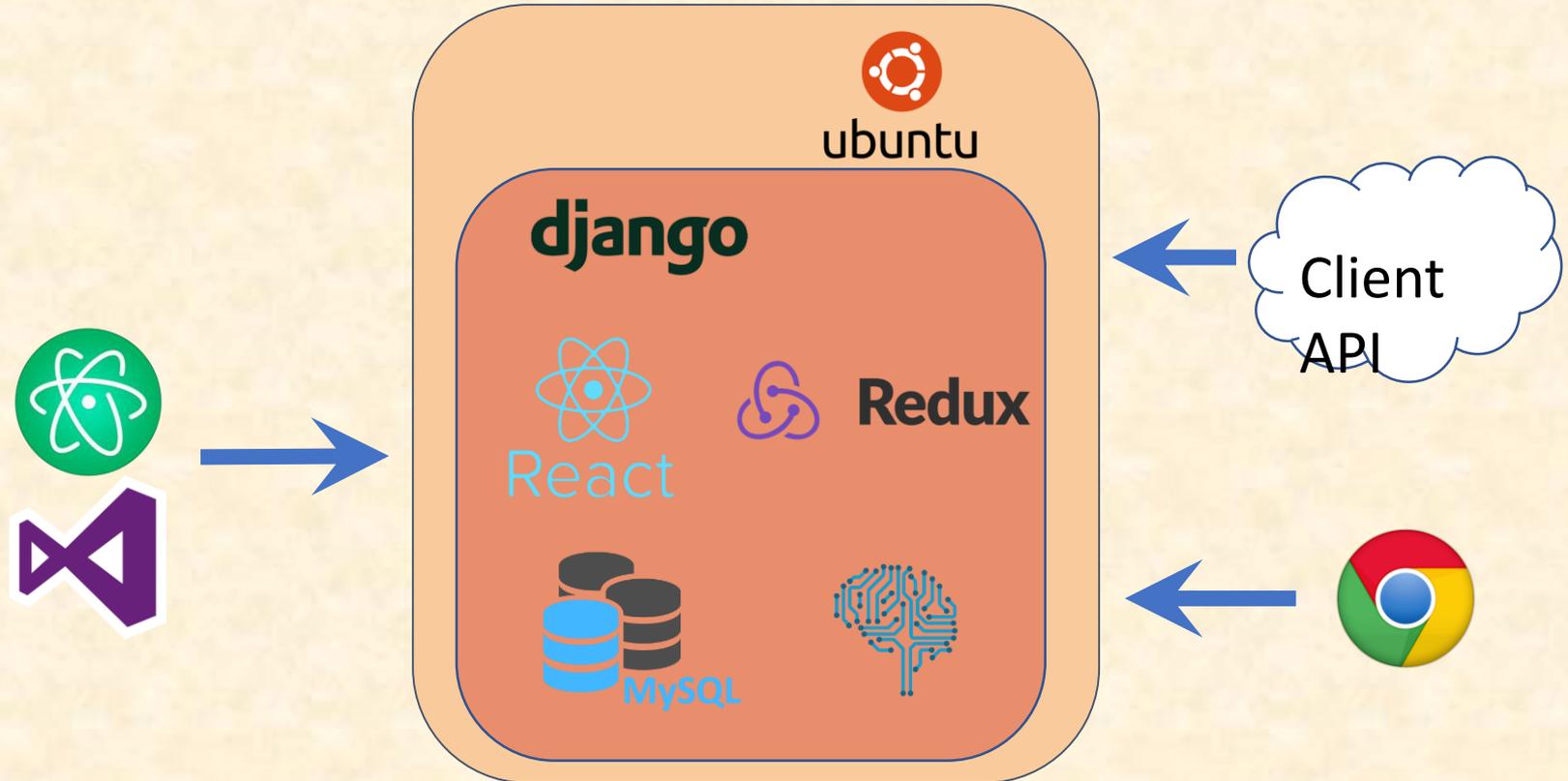




Team Rook Project Plan Presentation

Team Rook Project Plan Presentation

Architecture Diagram

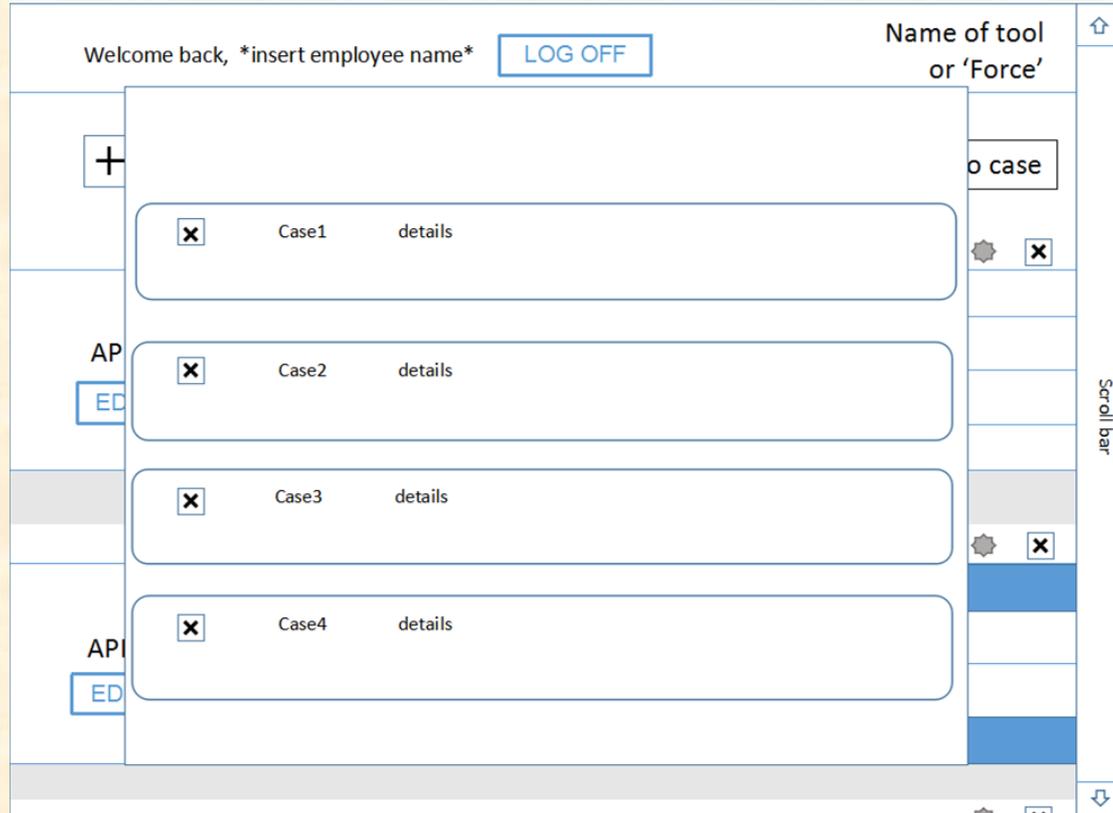




Team Rook
Project Plan Presentation

Team Rook Project Plan Presentation

Screen Mockup





Team Rook
Alpha Presentation

Team Rook Alpha Presentation

e.

Alerts Page

The screenshot shows a web browser window displaying the 'Force PIT | Alerts' page. The browser address bar shows 'localhost:3000'. The page header features the 'ROOK SECURITY' logo on the left, 'FORCE PIT' in large yellow text in the center, and 'Hello, User!' on the right. Below the header, there are three buttons: 'Edit Cases', 'Make Case', and 'Add to case'. A search bar is located on the right side of the header area. The main content is a table of alerts with the following data:

Company	IP Address	Timestamp	Alert Type
Company 1	62.14.233.98	2016-08-15 11:14	Real Alert
Company 2	test ip	TEST TIME	Test Alert
Company 3	test ip	TEST TIME	Test Alert
Company 4	test ip	TEST TIME	Test Alert
Company 5	test ip	TEST TIME	Test Alert
Company 6	test ip	TEST TIME	Test Alert
Company 7	test ip	TEST TIME	Test Alert
Company 8	test ip	TEST TIME	Test Alert
Company 9	test ip	TEST TIME	Test Alert
Company 10	test ip	TEST TIME	Test Alert
Company 11	test ip	TEST TIME	Test Alert

The Capstone Experience



Team Rook Alpha Presentation

e.

Configuring an API

```
"message": "sqlservr: 2020/12/10/09:39:00",
"message": "sqlservr (2744) The database engine detached a database (2,
C:\\Windows\\system32\\logfiles\\Sum\\SystemIdentity.mdb). (Time=0 seconds) \\r\\n
\\r\\nInternal Timing Sequence: [1] 0.000, [2] 0.000, [3] 0.000, [4] 0.000, [5]
0.000, [6] 0.000, [7] 0.000, [8] 0.000, [9] 0.000, [10] 0.000, [11] 0.000, [12]
0.016. \\r\\nRevised Cache: 0",
"opcode": "Info",
"processid": 0,
"recordnumber": 76370,
"severityvalue": 2,
"sourceModuleName": "eventlog",
"sourceModuleType": "in_mvistalog",
"sourceName": "KSENT",
"task": 1,
"threadid": 0,
"host": "10.222.195.227",
"hostname": "bpg-hyper1.smg.local",
"port": 58138,
"rook_client": "example_customer",
```

Data mapping

Add field mapping Remove field mapping

HostIP	key("_source").key("host")
Description	key("_source").key("Mes

Test mapping





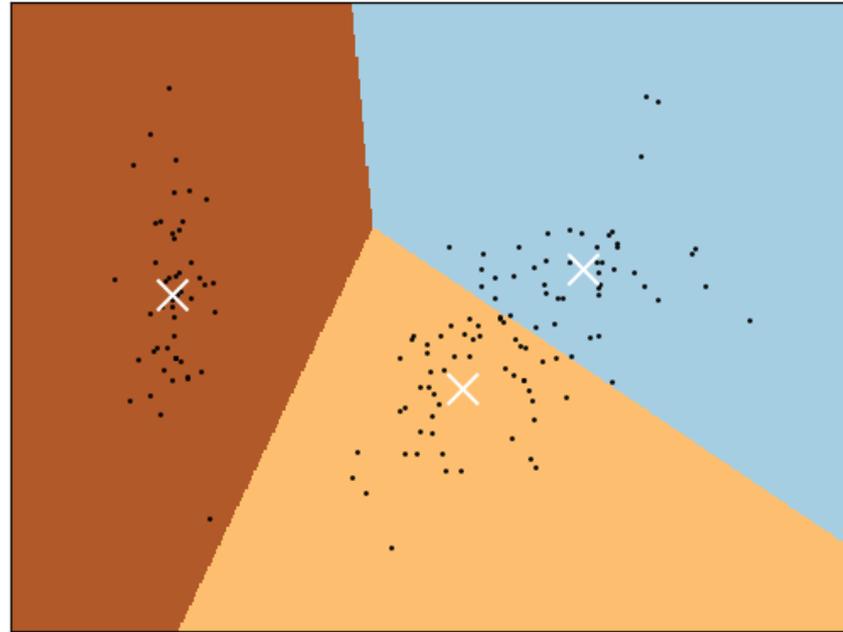
Team Rook
Alpha Presentation

Team Rook Alpha Presentation

e.

Machine Learning Cluster

Scikit-Learn Clustering on Test Data





Data Flow Walkthrough (cont.)



Team Rook
Beta Presentation

Team Rook Beta Presentation

e.

Alerts Page

FORCE PIT Hello, User!

Go to Tickets Go to Jobs Refresh All Companies Logout

Severity	Title	ID	Attacker IP	Time Logged	Actions		
critical	Company 1	test id	62.14.233.98	2016-08-15 11:14	Select: +		
Alert Details:							
Attacker IP Address	Victim IP Address	Host Criticality	Payload				
62.14.233.98	10.90.5.27	2	No Payload				
Geolocation	Host Name	Asset Type					
Madrid, Madrid	web-srv-01	Financial					
Reputation	Host Information						
Unknown [3/5]	Windows 2008R2						
Severity	Title	ID	Attacker IP	Time Logged	Actions		
high	Company 2	test id2	141.25.116.100	2016-08-15 9:57	Select: +		
Severity	Title	ID	Attacker IP	Time Logged	Suggested Ticket	Approve	Reject
critical	Company 3	test id3	101.98.255.12	2016-08-15 8:22	2	+ (check)	X
Severity	Title	ID	Attacker IP	Time Logged	Actions		
medium	Company 1	test id4	101.98.343.117	2016-08-15 4:43	Select: +		
Severity	Title	ID	Attacker IP	Time Logged	Actions		
low	Company 1	test id5	188.64.44.117	2016-08-15 4:42	Select: +		

The Capstone Experience



Team Rook Beta Presentation

e.

Ticket Panel

The screenshot displays the FORCE PIT web application interface. The main content area shows a list of tickets with columns for severity, title, ID, attacker IP, time logged, and suggested tickets. A sidebar on the right provides details for the selected ticket, including case subject, description, and a 'BUILD TICKET' button.

Severity	Title	ID	Attacker IP	Time Logged	Suggested Ticket	Actions
critical	Company 1	test id	62.14.233.98	2016-08-15 11:14		Select
high	Company 2	test id2	141.25.116.100	2016-08-15 9:57		Select
critical	Company 3	test id3	101.98.255.12	2016-08-15 8:22	2	Approve, Reject
medium	Company 1	test id4	101.98.343.117	2016-08-15 4:43		Select
low	Company 1	test id5	188.64.44.117	2016-08-15 4:42		Select
low	Company 2	test id6	156.123.578.64	2016-08-15 4:03		Select
high	Company 3	test id7	17.231.24.78	2016-08-15 4:03	1	Approve, Reject
medium	Company 3	test id8	17.231.24.78	2016-07-15 23:58		Select
medium	Company 3	test id9	17.231.24.78	2016-07-15 23:58	NEW TICKET 1	Approve, Reject
low	Company 3	test id10	153.21.124.55	2016-07-15 23:59		Select
high	Company 3	test id11	153.251.98.217	2016-07-15 23:57		Select

TICKET DETAILS
Case Subject: Recent Database Attacks
Description: A series of database attacks across multiple clients around the same time frame.

BUILD TICKET

Add to Ticket

PLEASE CHOOSE A TICKET: ...

ADD TO TICKET





Team Rook Beta Presentation

Team Rook Beta Presentation

e.

Ticket Editing

ROOK SECURITY **FORCE PIT** Hello, User! [Logout](#)

[Back to Alerts](#)

Subject	ID	Time created	Last updated	Created by ML	Save:	Revert:
2nd	2	2016-09-15 11:14	2016-12-15 11:14	No		

Description

A recent increase in database-related attacks from a number of IP's around the geolocation of Cambodia.

Associated alerts

test id4	test id5	test id6	test id7	test id8	test id9	test id10	test id11	test id12	test id12	test id12	test id12
test id12											

Subject	ID	Time created	Last updated	Created by ML	Edit:	Delete:
1st	1	2016-08-15 11:14	2016-11-15 11:14	Yes		





Team Rook
Design Day

MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Team Spectrum Health

Department of Computer Science and Engineering
Michigan State University
Spring 2017



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

SPECTRUM HEALTH





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 ▼

Team Spectrum Health Project Overview

Resident Physician Tracking

- Functionalities
 - Assist Resident Physicians Becoming Doctors
 - Enable Residents to Track Their Shift Times
- Features
 - Create Native Mobile Apps for Residents
 - Send Notifications When Approaching Time Limits
 - Allow for Automatic and Manual Input of Times
 - Ensure Adheres to Federal Time Limit Mandates
 - Provide Administrative Portal for Resident Coordinator
 - Support Both Google Android and Apple iOS
- Technologies
 - Apple iPads and iPhones (iOS) / Swift
 - Google Android Tablets and Phones / Java
 - CSS3 / HTML5 / Angular 2 / TypeScript
 - Microsoft .NET Core / C#
 - Microsoft Framework Core
 - Microsoft SQL Server
 - GitHub



SPECTRUM HEALTH

Grand Rapids, Michigan





Team Spectrum Health
Hao Chen, Katie Foss, Matt Lamb, Matt Hannan

Team Spectrum Health Project Plan Presentation

Screen Mockup

Resident Tracking

Start

Dec	28	2016
Jan	29	2017
Feb	30	2018

8	49	AM	
9	:	50	PM
10	51		

Stop

Dec	28	2016
Jan	29	2017
Feb	30	2018

8	49	AM	
9	:	50	PM
10	51		

Reset Submit

Resident Tracking

01/25/2017

Start 11:15 PM

Duration 00:00

START

Restrictions

30 min break after **20 min**

Shift must end after 10 hours

RESET SUBMIT

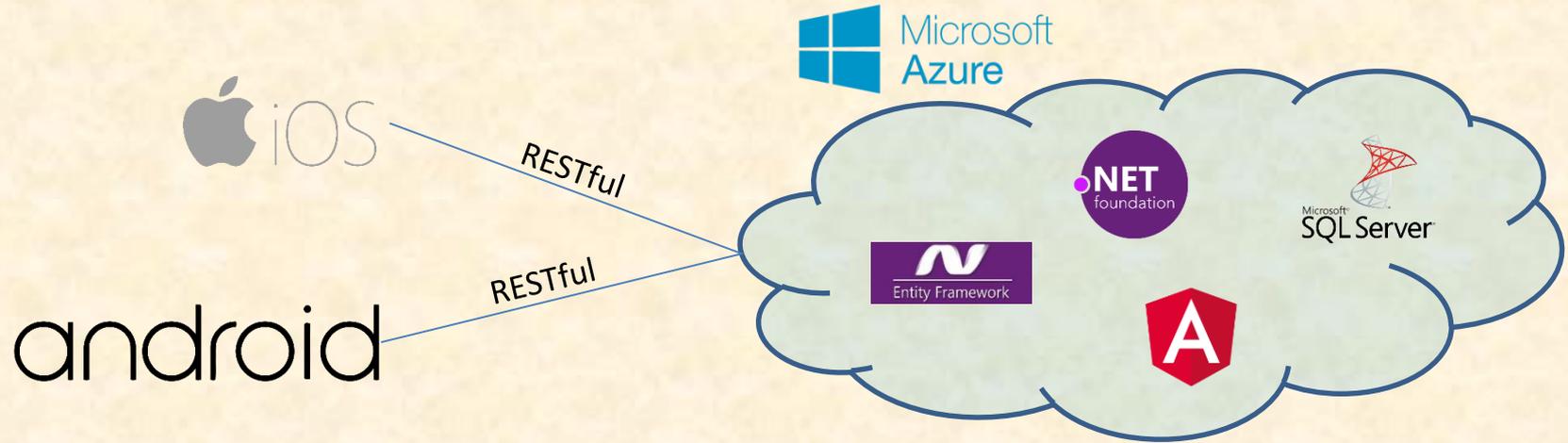


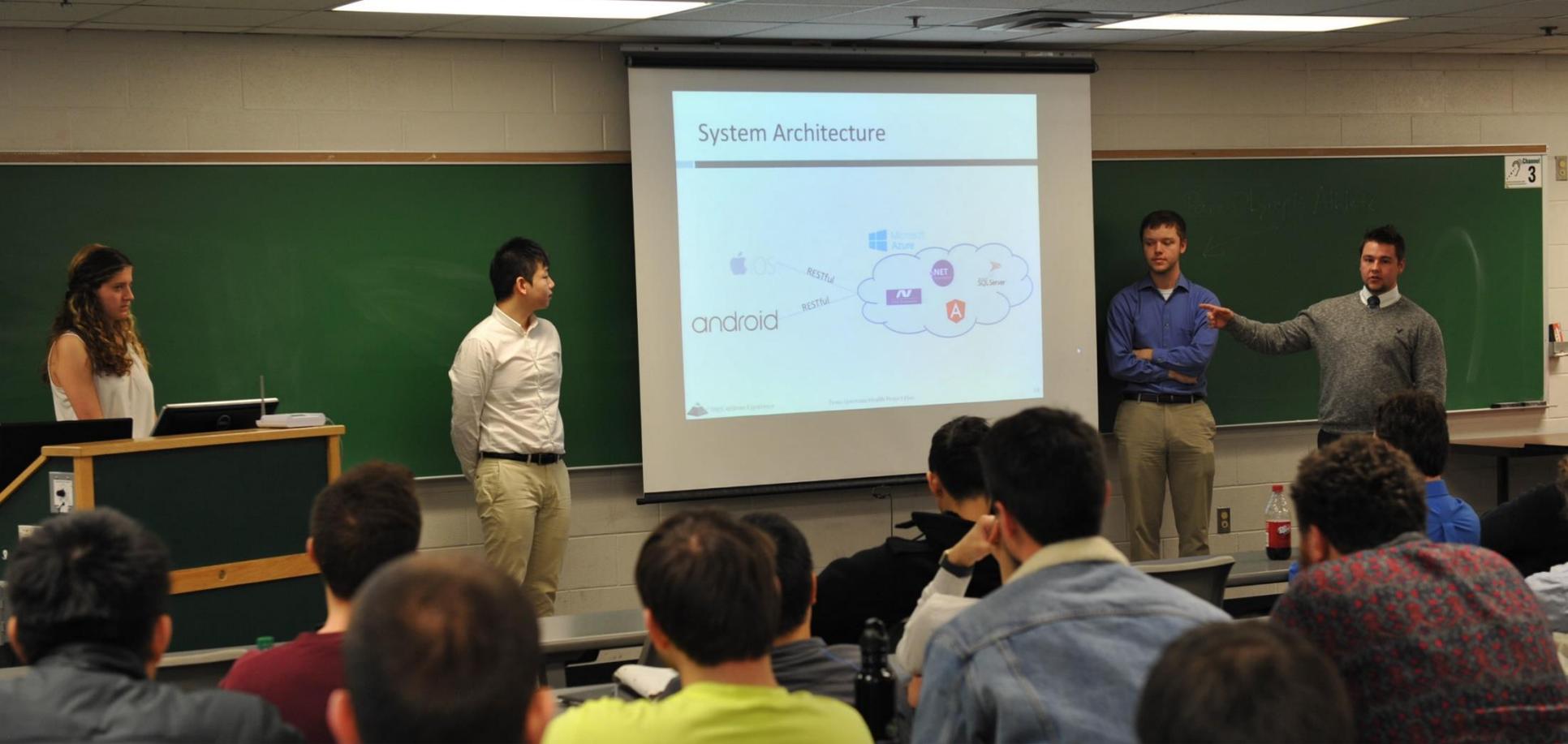


Team Spectrum Health Project Plan Presentation

Team Spectrum Health Project Plan Presentation

Architecture Diagram





Team Spectrum Health
Project Plan Presentation

Team Spectrum Health Project Plan Presentation

e.

Screen Mockup

iPhone SE – iOS 10.2 (14C89)
Carrier 8:22 PM

< Resident Tracking

Shift Tracking

Start 00:00

Duration 00:00

Restrictions

30 min break afte... **20 min**

Shift must end aft... 10 hours

Reset Submit

Lectures Shifts Skills

iPhone SE – iOS 10.2 (14C89)
Carrier 9:16 PM

< Resident Tracking

Manual Shift Entry

Start 1/2/2017 9:00 PM

End 1/3/2017 10:30 PM

Fri Jan 27	7	14	
Sat Jan 28	8	15	AM
Today	9	16	PM
Mon Jan 30	10	17	
Tue Jan 31	11	18	

Reset Submit

Lectures Shifts Skills





Team Spectrum Health Alpha Presentation

Team Spectrum Health Alpha Presentation

Android: Shift Tracking Features

Timer

Start 09:27 PM

Duration 00:08

Assignment Definition Daily Check In

Training Location Grand River Su..

STOP

Restrictions

30 min break after 20 min

Shift must end after 10 hours

RESET SUBMIT

Manual Time Entry

Assignment Definition Daily Check In

Training Location Grand River Su..

Start

Jan	19	2016
Feb	20	2017
Mar	21	2018

8 20 AM

9 : 21 PM

10 22

Stop

Jan	19	2016
Feb	20	2017
Mar	21	2018

8 20 AM

9 : 21 PM

10 22

RESET SUBMIT

Shift Log

Start: 1/16/16 10:00AM
End: 1/17/16 1:00AM
Location: Children's Hospital
Assignment: Peds

Start: 1/16/16 10:00AM
End: 1/17/16 1:00AM
Location: Children's Hospital
Assignment: Peds

Start: 1/16/16 10:00AM
End: 1/17/16 1:00AM
Location: Children's Hospital
Assignment: Peds

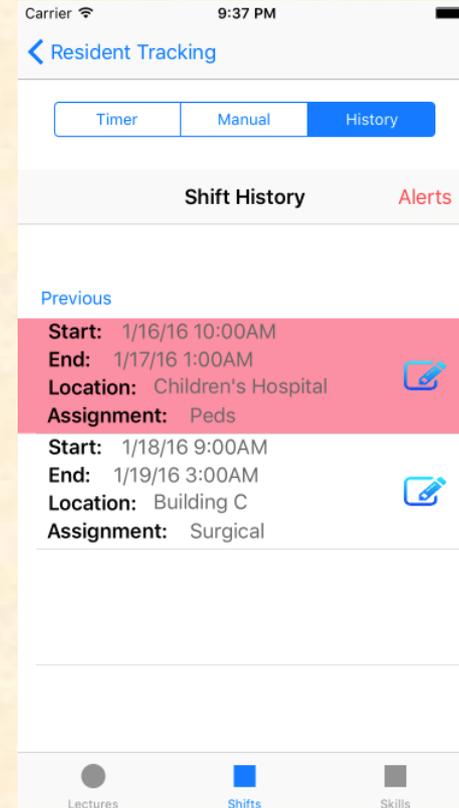
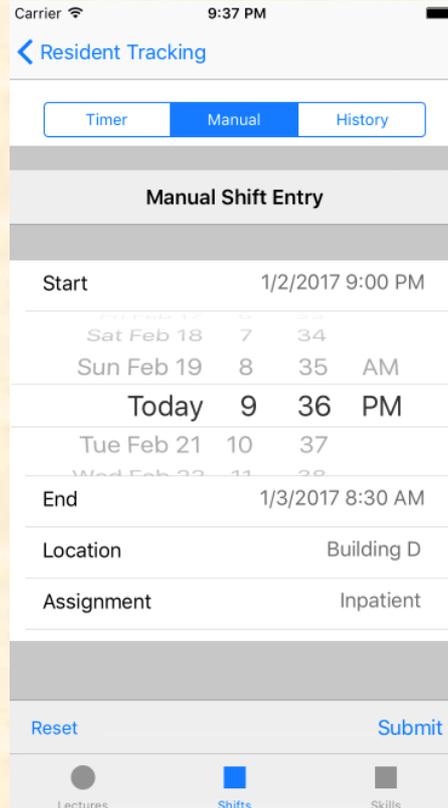
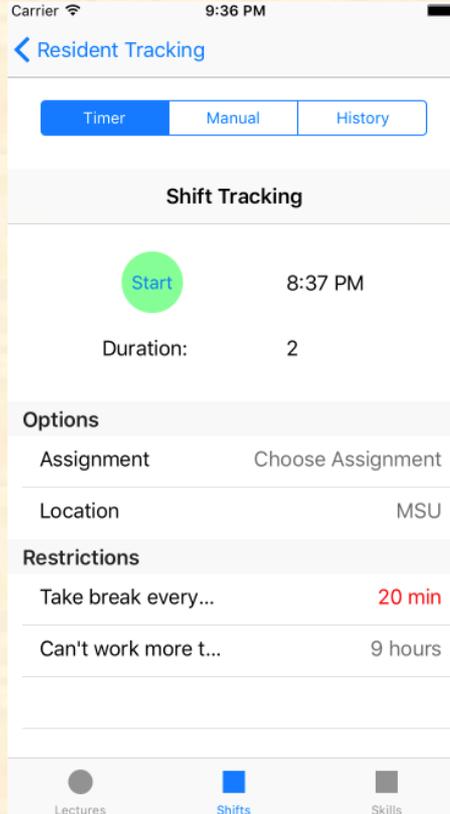
Start: 1/16/16 10:00AM
End: 1/17/16 1:00AM
Location: Children's Hospital
Assignment: Peds

Start: 1/16/16 10:00AM
End: 1/17/16 1:00AM
Location: Children's Hospital
Assignment: Peds



Team Spectrum Health Alpha Presentation

iOS: Shift Tracking Features





Shifts Information Table

Shift No.	Shift Title	Shift Date	Location No.	Assignment No.
1	0000001 01:00-04:00	0000001 01:00-04:00	1	1
2	0000002 01:00-04:00	0000002 01:00-04:00	1	2
3	0000003 01:00-04:00	0000003 01:00-04:00	1	3
4	0000004 01:00-04:00	0000004 01:00-04:00	1	4
5	0000005 01:00-04:00	0000005 01:00-04:00	1	5
6	0000006 01:00-04:00	0000006 01:00-04:00	1	6
7	0000007 01:00-04:00	0000007 01:00-04:00	1	7
8	0000008 01:00-04:00	0000008 01:00-04:00	1	8
9	0000009 01:00-04:00	0000009 01:00-04:00	1	9
10	0000010 01:00-04:00	0000010 01:00-04:00	1	10

Team Spectrum Health
Alpha Presentation

Team Spectrum Health Alpha Presentation

e.

Web Portal

ShiftsTracking - ResidentTrack x Hao

localhost:5000

ResidentTracking Shifts Tracking Lecture Attendance Skills Validation Register Log in

Shifts Information Table

Search by User ID:

User ID	Start Time	End Time	Location ID	Assignment ID
3	02/14/2017 12:33:00	02/14/2017 17:33:00	2	1
3	02/14/2017 16:37:29		2	12
5	02/14/2017 16:37:56	02/14/2017 18:37:00	6	1
7	02/14/2017 16:54:53		7	7
5	02/14/2017 16:57:28		6	7
7	02/13/2017 09:30:00		7	7
8	02/13/2017 09:30:00	02/14/2017 18:30:00	8	8
9	02/14/2017 17:20:56		9	9
3	02/12/2024 00:00:00		18	14
3	02/12/2024 00:00:00		18	14
12	02/15/2017 00:53:41		17	15
12	02/15/2017 01:04:02		17	15
99	02/15/2017 21:33:13		1	1
99	02/15/2017 21:33:13		1	1
5	02/15/2017 19:46:54		3	22
53	02/15/2017 19:47:20		3	22
99	01/17/2017 16:35:00	01/17/2017 16:35:00	1	1
99	01/17/2017 16:59:00	01/17/2017 22:59:00	1	7

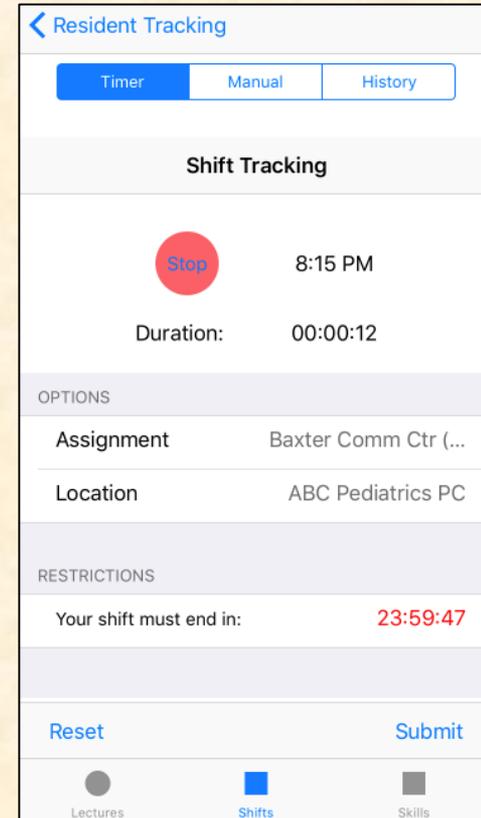
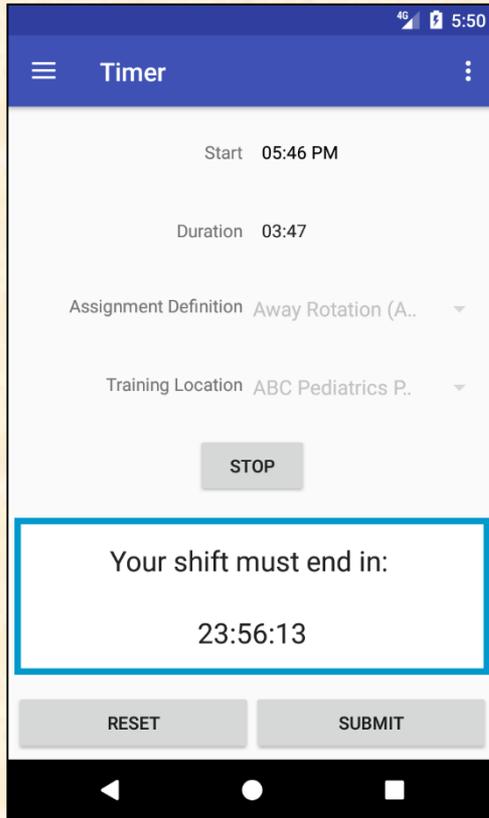




Team Spectrum Health Beta Presentation

Team Spectrum Health Beta Presentation

Shift Timer Screen



Team Spectrum Health Beta Presentation

e.

Manual Entry Screen

Manual Time Entry

Assignment Definition **Baxter Comm Ctr.**

Training Location **ABC Pediatrics P.**

Start

Mar	01	2016
Apr	02	2017
May	03	2018

12 : 39 AM
1 : 40 PM
2 : 41 PM

Stop

Mar	01	2016
Apr	02	2017
May	03	2018

10 : 39 AM
11 : 40 PM
12 : 41 PM

RESET SUBMIT

Resident Tracking

Timer Manual History

Manual Shift Entry

Start 4/2/17, 5:38 PM

Fri Mar 31 3 36

Sat Apr 1 4 37 AM

Today 5 38 PM

Mon Apr 3 6 39

Tue Apr 4 7 40

End 4/2/17, 8:09 PM

Assignment Baxter Comm Ctr...

Location ABC Pediatrics PC

Reset Submit

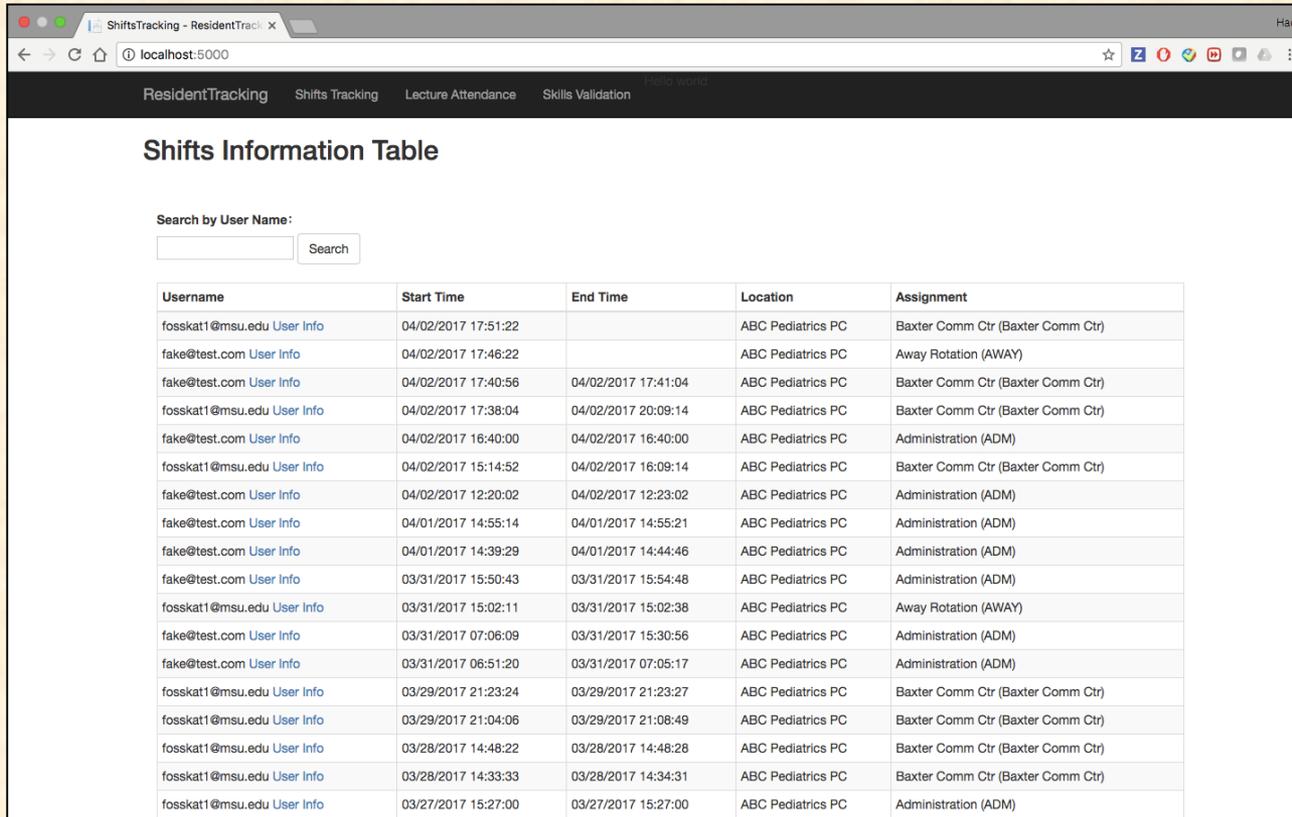
Lectures Shifts Skills



Team Spectrum Health Beta Presentation

Team Spectrum Health Beta Presentation

Admin Web Portal



ResidentTracking Shifts Tracking Lecture Attendance Skills Validation

Shifts Information Table

Search by User Name:

Username	Start Time	End Time	Location	Assignment
fosskat1@msu.edu User Info	04/02/2017 17:51:22		ABC Pediatrics PC	Baxter Comm Ctr (Baxter Comm Ctr)
fake@test.com User Info	04/02/2017 17:46:22		ABC Pediatrics PC	Away Rotation (AWAY)
fake@test.com User Info	04/02/2017 17:40:56	04/02/2017 17:41:04	ABC Pediatrics PC	Baxter Comm Ctr (Baxter Comm Ctr)
fosskat1@msu.edu User Info	04/02/2017 17:38:04	04/02/2017 20:09:14	ABC Pediatrics PC	Baxter Comm Ctr (Baxter Comm Ctr)
fake@test.com User Info	04/02/2017 16:40:00	04/02/2017 16:40:00	ABC Pediatrics PC	Administration (ADM)
fosskat1@msu.edu User Info	04/02/2017 15:14:52	04/02/2017 16:09:14	ABC Pediatrics PC	Baxter Comm Ctr (Baxter Comm Ctr)
fake@test.com User Info	04/02/2017 12:20:02	04/02/2017 12:23:02	ABC Pediatrics PC	Administration (ADM)
fake@test.com User Info	04/01/2017 14:55:14	04/01/2017 14:55:21	ABC Pediatrics PC	Administration (ADM)
fake@test.com User Info	04/01/2017 14:39:29	04/01/2017 14:44:46	ABC Pediatrics PC	Administration (ADM)
fake@test.com User Info	03/31/2017 15:50:43	03/31/2017 15:54:48	ABC Pediatrics PC	Administration (ADM)
fosskat1@msu.edu User Info	03/31/2017 15:02:11	03/31/2017 15:02:38	ABC Pediatrics PC	Away Rotation (AWAY)
fake@test.com User Info	03/31/2017 07:06:09	03/31/2017 15:30:56	ABC Pediatrics PC	Administration (ADM)
fake@test.com User Info	03/31/2017 06:51:20	03/31/2017 07:05:17	ABC Pediatrics PC	Administration (ADM)
fosskat1@msu.edu User Info	03/29/2017 21:23:24	03/29/2017 21:23:27	ABC Pediatrics PC	Baxter Comm Ctr (Baxter Comm Ctr)
fosskat1@msu.edu User Info	03/29/2017 21:04:06	03/29/2017 21:08:49	ABC Pediatrics PC	Baxter Comm Ctr (Baxter Comm Ctr)
fosskat1@msu.edu User Info	03/28/2017 14:48:22	03/28/2017 14:48:28	ABC Pediatrics PC	Baxter Comm Ctr (Baxter Comm Ctr)
fosskat1@msu.edu User Info	03/28/2017 14:33:33	03/28/2017 14:34:31	ABC Pediatrics PC	Baxter Comm Ctr (Baxter Comm Ctr)
fosskat1@msu.edu User Info	03/27/2017 15:27:00	03/27/2017 15:27:00	ABC Pediatrics PC	Administration (ADM)





Team Spectrum Health
Design Day

MICHIGAN STATE
UNIVERSITY

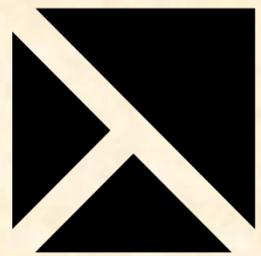
The Capstone Experience

Team TechSmith

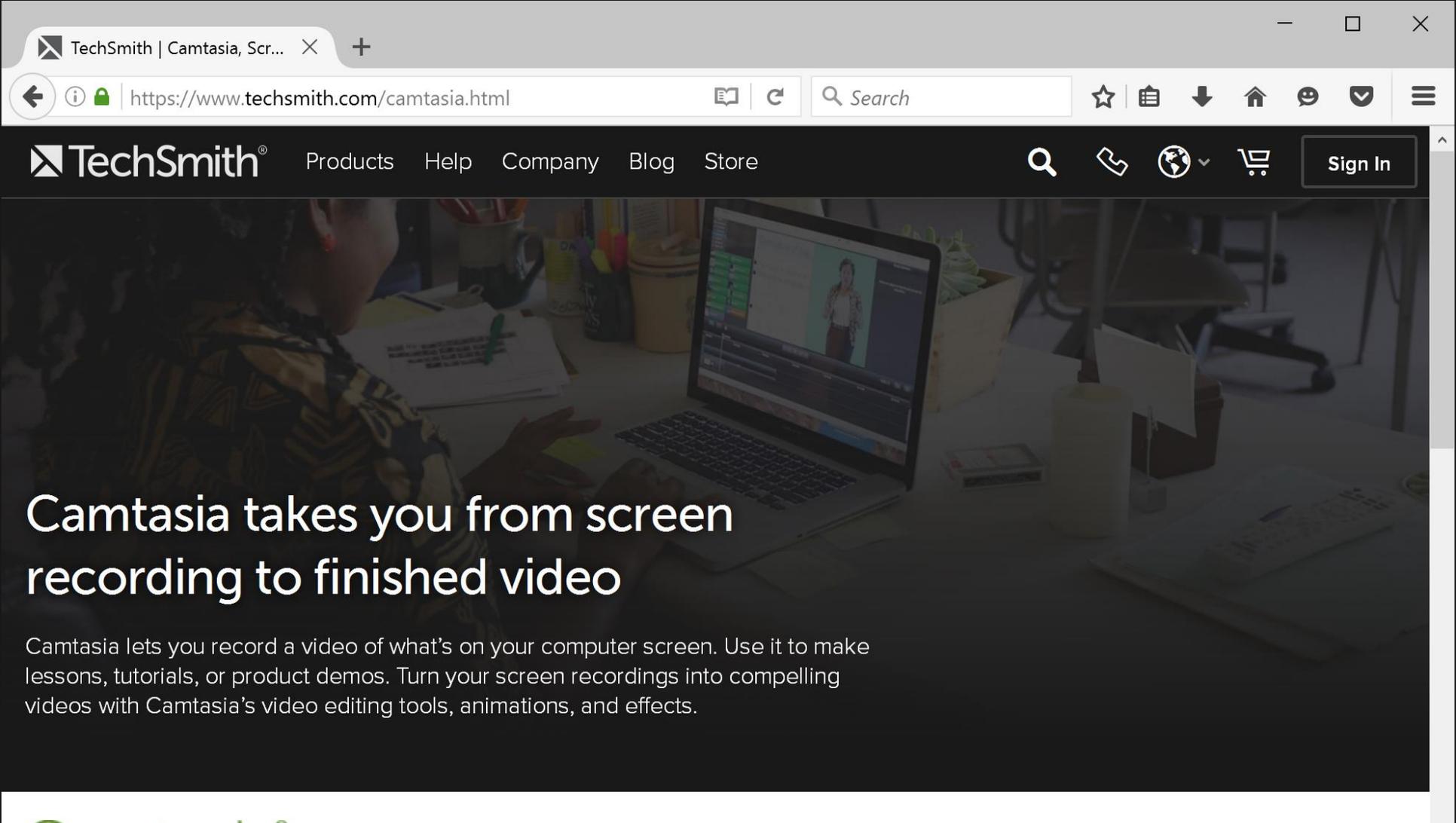
Department of Computer Science and Engineering
Michigan State University
Spring 2017



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



TechSmith[®]



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

Teacher's Virtual Toolbelt

- Functionalities
 - Improve the Teaching of Classical Mechanics
 - Use Augmented Reality with Microsoft's HoloLens
- Features
 - Create HoloLens App and Website and Web Service
 - Stream HoloLens Experience to Website
 - Support Hand Gestures and Voice Commands
 - Enable Lesson Planning and Delivery Using Website
 - Provide Various Holograms
 - 2D/3D Shapes Like Arrows, Lines Squares and Circles
 - Text
 - Reference Materials Like Wikipedia Articles
 - Implement Data Store as Web Service
- Technologies
 - Microsoft HoloLens App Development
 - Unity Game Engine
 - Microsoft Azure Cloud Computing
 - ASP.NET MVC
 - CSS / HTML / JavaScript / PHP



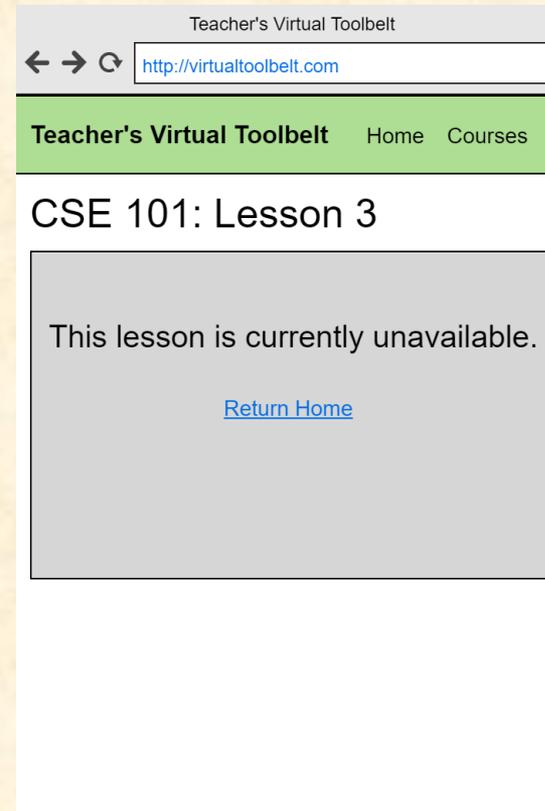
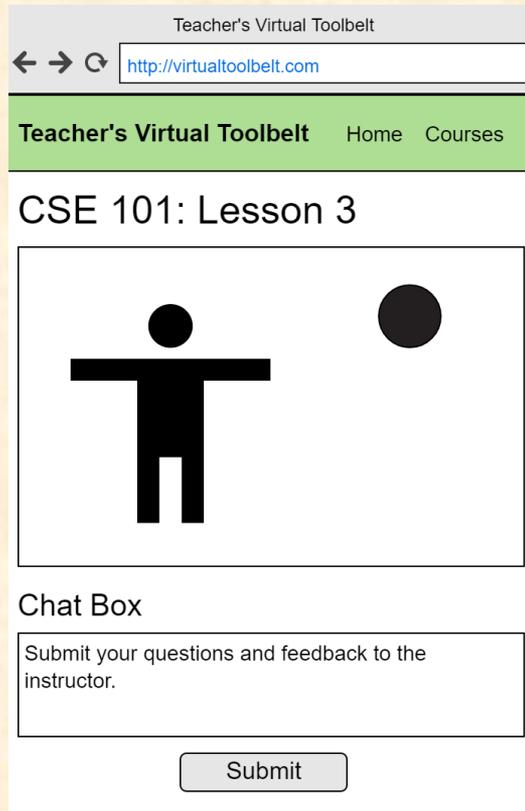


Team TechSmith

Yang He, Alex Crimin, Ryan Cornillie, Zeke Zandbergen

Team TechSmith Project Plan Presentation

Screen Mockups



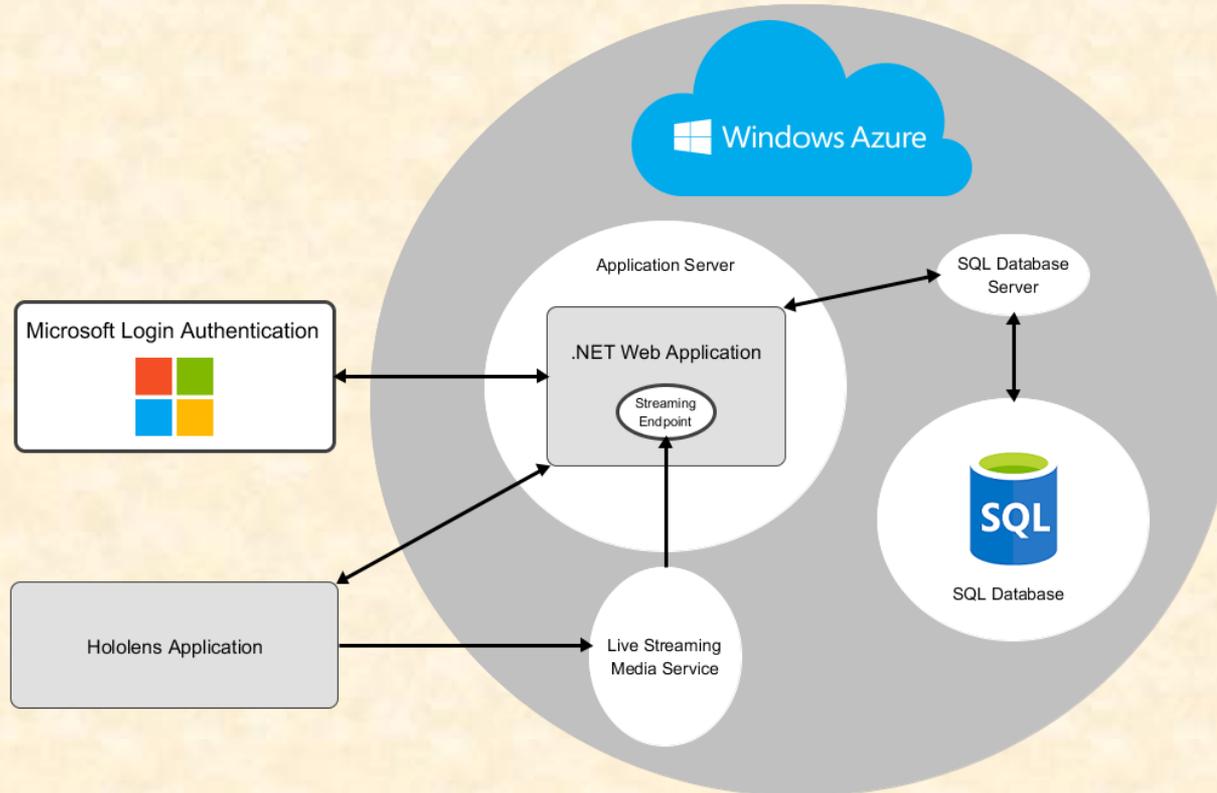


Team TechSmith Project Plan Presentation

Team TechSmith Project Plan Presentation

Architecture Diagram

Visual Paradigm Standard Edition (Michigan State University)

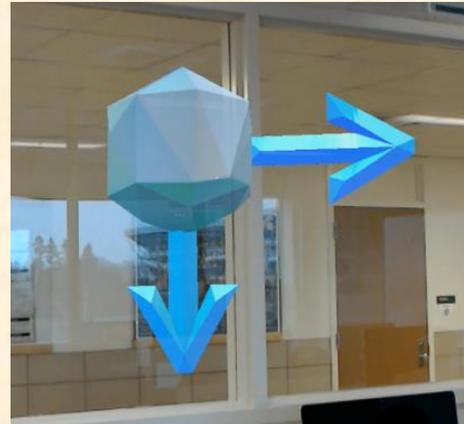
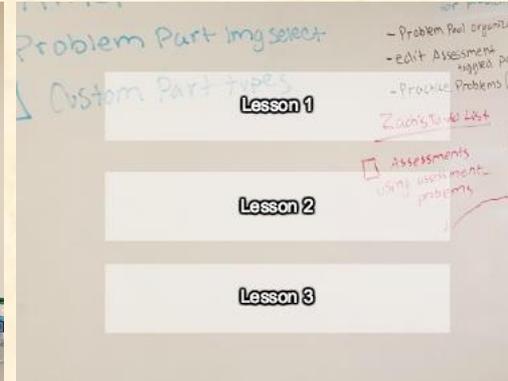
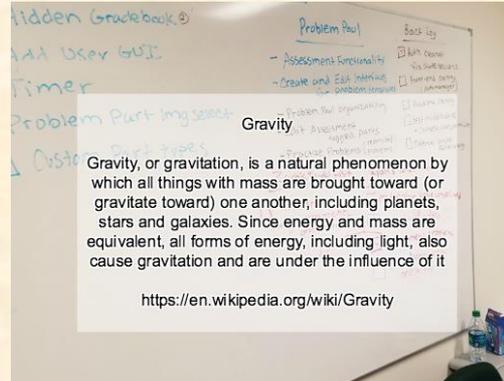




Team TechSmith Project Plan Presentation

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Screen Mockups



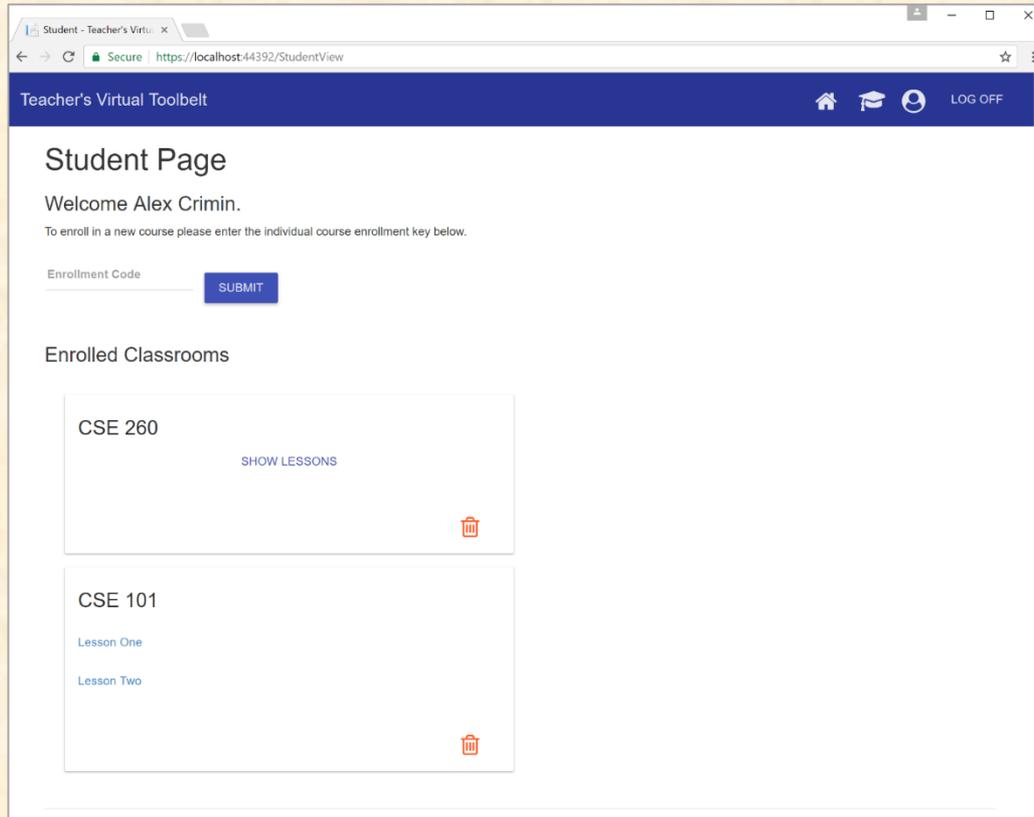


Team TechSmith Alpha Presentation

Team TechSmith Alpha Presentation

e.

Student Lesson Selection



The screenshot shows a web browser window with the following elements:

- Browser Tab:** Student - Teacher's Virtu...
- Address Bar:** Secure https://localhost:44392/StudentView
- Header:** Teacher's Virtual Toolbelt with navigation icons (home, graduation cap, refresh) and a LOG OFF button.
- Section:** Student Page
- Welcome Message:** Welcome Alex Crimin.
- Instruction:** To enroll in a new course please enter the individual course enrollment key below.
- Form:** Enrollment Code input field with a SUBMIT button.
- Section:** Enrolled Classrooms
- Classroom Card 1:** CSE 260 with a SHOW LESSONS button and a trash icon.
- Classroom Card 2:** CSE 101 with links for Lesson One and Lesson Two, and a trash icon.



Team TechSmith Alpha Presentation

Student Lesson View

The screenshot displays a web browser window with the URL `virtualtoolbelt.azurewebsites.net`. The page title is "Teacher's Virtual Toolbelt". The main content area is titled "PHY 184: Lesson 2" and features a video player. The video shows a classroom setting with a green chalkboard and a hand pointing at it. Text overlaid on the video reads "Planetary Motion" and "The Moon is 238,900 miles from Earth. It orbits the Earth every 27 days." To the right of the video is a "Student Questions" section with four questions and their authors: Katherine Stevenson (What causes different seasons?), Brandon Wolfe (How does the moon affect tides?), Jaime Henry (What is the force of gravity on the moon?), and Suzanne Marshall (When does a lunar eclipse occur?). Below the video is an "Ask a Question" section with a text input field and an "ASK" button. Underneath is a "Quiz" section with the question "What is the mass of the Earth?" and four radio button options: 3.141×10^{10} kg, 5.972×10^{24} kg, 1.989×10^{30} kg, and 1.983×10^{30} kg. A "NEXT QUESTION" button is located below the quiz options. The footer of the page contains the copyright notice "© 2017 - Teacher's Virtual Toolbelt".



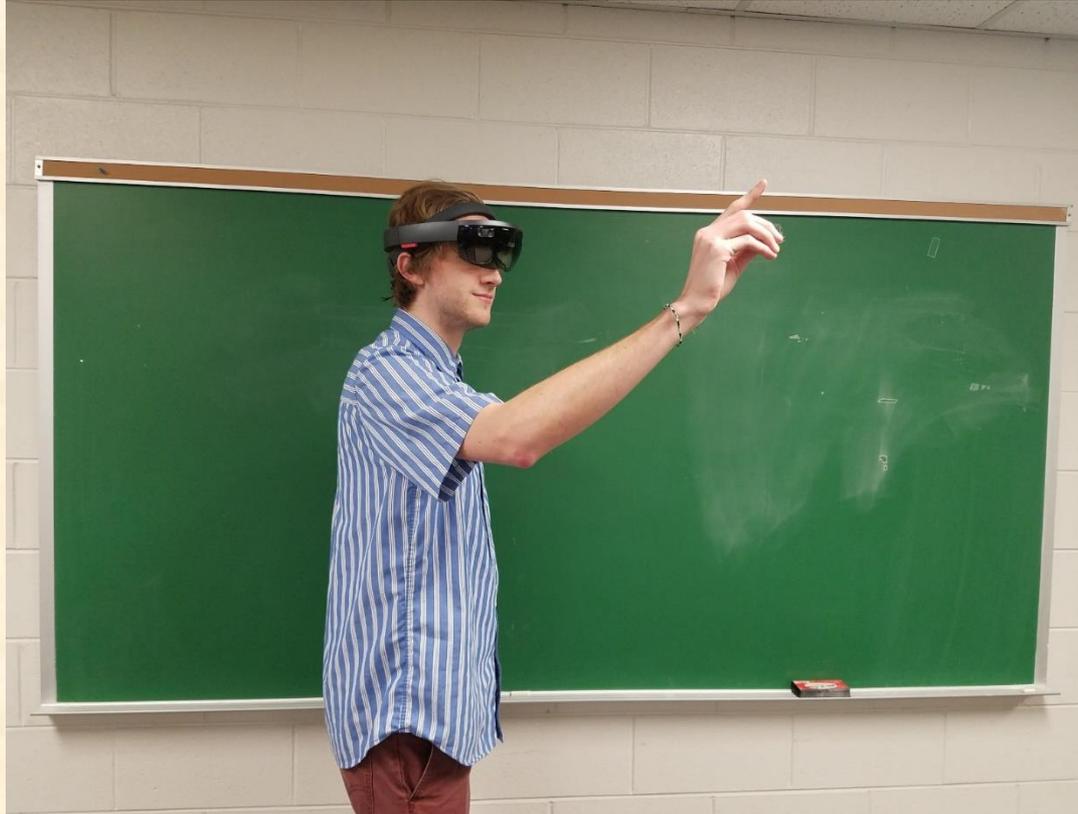


Team TechSmith Alpha Presentation

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e.

Teacher Using HoloLens



The Capstone Experience





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e.

Student Lesson View Page

virtualtoolbelt.azurewebsites.net

Index - Teacher's Virtual Toolbelt

Teacher's Virtual Toolbelt

Lesson 2

Lesson 2

Quiz 1

MORE VIDEOS -

6:49 / 11:51

Reference Material

Ask A Question

Question Anonymous

ASK

Student Questions

Ryan Cornille
New question

ANONYMOUS
not anon

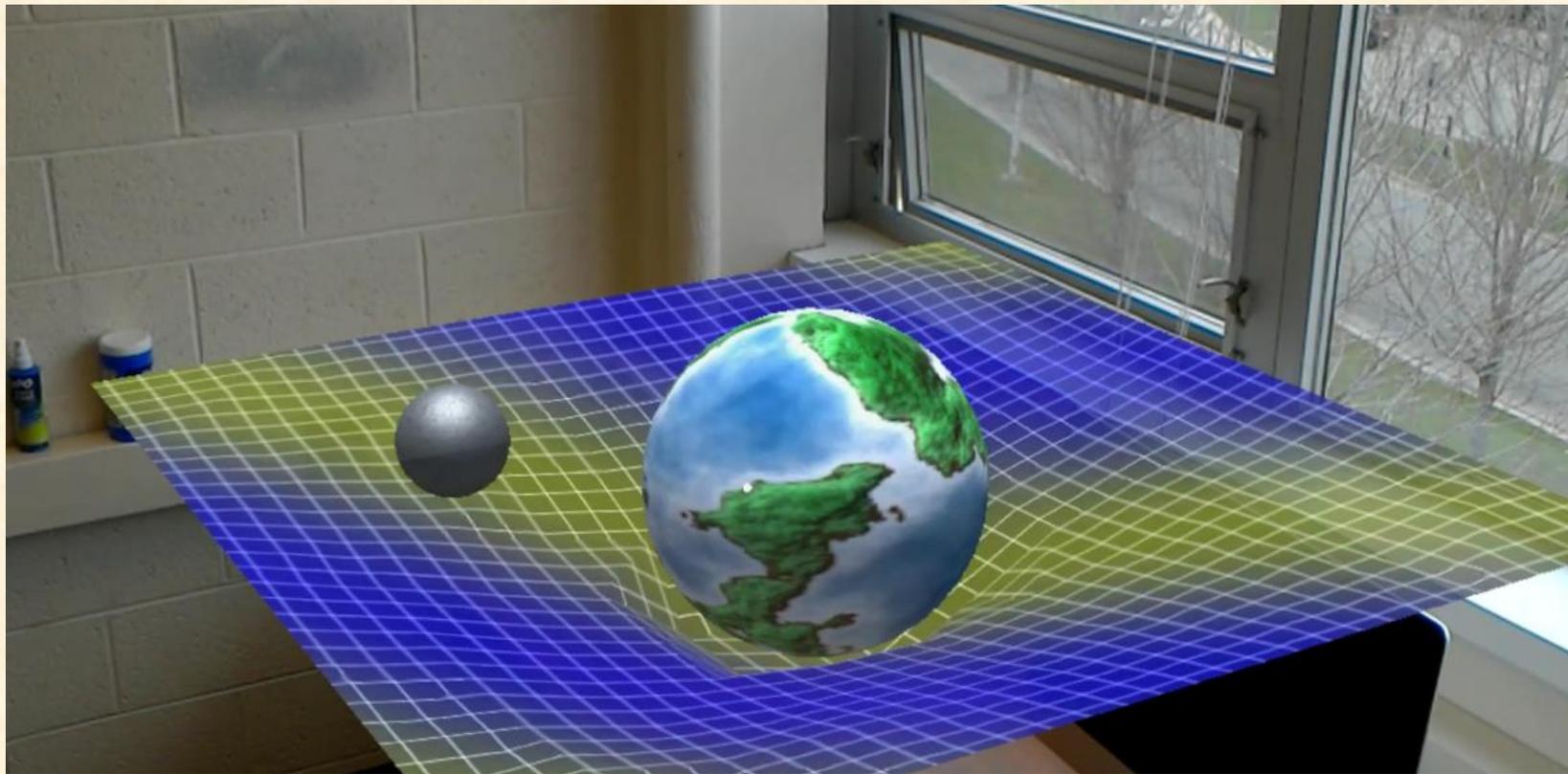
ANONYMOUS
This is the newest question!!!!



Team TechSmith Beta Presentation

e.

HoloLens Spacetime Demo



The Capstone Experience

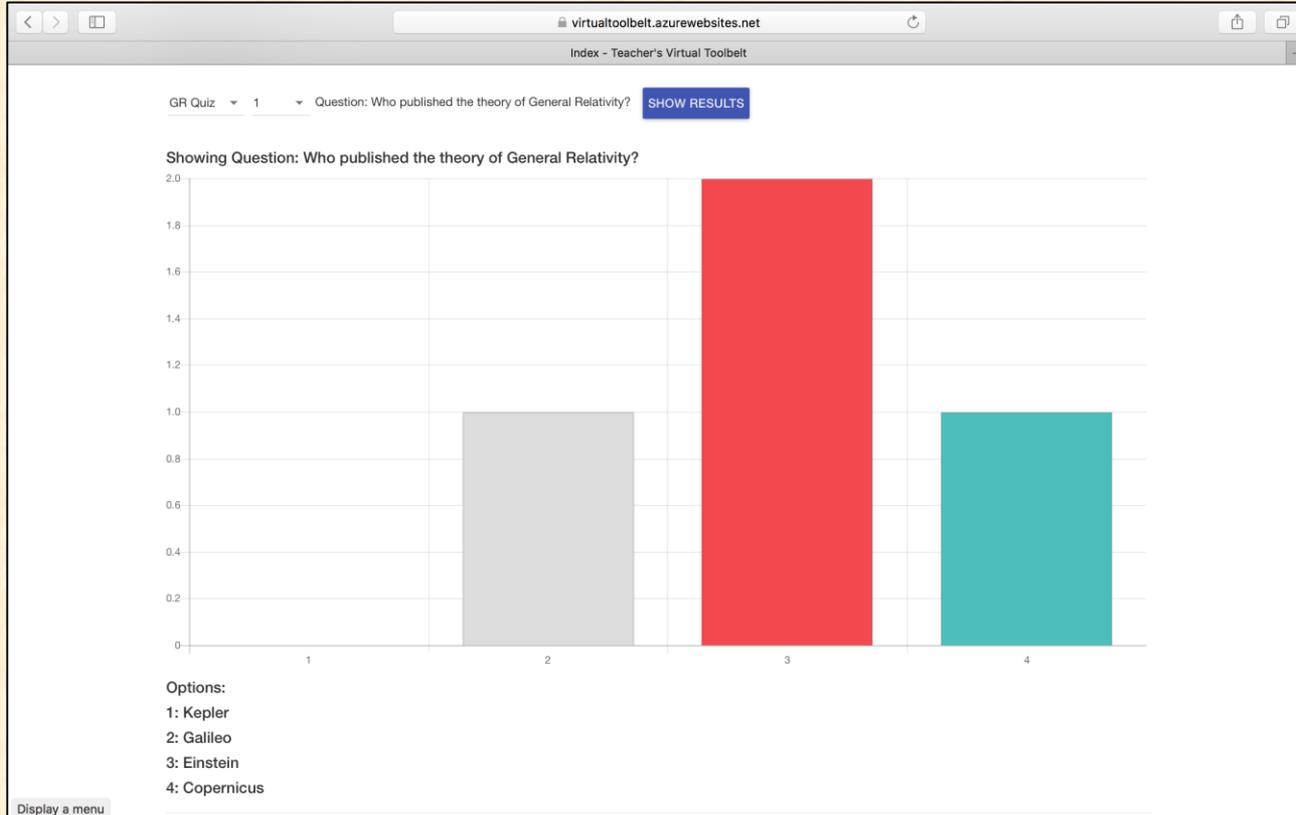




Team TechSmith Beta Presentation

Team TechSmith Beta Presentation

Lesson Quiz Results





Team TechSmith
Design Day

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The Capstone Experience

Team TWO MEN AND A TRUCK

Department of Computer Science and Engineering
Michigan State University
Spring 2017



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



TWO MEN AND A TRUCK[®]

“Movers Who Care[®]”

We've changed our colors to honor those who have served our country this [Veterans Day](#).



[Franchising](#) [Careers](#) [About Us](#) [Press](#) [Contact](#) 877.263.6444



TWO MEN AND A TRUCK.
"Movers Who Care."

[FOR HOME](#)

[FOR BUSINESS](#)

[RESOURCES](#)

[REVIEWS](#)

[GET YOUR FREE QUOTE](#)



We're the

PROFESSIONALS YOU CAN TRUST

Team TWO MEN AND A TRUCK Project Overview

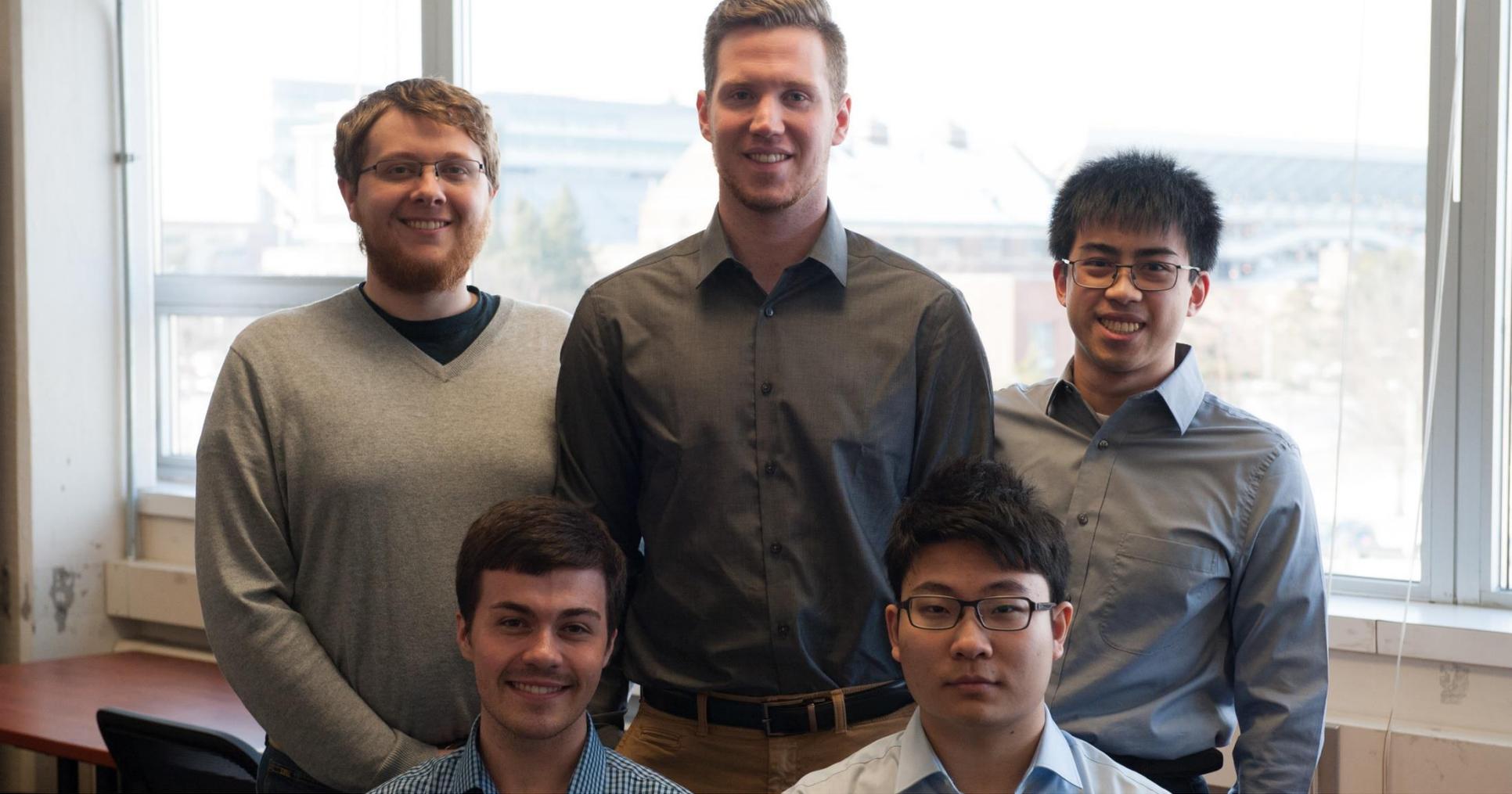
Mobile Mini Movers Who Care

- Functionalities
 - Entertain Kids During a Move
 - Provide Moving/Racing Game
- Features
 - Design Fun Moving/Racing Game
 - Like Hill-Climb Racing and Bad Piggy's
 - Start with Flatbed Truck Loaded with Boxes
 - Boxes May Fall Off
 - Stops and Starts
 - Bumps
 - Hills
 - Goal: Finish Race Quickly without Losing Boxes
 - Include Various Components
 - 2-Dimensional
 - Side Scrolling
 - Multiple Levels
 - Physics Based
 - Use Unity Game Engine
 - Support Both Google Android and Apple iOS
- Technologies
 - Mobile Game Design
 - Apple iPads and iPhones (iOS) / Swift
 - Google Android Tablets and Phones / Java
 - Unity Game Engine / C#



“Movers Who Care.”

Lansing, Michigan

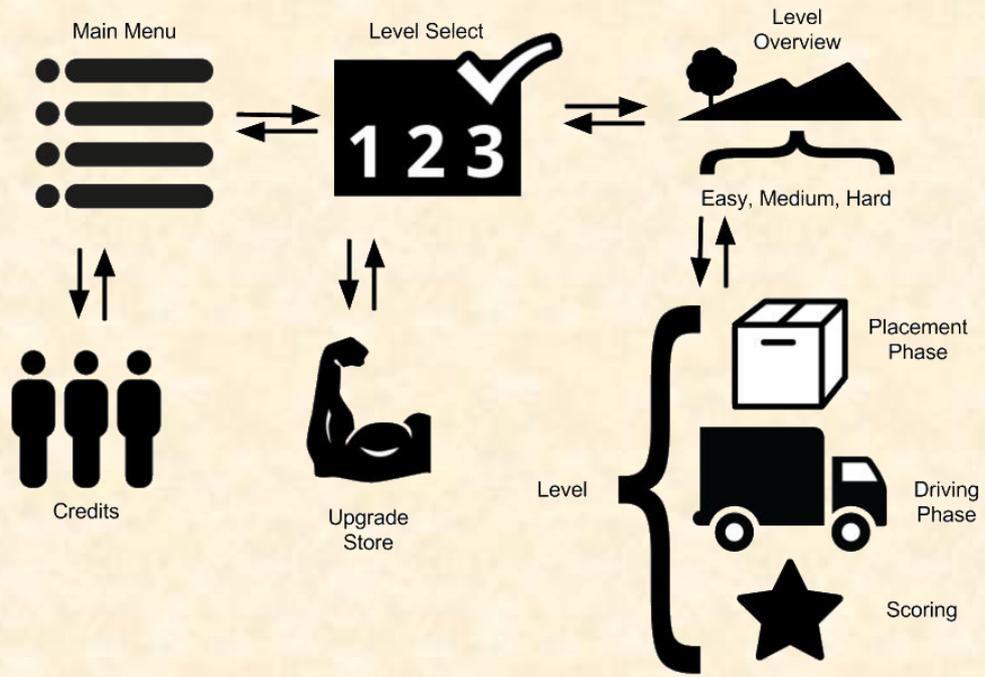


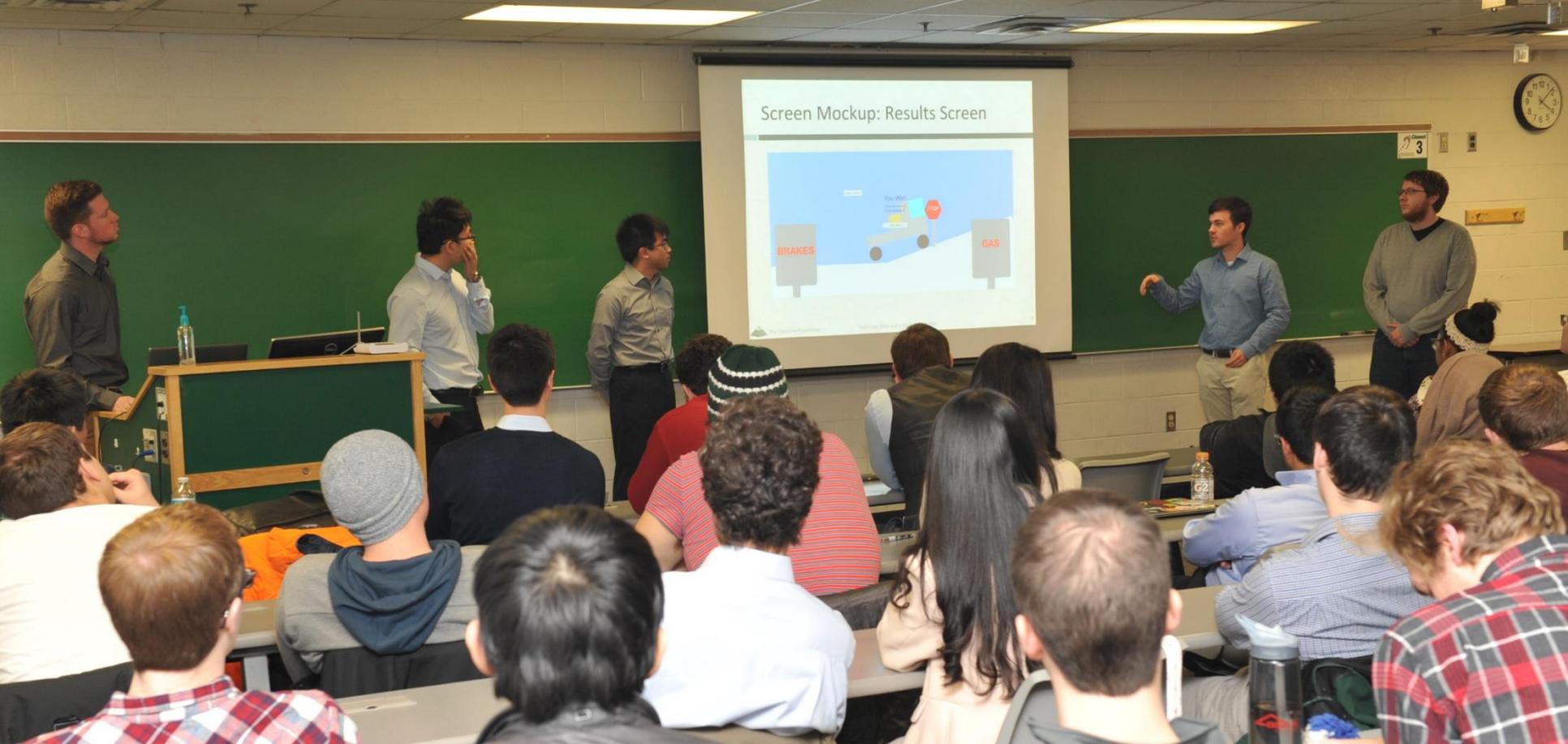
Connor McDermott, Travis Nichols, Curtis Notarantonio, Kai Wang, Jordan Ng

Team TWO MEN AND A TRUCK Project Plan Presentation

Game Flow

Game Flow:

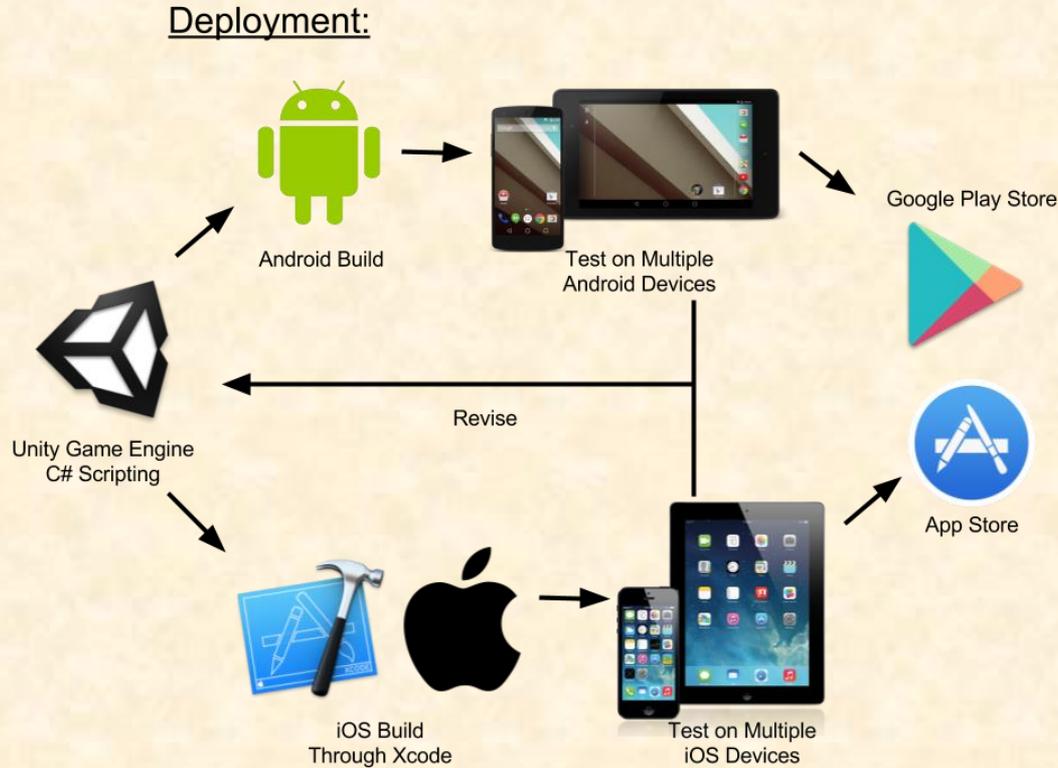




Team TWO MEN AND A TRUCK
Project Plan Presentation

Team TWO MEN AND A TRUCK Project Plan Presentation

Architecture Diagram





Team TWO MEN AND A TRUCK
Project Plan Presentation

Team TWO MEN AND A TRUCK Project Plan Presentation

e.

Screen Mockup





Team TWO MEN AND A TRUCK
Alpha Presentation

Team TWO MEN AND A TRUCK Alpha Presentation

e.

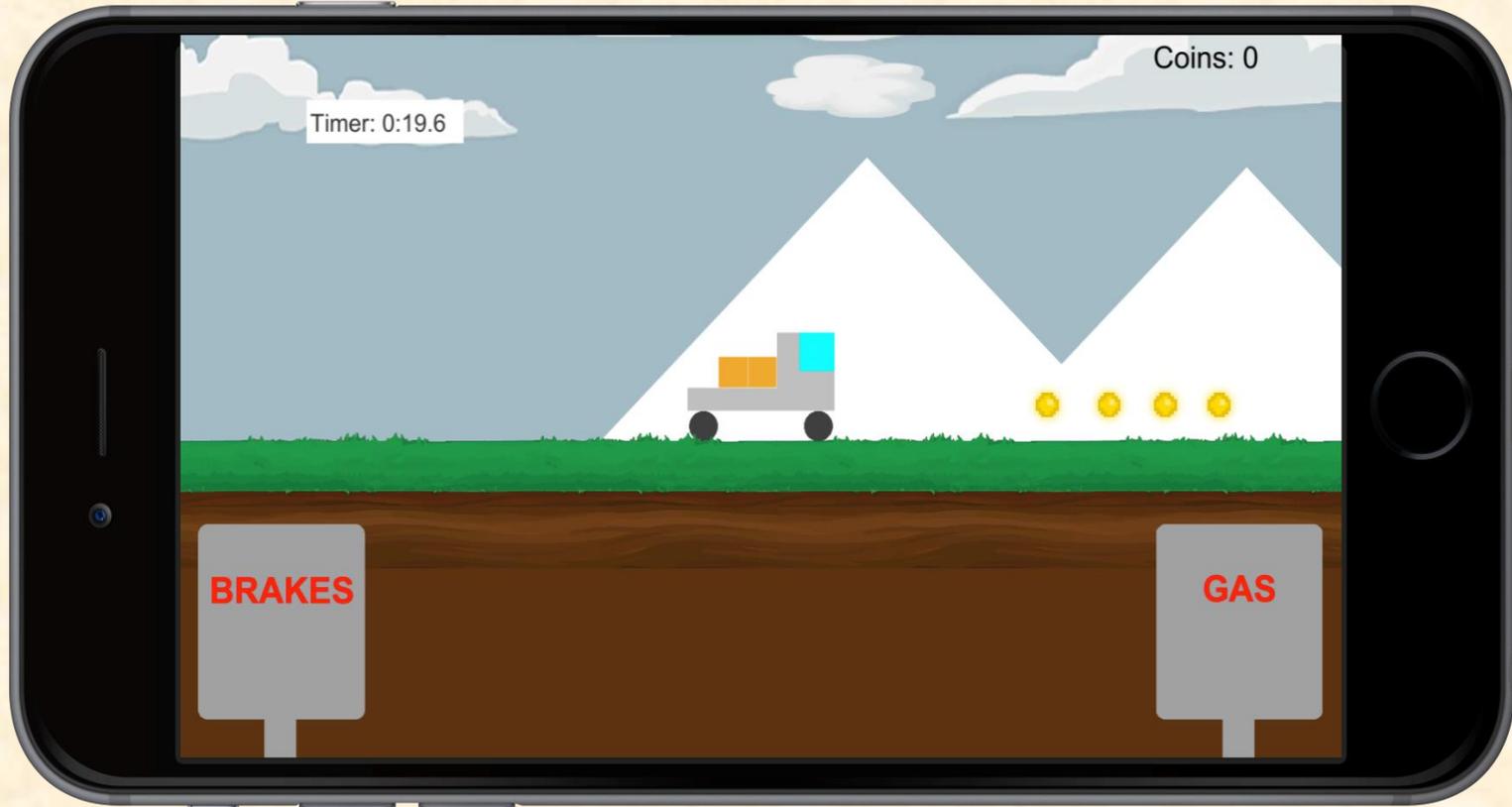
Gameplay on Android



Team TWO MEN AND A TRUCK Alpha Presentation

e.

Gameplay on iOS



The Capstone Experience



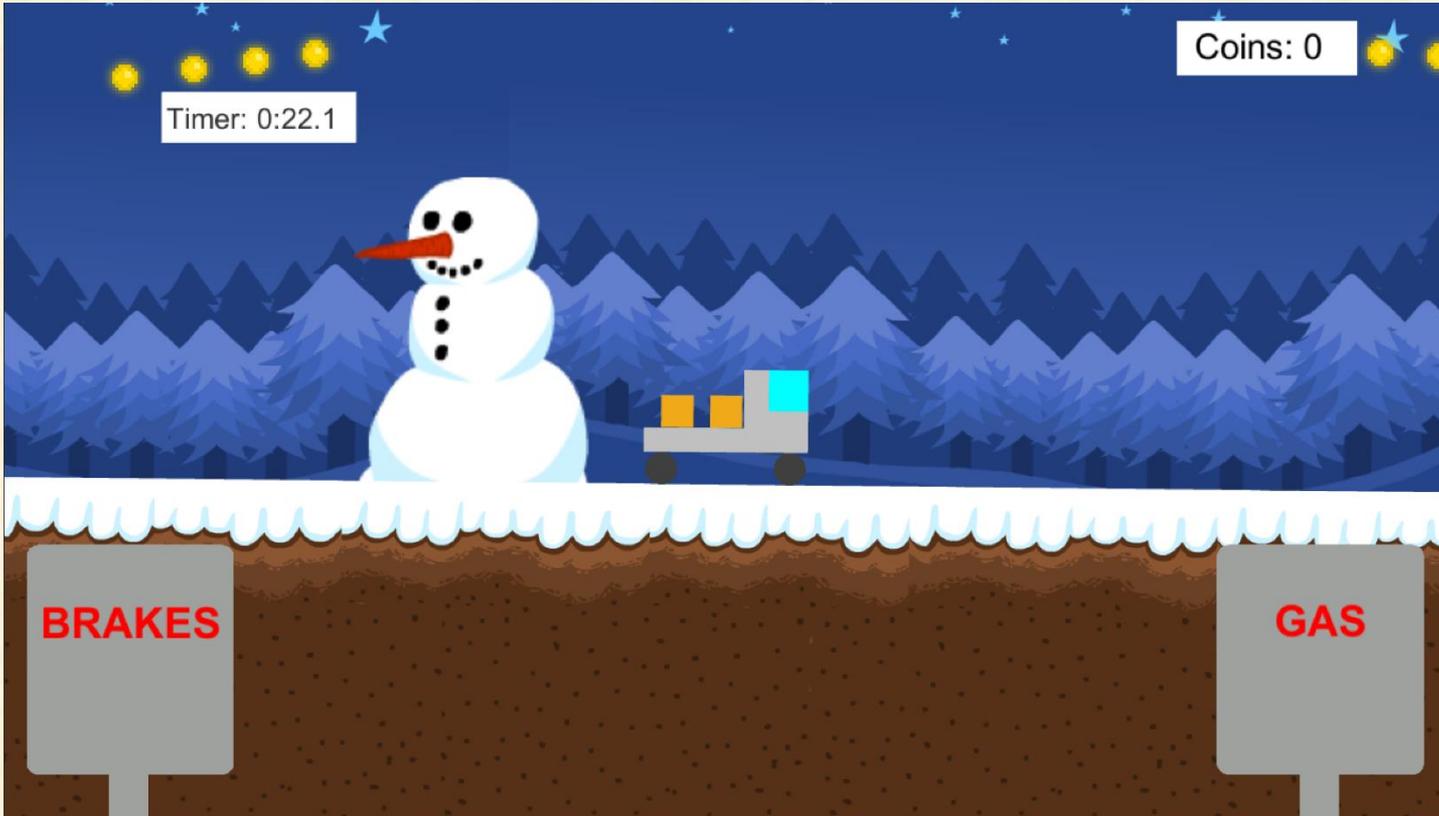


Team TWO MEN AND A TRUCK
Alpha Presentation

Team TWO MEN AND A TRUCK Alpha Presentation

e.

Level 3 Preview





Team TWO MEN AND A TRUCK Beta Presentation

Team TWO MEN AND A TRUCK Beta Presentation

e.

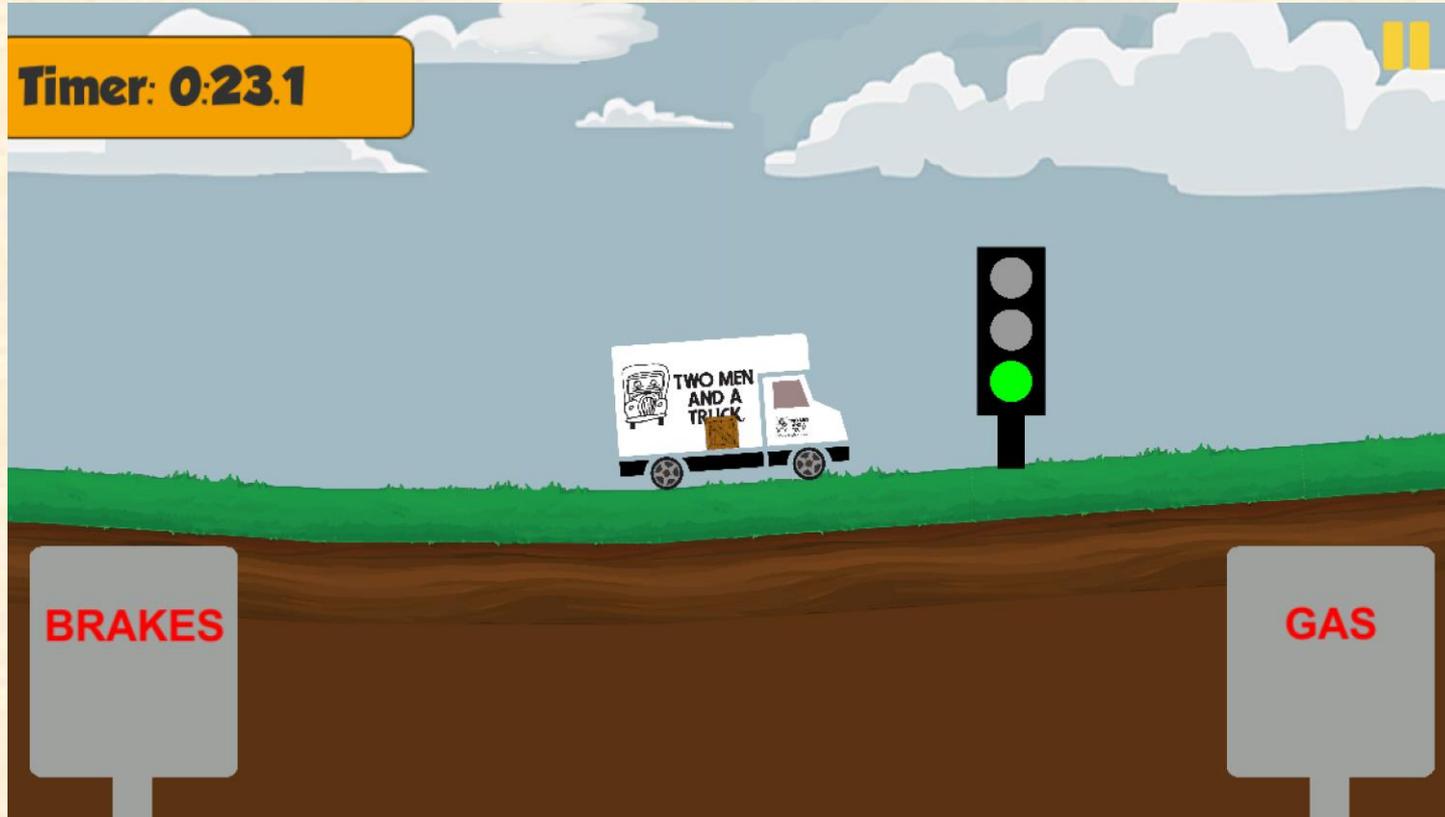
Store



Team TWO MEN AND A TRUCK Beta Presentation

e.

Game Play



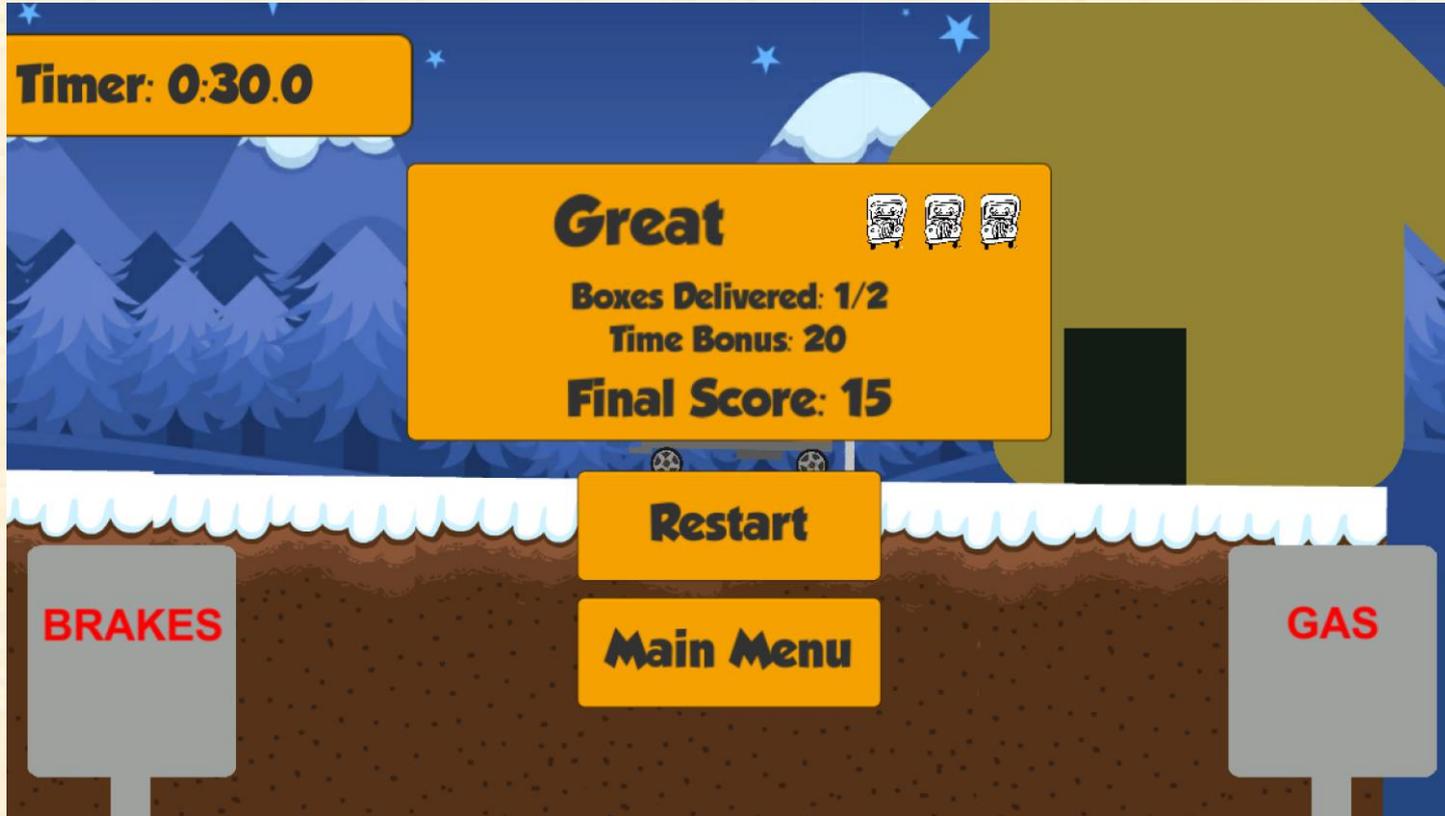


Team TWO MEN AND A TRUCK
Beta Presentation

Team TWO MEN AND A TRUCK Beta Presentation

e.

Win Screen





Team TWO MEN AND A TRUCK
Design Day

MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Team Union Pacific

Department of Computer Science and Engineering
Michigan State University
Spring 2017



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



BUILDING AMERICA[®]



BUILDING AMERICA®

MyUPRR Login [Dropdown Arrow]

CUSTOMERS

EMPLOYEES

SUPPLIERS

INVESTORS

MEDIA

ABOUT US

SEARCH

Union Pacific bridges are safe for the freight traffic they carry, as well as motorists and pedestrians. Our safety focus starts with more than 38,000 inspections annually to ensure the structural integrity for each bridge. For our employees, these inspections are more than just a job. **Learn more about UP's detailed inspection process.**



YouTube

Steel Giants Promise Safe Passage

Team Union Pacific Project Overview

Learning New Train Routes

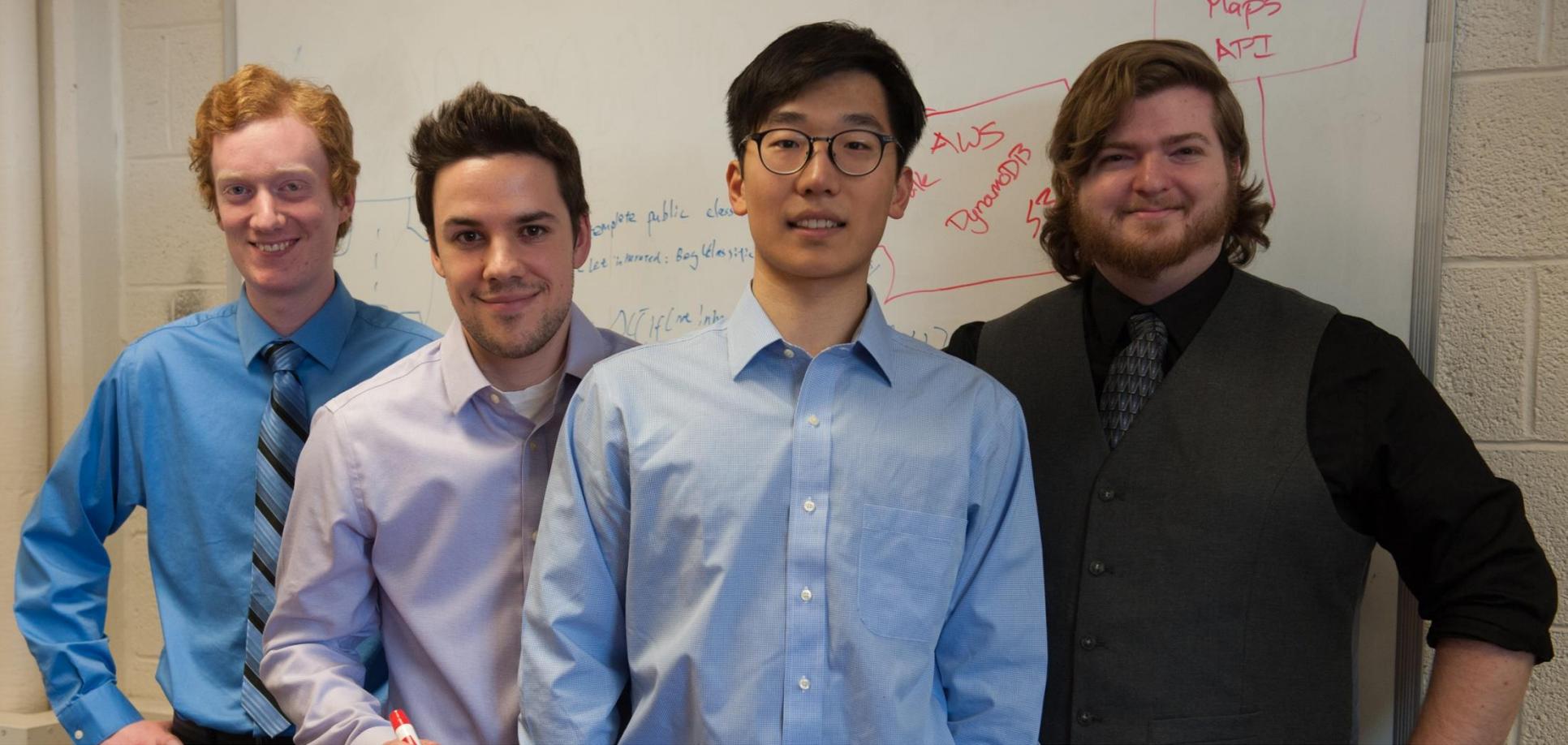
- Functionalities
 - Familiarize Conductors and Engineers with New Routes
 - Use Augmented Reality (Rather Than “Actual Reality”)
 - Save Railroads Millions of Dollars
- Features
 - Combine Indexed Locomotive Video with Track Data
 - Create AR-Like Overlay of Routes for Mobile Devices
 - Include Various Overlay Data
 - Track Labels
 - Switch Information
 - Gradients
 - Compass Directions
 - Speed Limits
 - Target Apple iOS, Google Android and Microsoft Windows
- Technologies
 - Apple iPads and iPhones (iOS) / Swift or Objective-C
 - Google Android Tablets and Phones / Java
 - Microsoft Windows / C#
 - Unity Game Engine
 - OpenCV
 - WebGL



BUILDING AMERICA®

Omaha, Nebraska
Okemos, Michigan



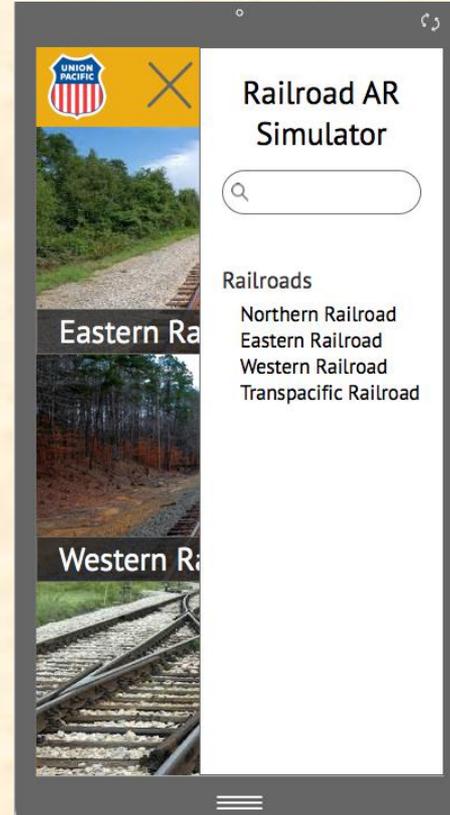
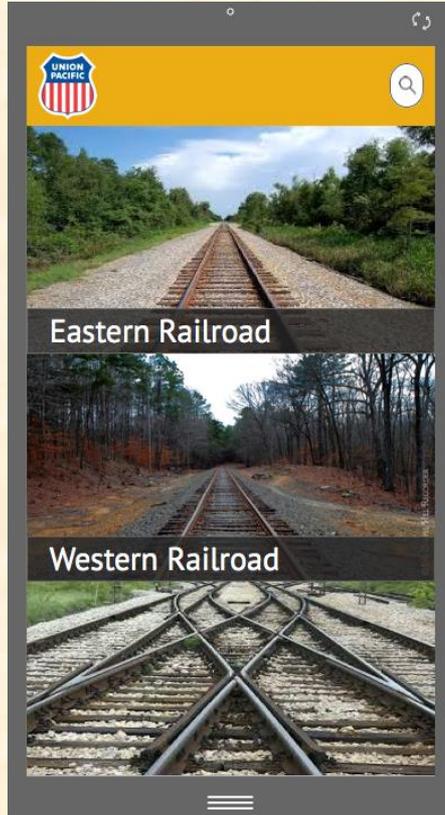


Team Union Pacific

Matthew Schleusener, Nick Summers, Kangjie Mi, Jon Wild

Team Union Pacific Project Plan Presentation

Screen Mockups

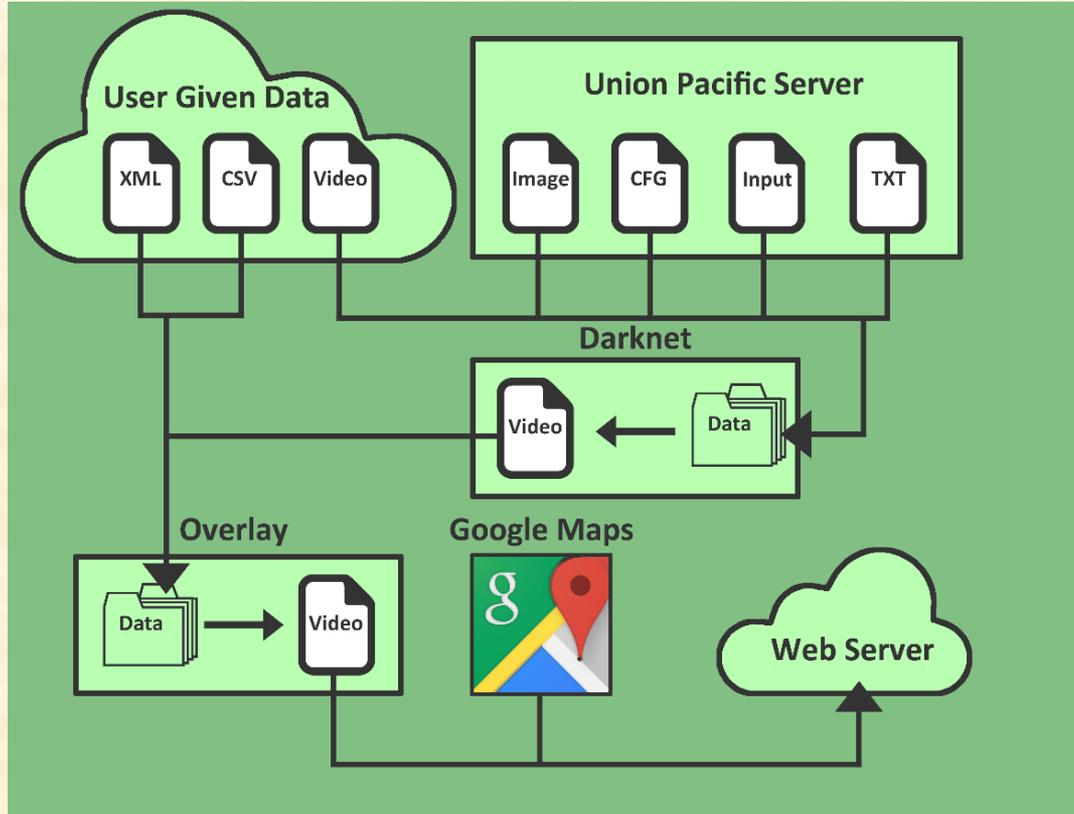


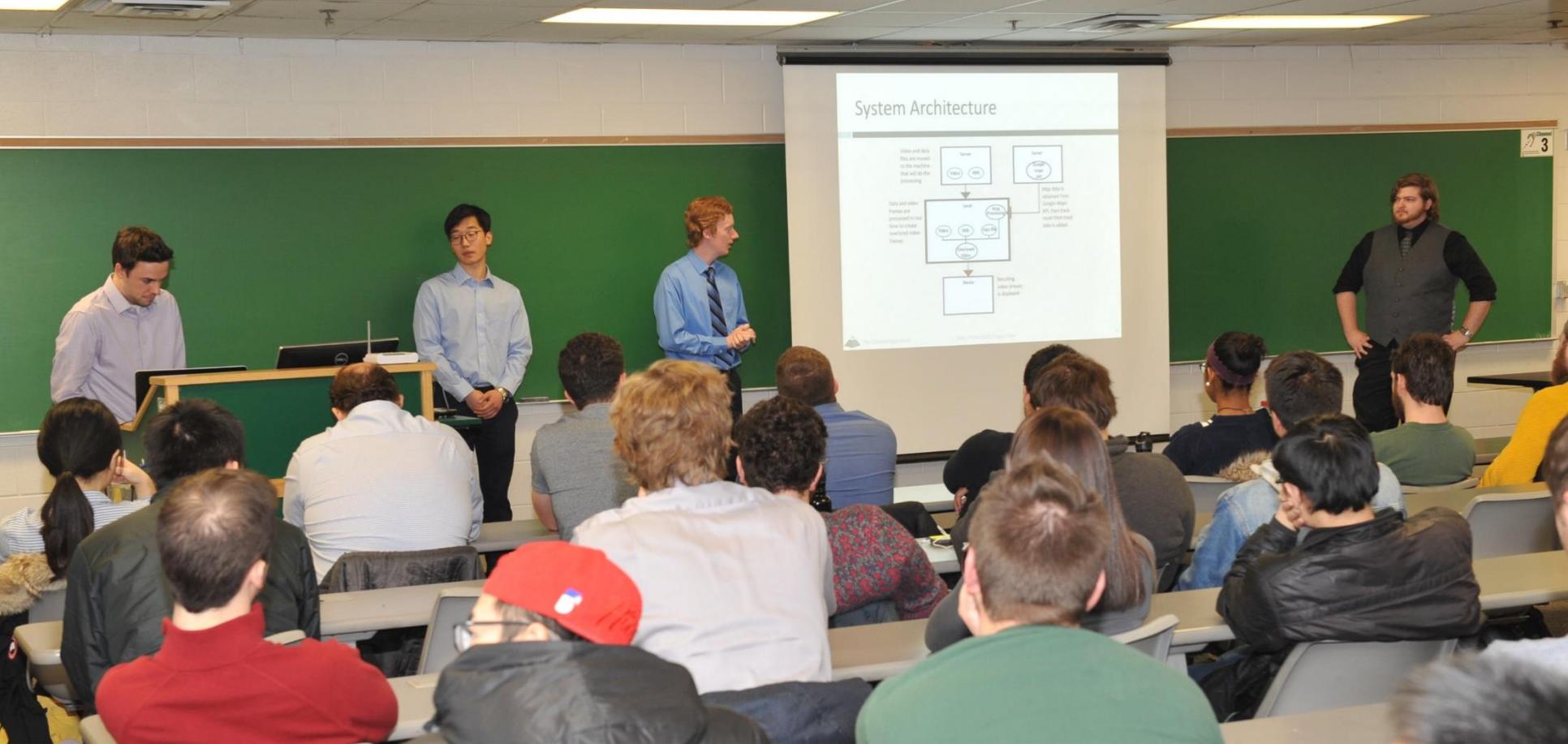


Team Union Pacific Project Plan Presentation

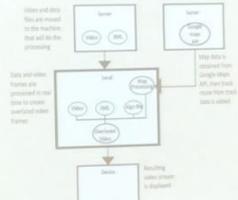
Team Union Pacific Project Plan Presentation

Architecture Diagram





System Architecture

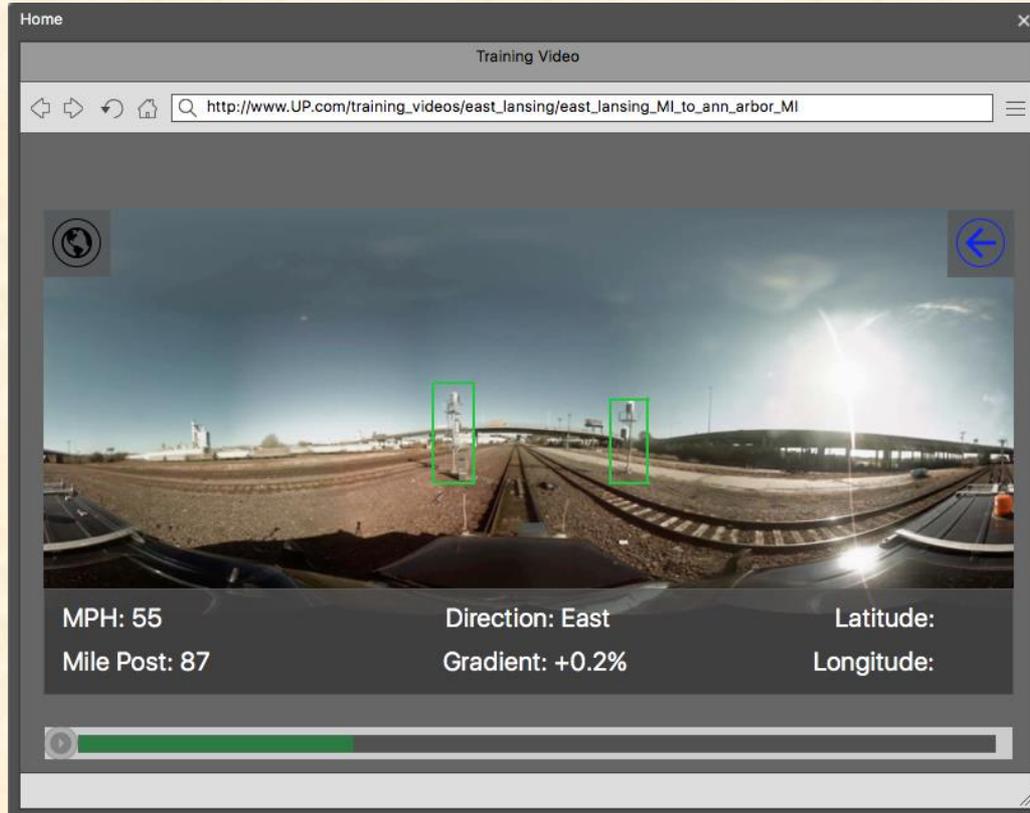


Team Union Pacific
Project Plan Presentation

Team Union Pacific Project Plan Presentation

e.

Screen Mockup



The Capstone Experience





Team Union Pacific
Alpha Presentation

Team Union Pacific Alpha Presentation

Image Recognition Breakdown



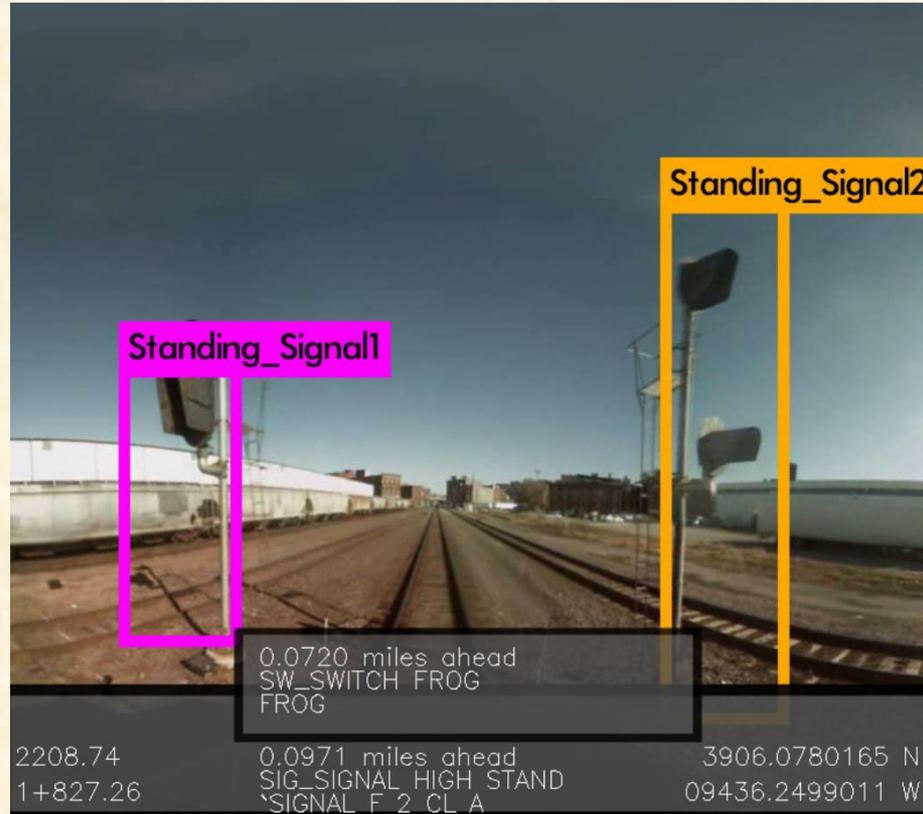
```
Darknet1 - Notepad
File Edit Format View Help
0 0.355859 0.672222 0.063281 0.400000
1 0.664844 0.650694 0.065625 0.565278
|
```



Team Union Pacific Alpha Presentation

e.

Overlay Module

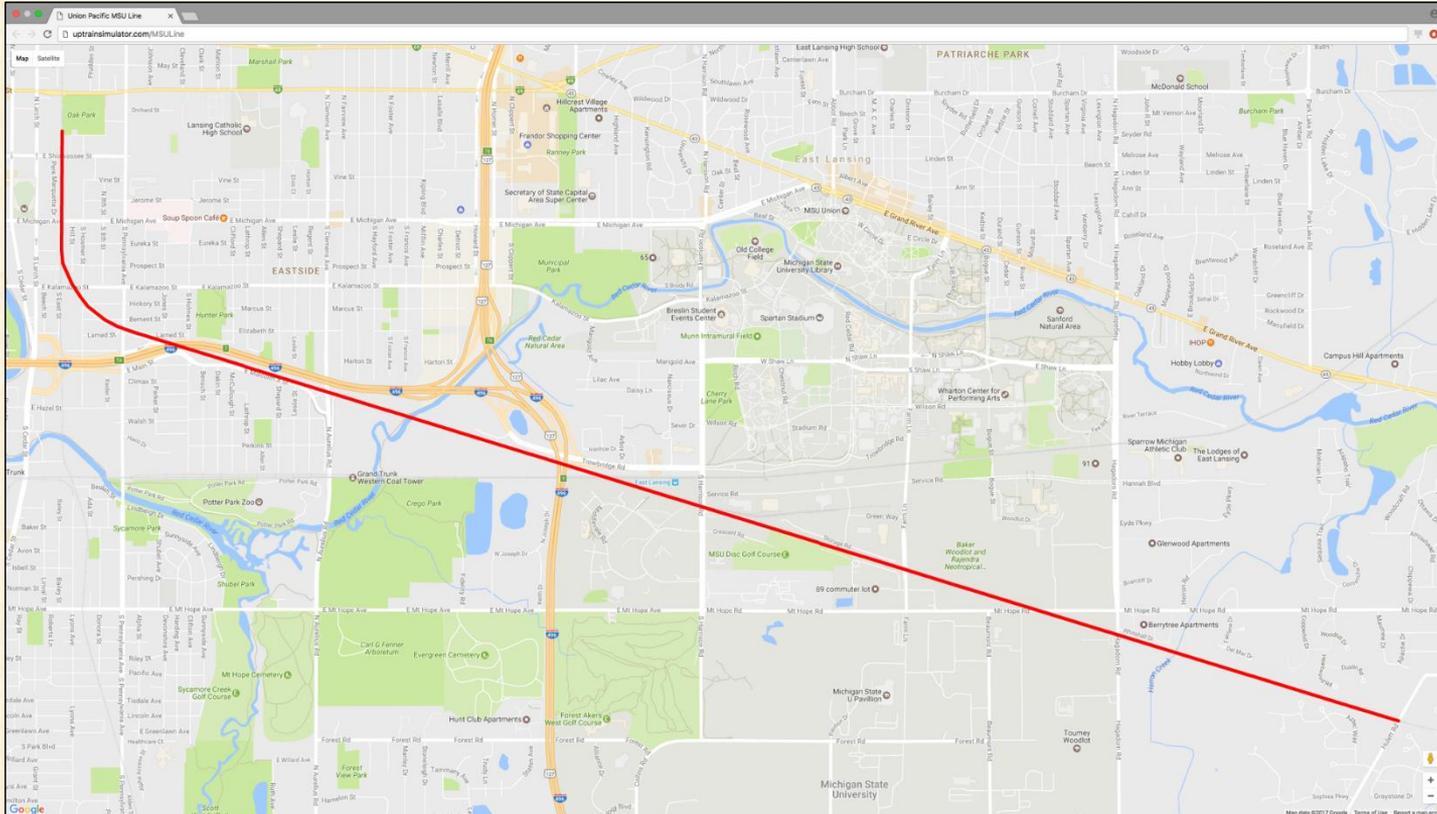




Team Union Pacific Alpha Presentation

Team Union Pacific Alpha Presentation

Google Map of Train Route





Team Union Pacific
Beta Presentation

Team Union Pacific Beta Presentation

e.

Home Page

Build Website x
website.com

Learning New Train Routes

Your Personal Conductor

Region
----- ▼

Service Unit
----- ▼

Subdivision
----- ▼

Submit

NAME	FROM MP	TO MP
------	---------	-------

The Capstone Experience



Team Union Pacific Beta Presentation

The screenshot shows a web browser window with the address bar displaying "website.com/video". The page title is "Learning New Train Routes". Below the title, the video is titled "MSU Part 1". The video player interface includes a "Video" tab and a "Map View" tab. The video content shows a train track with two signals, each labeled "Standing_Signal" in a green box. The video player controls at the bottom show a progress bar at 3:06 / 4:59, a speed of 60mph, and a mile post of 5.02. The distance to the next signal is 3.46.





Team Union Pacific
Beta Presentation

Team Union Pacific Beta Presentation

Map View

Build Google Maps
website.com/video

Learning New Train Routes

MSU Part 1

Video Map View

Map data ©2017 Google Terms of Use Report a map error





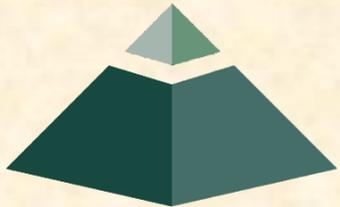
Team Union Pacific
Design Day

MICHIGAN STATE
UNIVERSITY

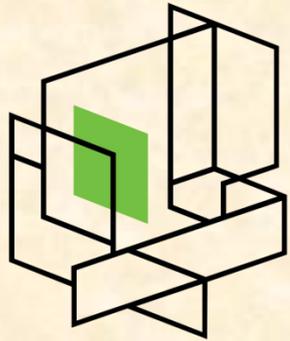
The Capstone Experience

Team Urban Science

Department of Computer Science and Engineering
Michigan State University
Spring 2017



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...to Professionals*



URBAN SCIENCE™

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

[LEARN MORE](#)

X



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.

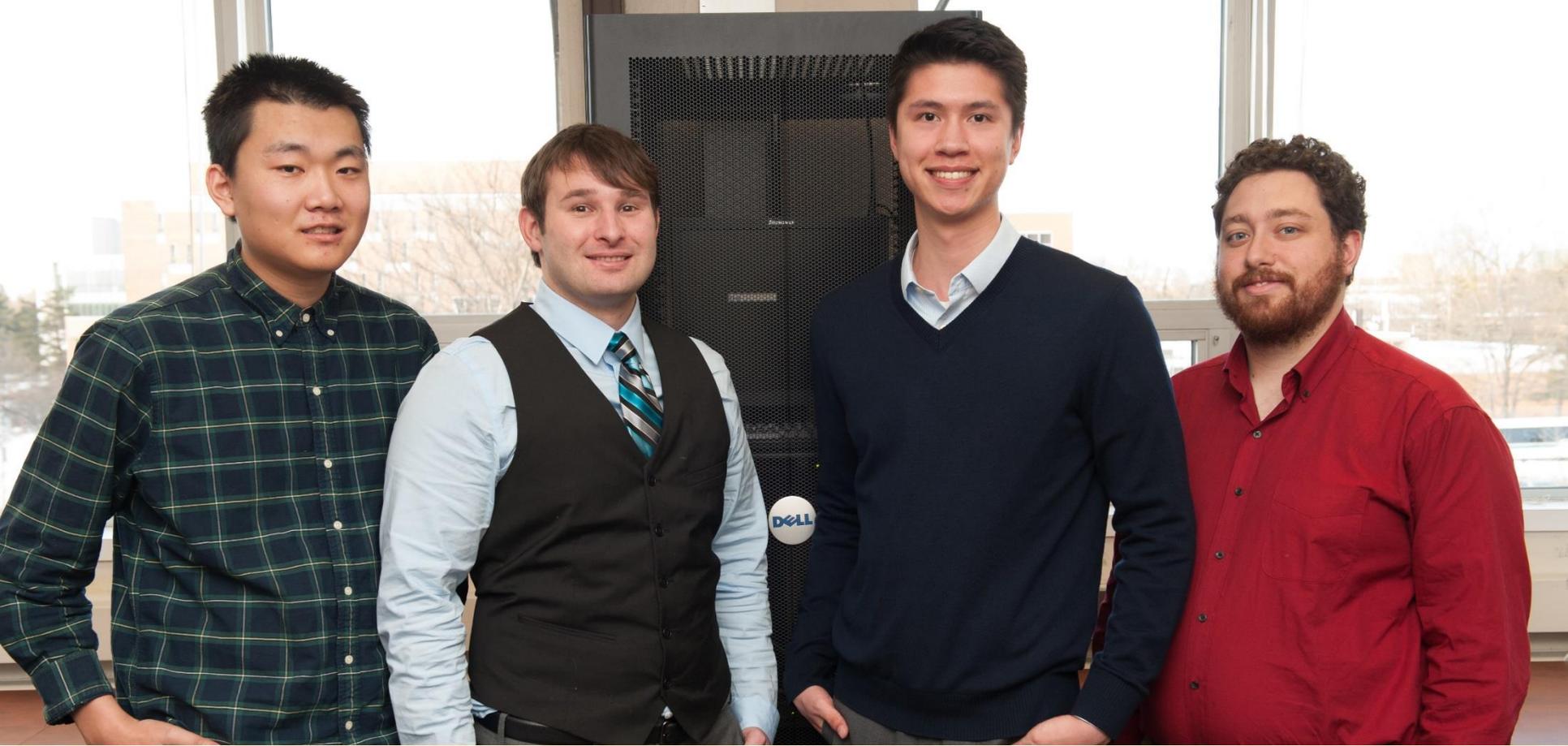
Team Urban Science Project Overview

Real Time Ad Campaign Management Platform

- Functionalities
 - Optimize Dealership Marketing Campaigns in Real Time
 - Make Modification Recommendations
 - Enable Tactical Decisions and Actions
- Features
 - Analyze Real-Time In-Flight Digital Marketing Data
 - Consumer Engagement
 - Demographic Inclusion
 - Delivery Effectiveness
 - Overall Performance
 - Return on Investment
 - Leverage Machine Learning to Recommend Actions
 - Enable Changes to Active Campaign Variables
- Technologies
 - Microsoft .NET Core 1.0
 - Docker
 - Machine Learning
 - Real Time Recommendation Engine
 - Microsoft Cognitive Services
 - Neo4J



URBAN SCIENCE
Detroit, Michigan



Team Urban Science

Hang Zhang, Anthony Orr, Zach Heick, Yoseph Radding

Team Urban Science Project Plan Presentation

Screen Mockup

A Web Page

← → ↻ 🔍 http://

of targets Anticipated ROI

ComboBox	ComboBox

Reset Finish

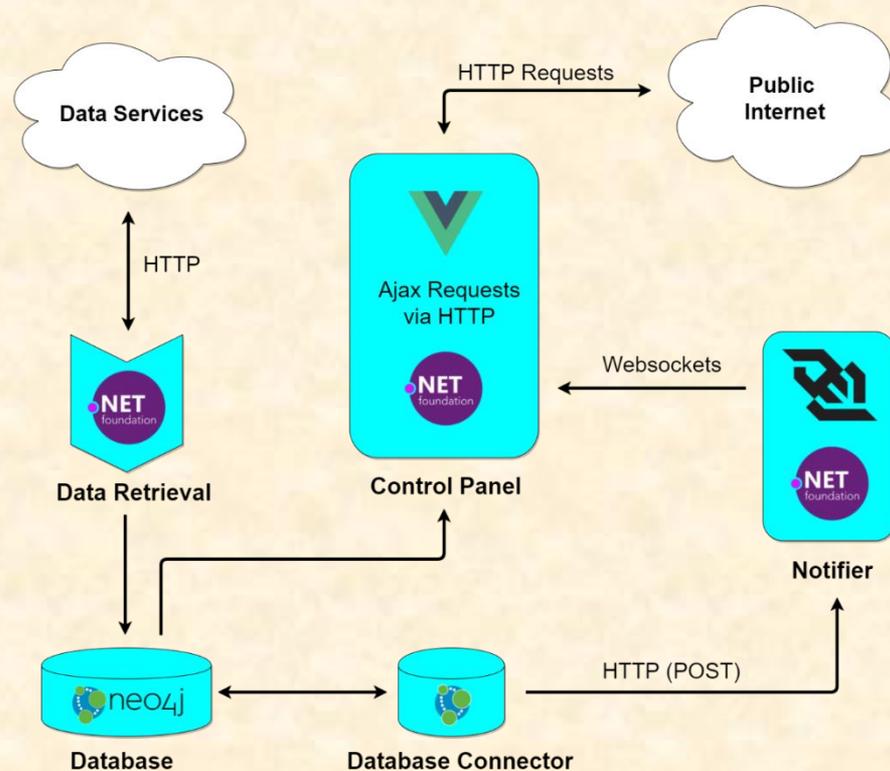


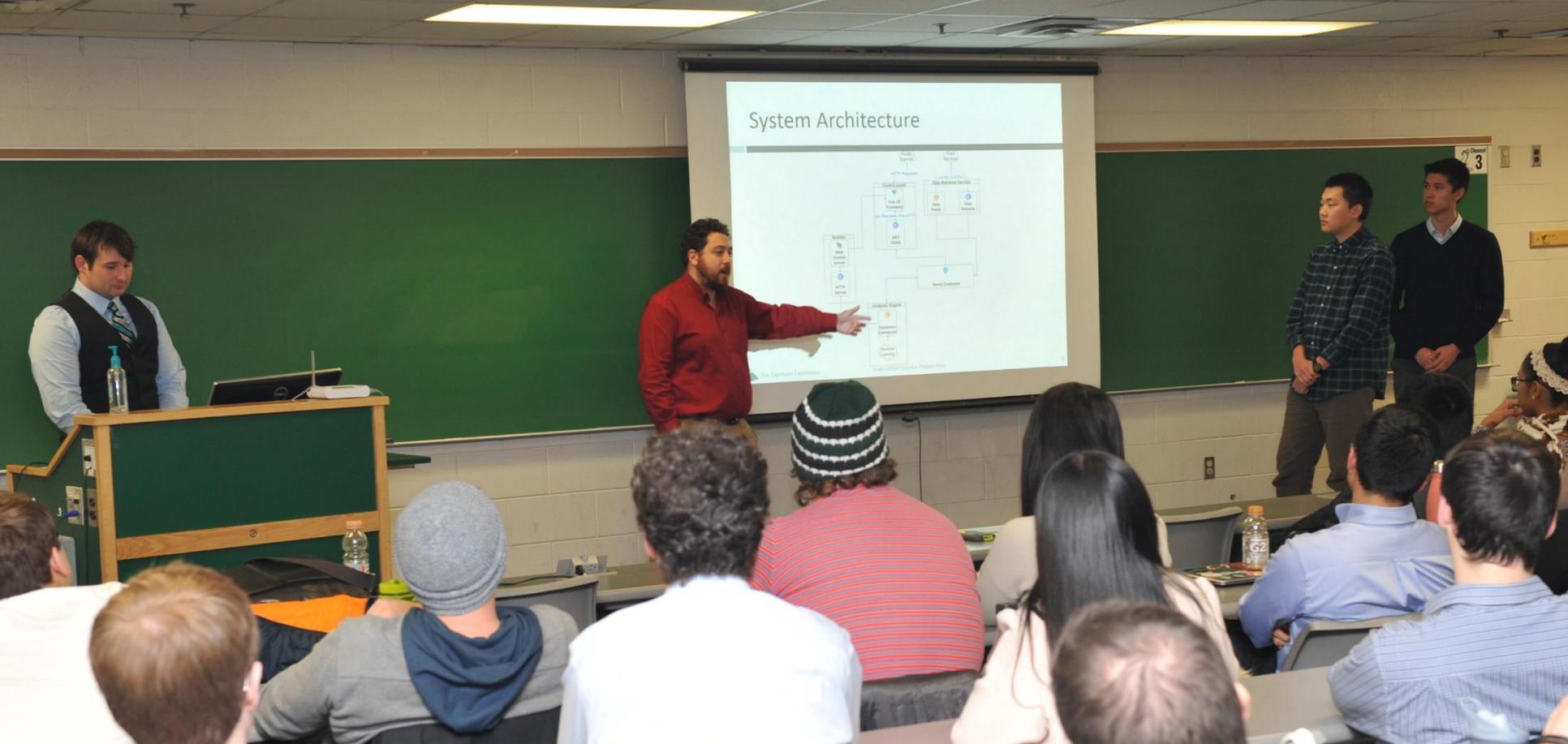


Team Urban Science Project Plan Presentation

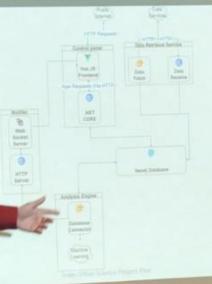
Team Urban Science Project Plan Presentation

Architecture Diagram





System Architecture

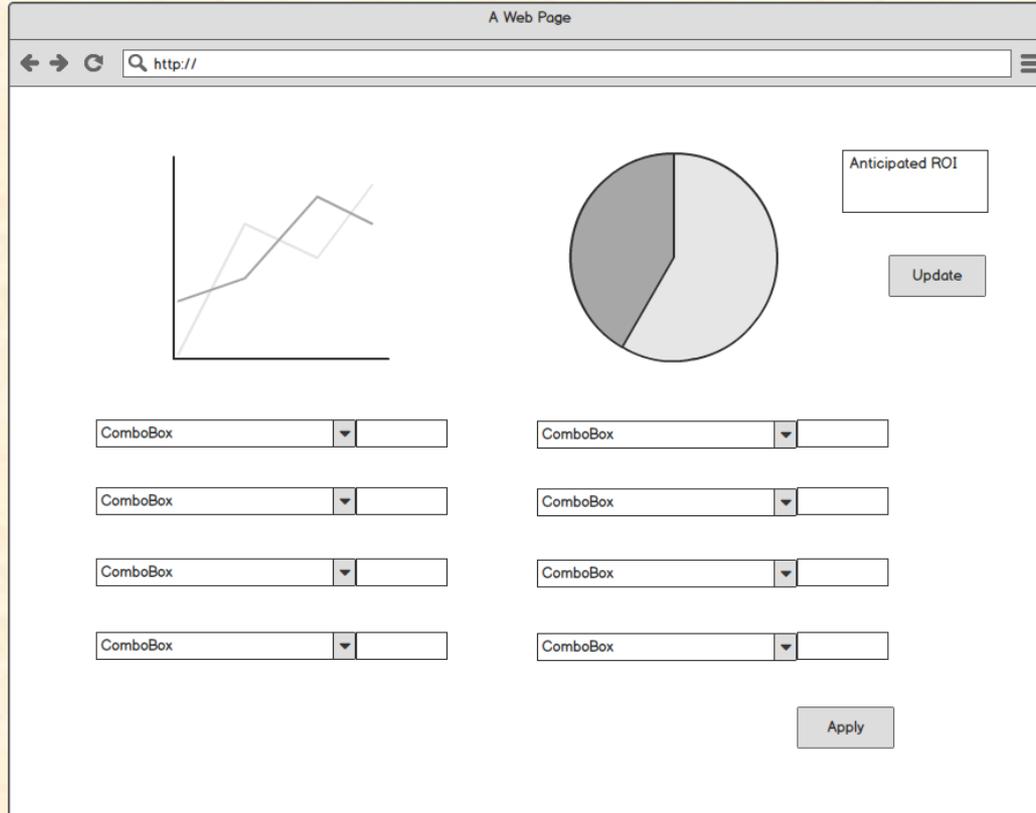


Team Urban Science
Project Plan Presentation

Team Urban Science Project Plan Presentation

e.

Screen Mockup





URBAN SCIENCE

Company

Company Name	Available Brands	Available Segments
IBM	ibm	ibm
Microsoft	msn	msn
Apple	Apple	Apple
Ford	Ford	Ford
Mercedes	Mercedes	Mercedes

Team Urban Science
Alpha Presentation

Team Urban Science Alpha Presentation

e.

Campaigns Page

Ad Campaign Manager Control Panel [Create](#)

[Log In](#) [Log out](#)

Campaigns

Campaign	ID	Company
Campaign 1	001	Dodge
Campaign 2	010	Dodge
Campaign 3	011	Dodge
Campaign 4	100	Dodge
Campaign 5	101	Dodge
Campaign 6	110	Dodge
Campaign 7	111	Dodge



Team Urban Science Alpha Presentation

e.

Account Log In

Ad Campaign Manager Control Panel [Create](#) [Log In](#) [Log out](#)

Use a local account to log in.

UserName

Password

Remember me?

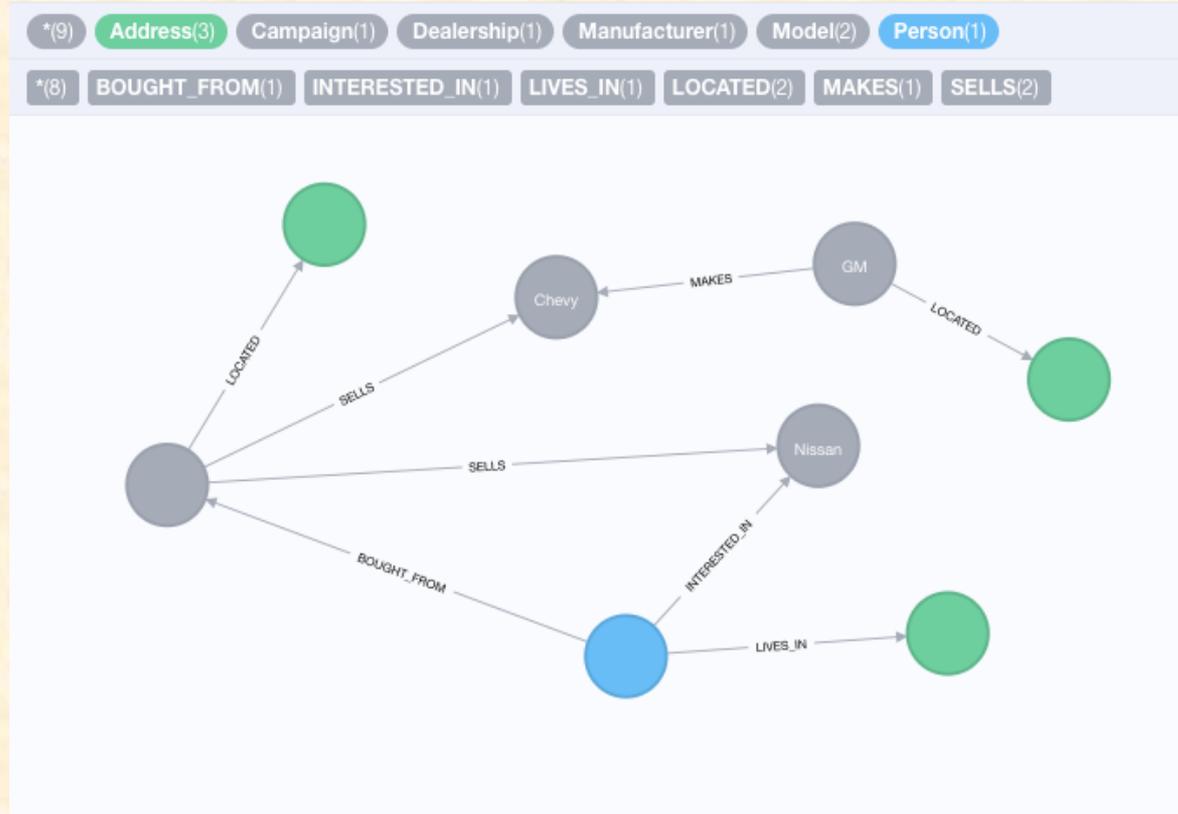




Team Urban Science Alpha Presentation

Team Urban Science Alpha Presentation

Database Visualization Sample





Team Urban Science Beta Presentation

Team Urban Science Beta Presentation

e.

Create Page Select Segments

The screenshot shows a web browser window with the URL `localhost:5000/Campaigns/Create`. The page header features the Urban Science logo and navigation links for 'Create', 'Manage', and 'List'. On the left, a vertical sidebar contains three menu items: 'Company Details' (selected), 'Geographic Details', and 'Campaign Details'. The main content area is divided into three sections:

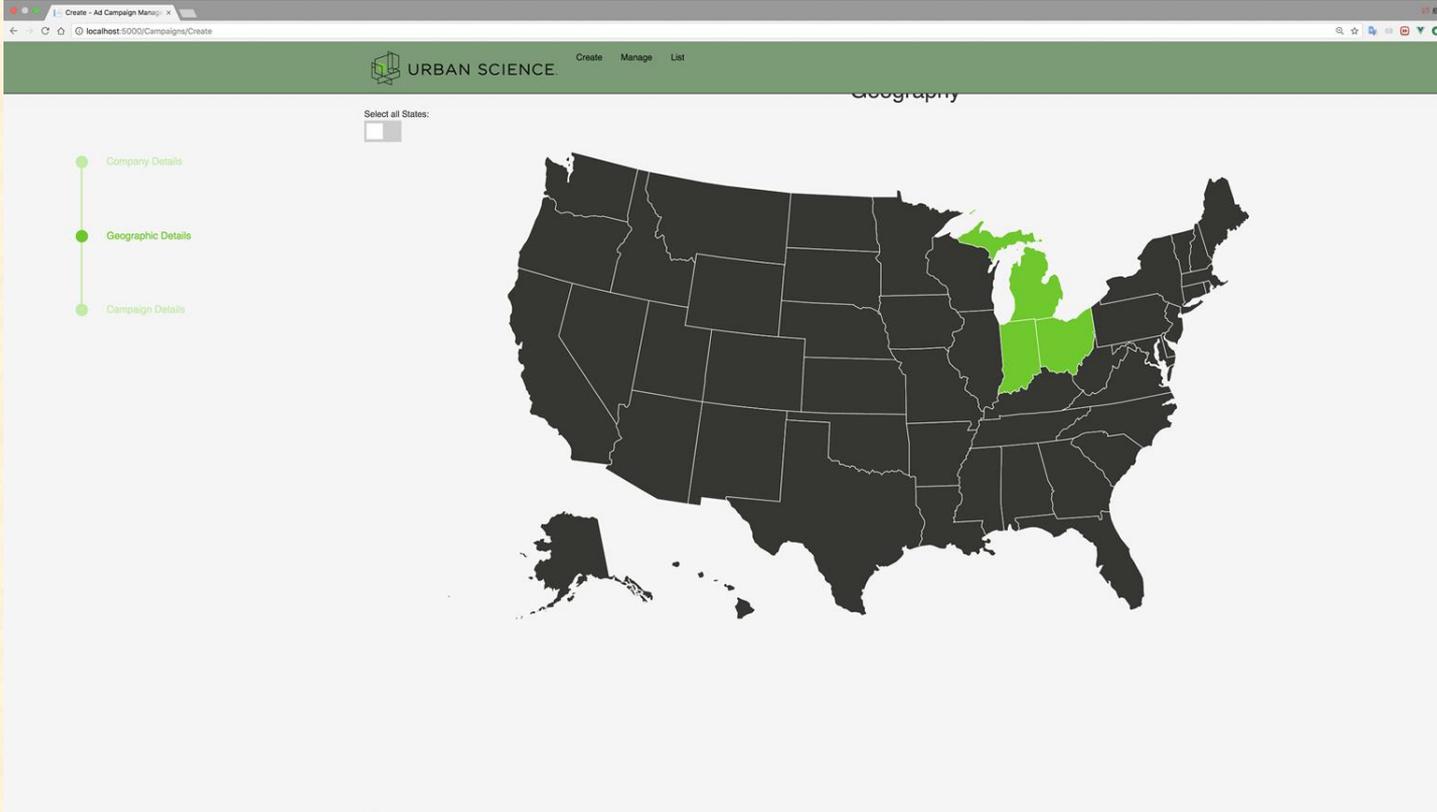
- Available Brands:** A vertical list of brand names in light green boxes: Cadillac, Chevrolet, Chrysler, Dodge, GMC, Hyundai, Infiniti, and Jeep.
- Selected Brands:** A vertical list of selected brands in light green boxes: Mitsubishi, Nissan (highlighted), and RAM.
- Company:** A section titled 'Company' containing an 'Available Segments' list. The 'Trucks - SUV Compact' segment is highlighted in a darker green. Other segments include: Trucks - CUV Compact, Trucks - CUV Mid-Size, Car - Subcompact, Car - Sporty Compact, Car - Alternative Power, Car - Compact, Trucks - Van Full-Size, Trucks - Pickup Compact, Trucks - Van MiniVan, Trucks - Pickup Full-Size, Trucks - CUV Mini, Trucks - SUV Mid-Size, Car - Large, Trucks - SUV Large, and Car - Mid-Size.



Team Urban Science Beta Presentation

e.

Create Select Geography





Team Urban Science Beta Presentation

Team Urban Science Beta Presentation

e.

Manage Page

The screenshot shows a web browser window with the URL `localhost:5000/Campaigns/Manage/Df62423f-11b7-45ee-9b0f-0a09d2c8bbf3`. The page header includes the Urban Science logo and navigation links for 'Create', 'Manage', and 'List'. The main content area is titled 'Manage Nissan's NissanTest1' and features three action buttons: 'Take Suggestions' (light blue), 'Save Changes' (green), and 'Export List' (green).

Under the 'Suggestions' section, there are two toggle switches: 'Always Take Suggestions' (checked) and 'Automatically Email List' (unchecked). Below these are four configuration items, each with a 'Go' button:

- Drop 200 people and add 193 new ones
- Raise Exposure Agressiveness to 67%
- Drop Defection Agressiveness to 34%
- Raise Target Exposure to 40,000,000

The right side of the page contains a large empty graph area. Below the graph are four sliders with corresponding input boxes:

- Percentage to Drop:** Slider set to 68, input box contains 68.
- Percentage to Add:** Slider set to 38, input box contains 38.
- Exposure Agressiveness:** Slider set to 67, input box contains 67.
- Defector Agressiveness:** Slider set to 34, input box contains 34.

At the bottom, there is an 'Exposure Volume' dropdown menu currently set to 4000000.





Team Urban Science
Design Day

MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Team Whirlpool

Department of Computer Science and Engineering
Michigan State University
Spring 2017



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



Whirlpool

CORPORATION





PRODUCTS

OWNERS

EVERY DAY, CARE™

CHAT

FIND A RETAILER

LAUNDRY

KITCHEN

OTHER PRODUCTS

FEATURED INNOVATIONS

PARTS & ACCESSORIES

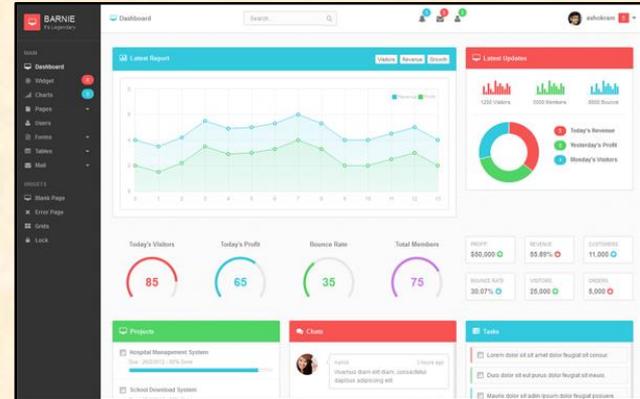
What are you looking for?

See why our new refrigerator is the

Team Whirlpool Project Overview

Commercial Laundry Dashboard

- Functionalities
 - Enable Commercial Laundry Teams to Monitor Equipment
 - Show How Whirlpool Products are Functioning
 - Send Alerts for Equipment Issues
- Features
 - Provide Dynamic and Intuitive Interface
 - Login via Whirlpool Google Accounts
 - Implement Backend using Google App Engine
 - Create Responsive Frontend for Cross-Platform Use
 - Support Apple iOS, Google Android and Web Browsers
- Technologies
 - Apple iPads and iPhones (iOS) / Swift
 - Google Android Tablets and Phones / Java
 - CSS / HTML / JavaScript / PHP
 - Google App Engine
 - Apache Cordova
 - RESTful Web Services



Benton Harbor, Michigan



Team Whirlpool

Yuqi Xiao, Ryan Feldman, Nico Vergara, Mike Babiartz, Domenic Belcastro

Team Whirlpool Project Plan Presentation

e.

Screen Mockup



The Capstone Experience

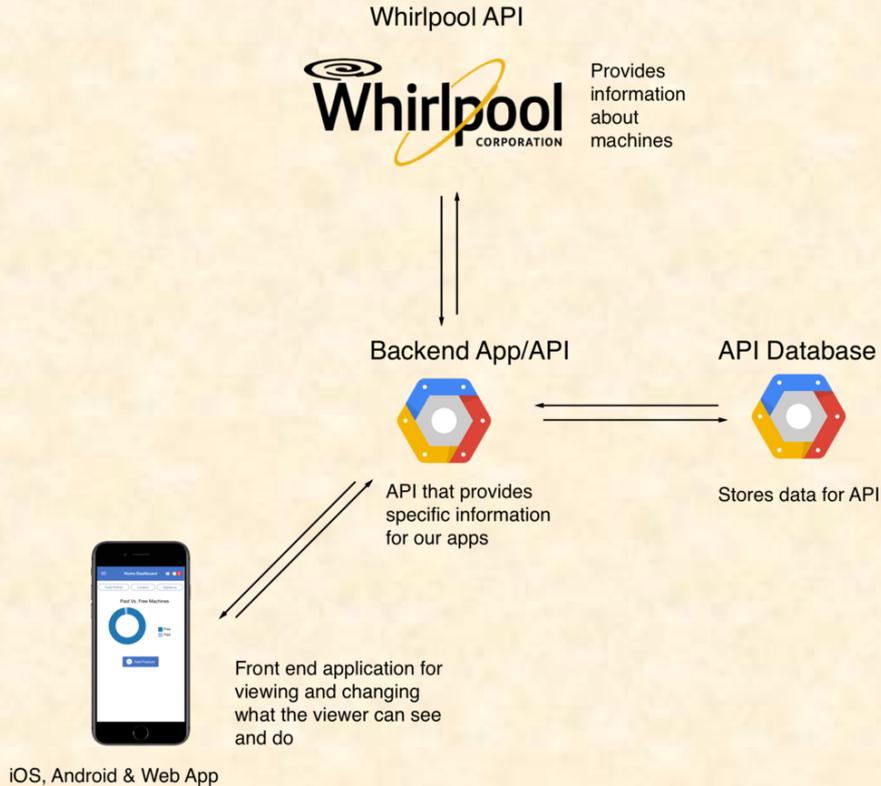




Team Whirlpool Project Plan Presentation

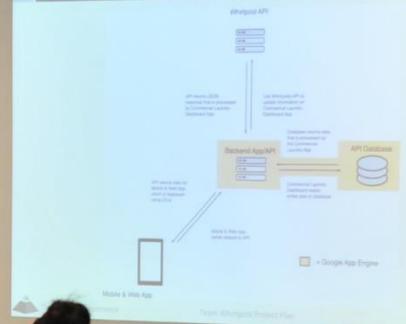
Team Whirlpool Project Plan Presentation

Architecture Diagram





System Architecture

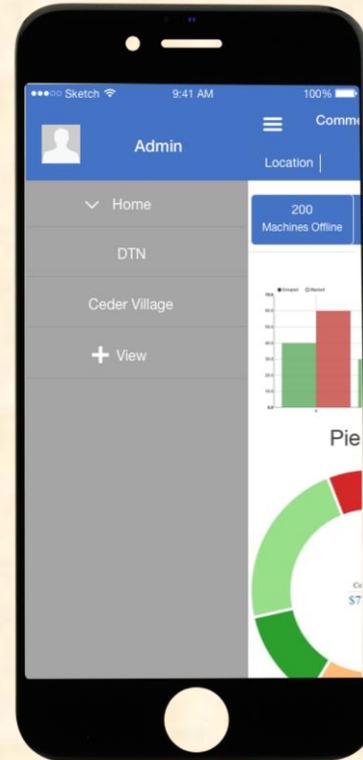


Team Whirlpool
Project Plan Presentation

Team Whirlpool Project Plan Presentation

e.

Screen Mockup



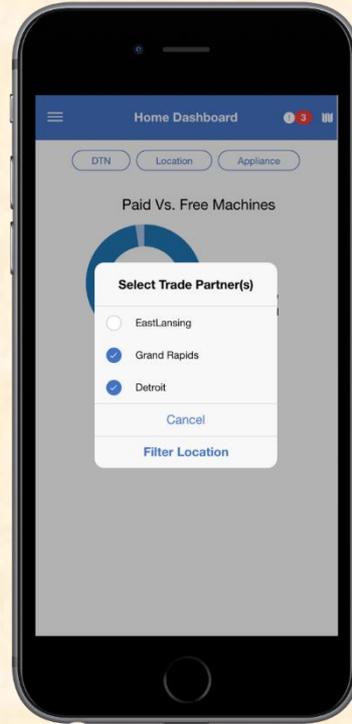


Team Whirlpool Alpha Presentation

Team Whirlpool Alpha Presentation

e.

Filter Menu



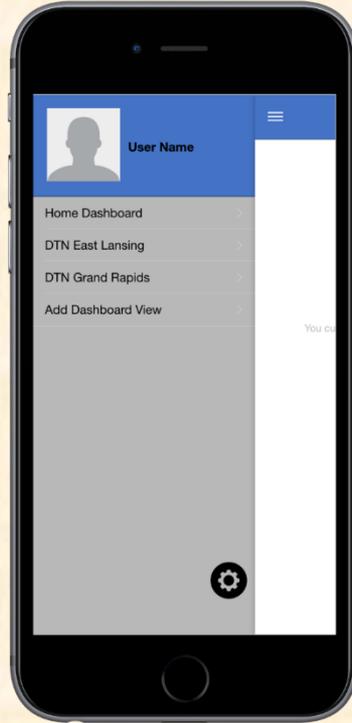
The Capstone Experience



Team Whirlpool Alpha Presentation

e.

Side Menu Custom Dashboards



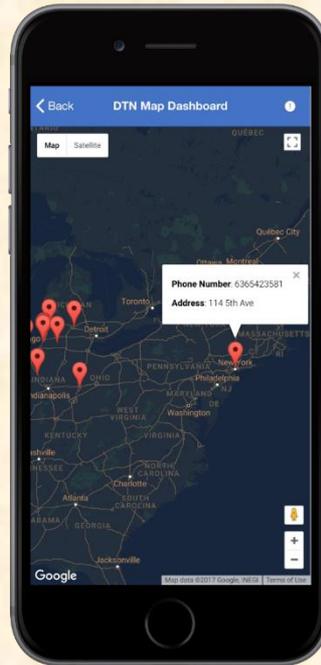


Team Whirlpool
Alpha Presentation

Team Whirlpool Alpha Presentation

e.

Interactive Map



The Capstone Experience



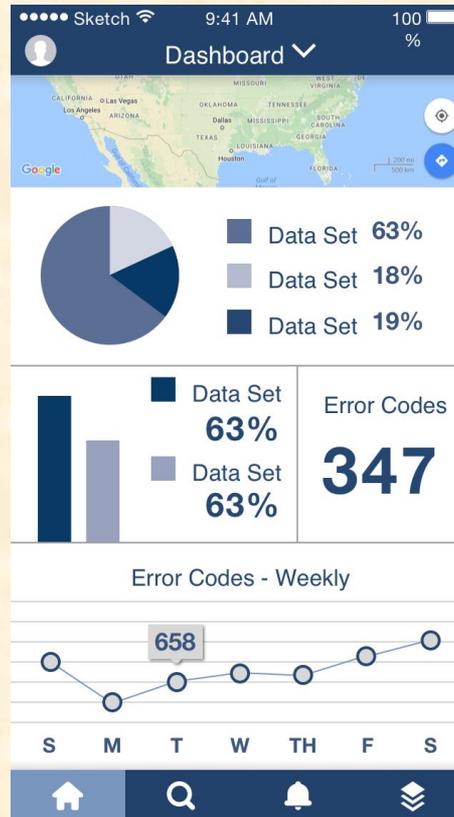


Team Whirlpool Beta Presentation

Team Whirlpool Beta Presentation

e.

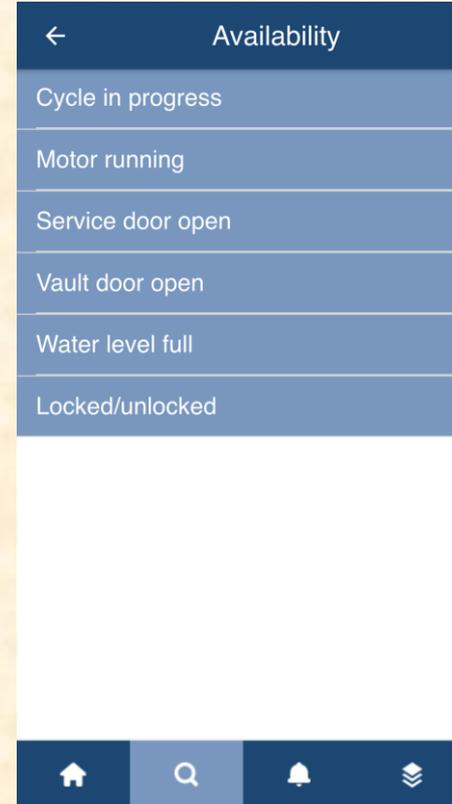
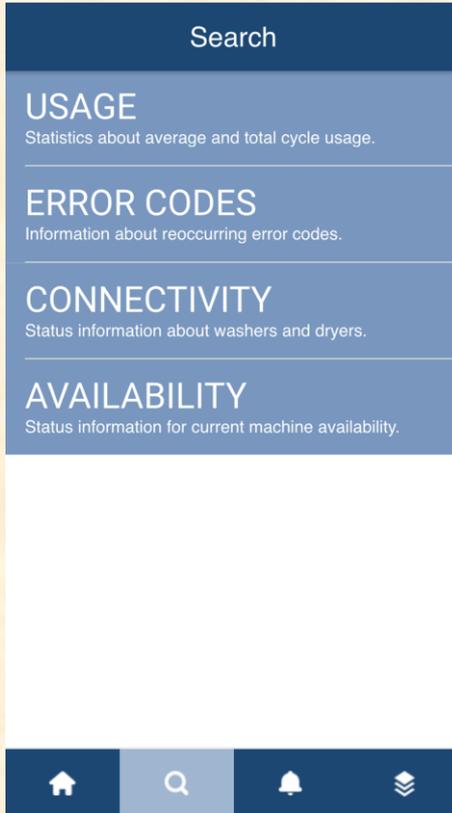
Main Dashboard with Map



Team Whirlpool Beta Presentation

e.

Data Options and Questions



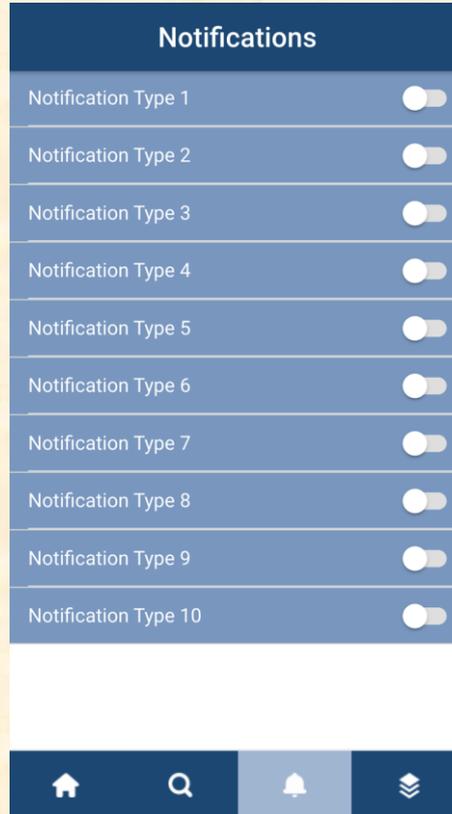


Team Whirlpool Beta Presentation

Team Whirlpool Beta Presentation

e.

Notifications





Team Whirlpool
Design Day

MICHIGAN STATE
UNIVERSITY

The Capstone Experience

Team Yello

Department of Computer Science and Engineering
Michigan State University
Spring 2017



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...to Professionals*

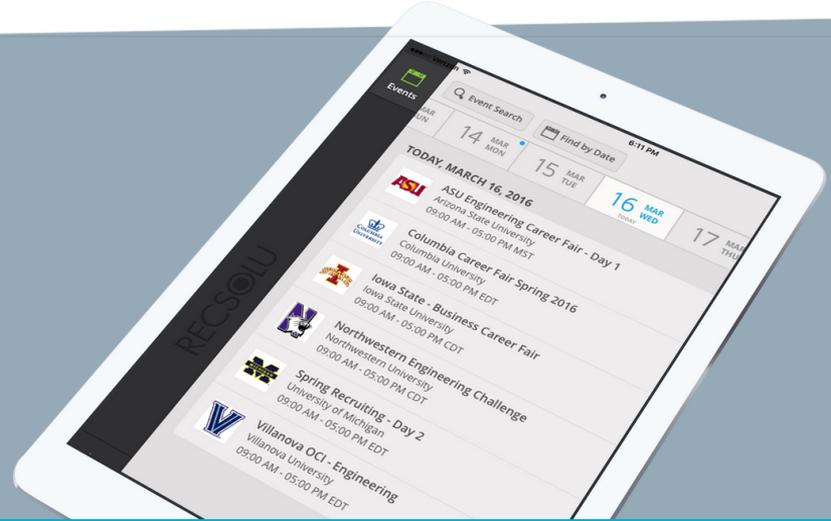
yello



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

YelloVision: Career Fair Augmented Reality Experience

- Functionalities
 - Improve Career Fair Experience for Recruiters and Candidates
 - Preview Information about Companies and Open Positions
 - Search by Company Logo Using Phone Camera
- Features
 - Design like Pokemon Go for Career Fairs
 - Identify Companies by Logo Image
 - Display Various Information
 - Company Name
 - Majors Desired
 - Locations
 - "More Details"
 - Pan Information by Moving Phone
 - Support both iPhones and Android Phones
- Technologies
 - Apple iPads and iPhones (iOS)
 - Swift or Objective-C / Apple Xcode
 - Google Android Tablets and Phones
 - Java / Android Studio



yello

Chicago, Illinois





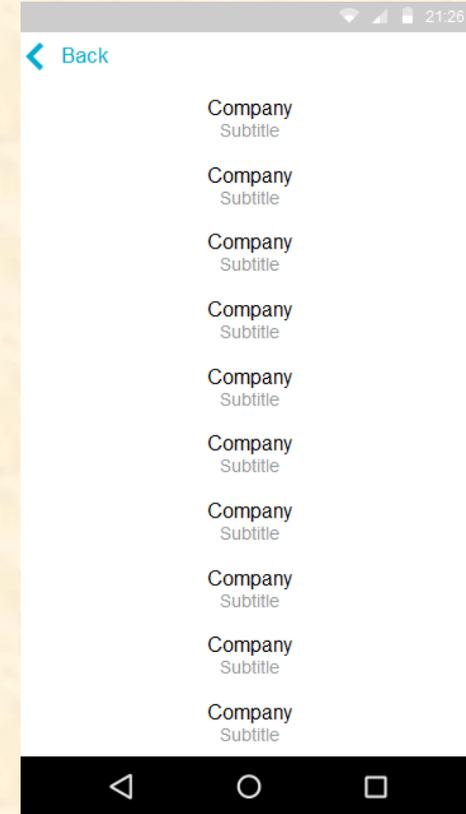
Team Yello

Derek Li, Cody Helmling, Claury Mejia Rodriguez, Mike Lukowski

Team Yello Project Plan Presentation

e.

Screen Mockups

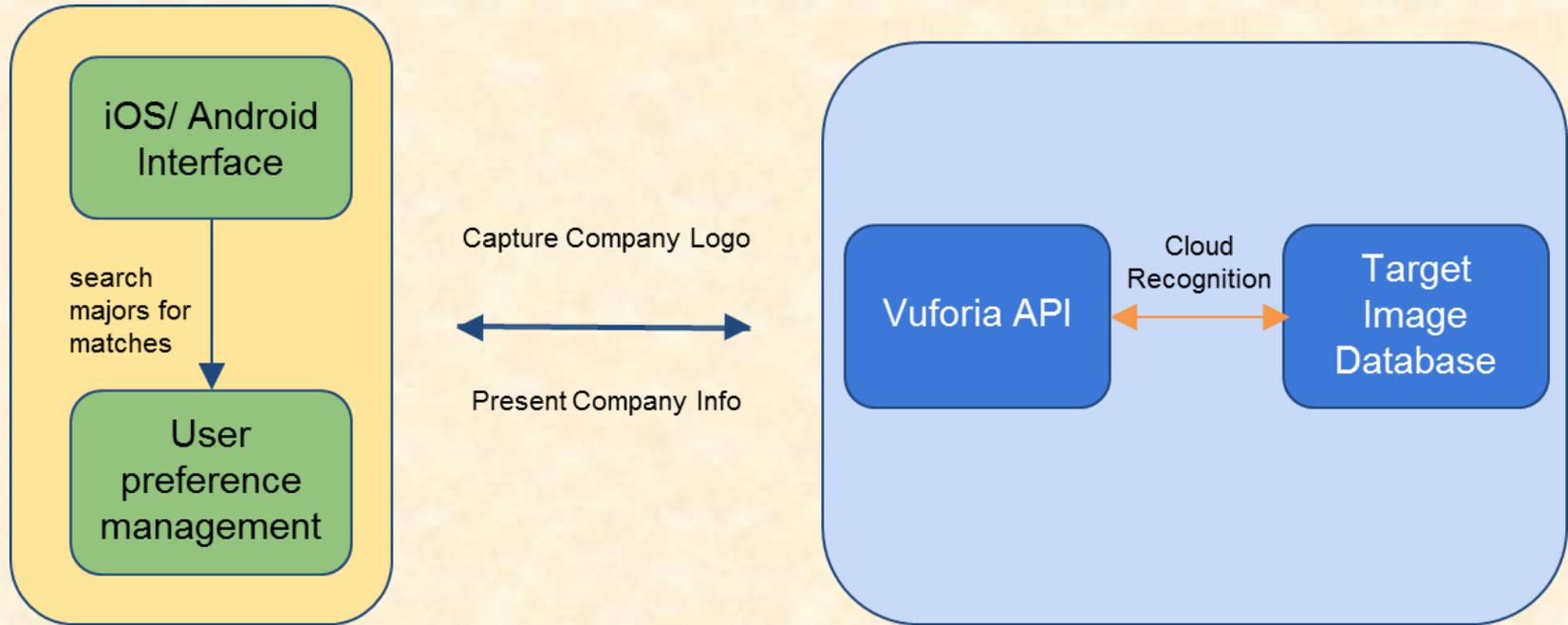




Team Yello Project Plan Presentation

Team Yello Project Plan Presentation

Architecture Diagram



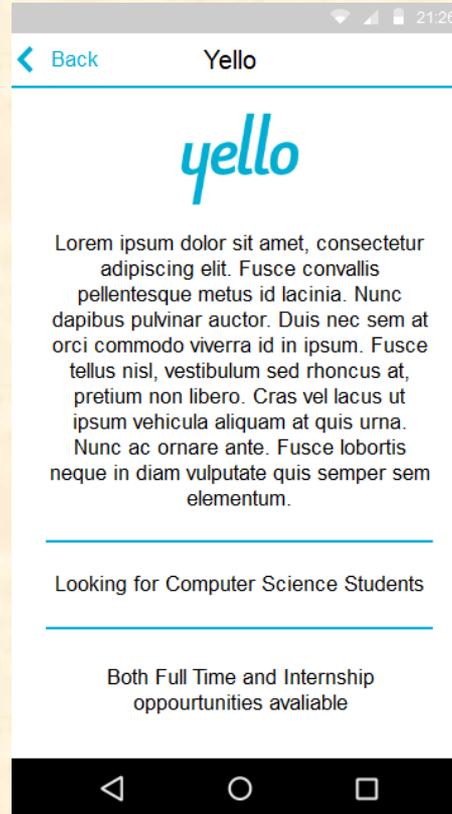


Team Yello
Project Plan Presentation

Team Yello Project Plan Presentation

e.

Screen Mockup



The Capstone Experience



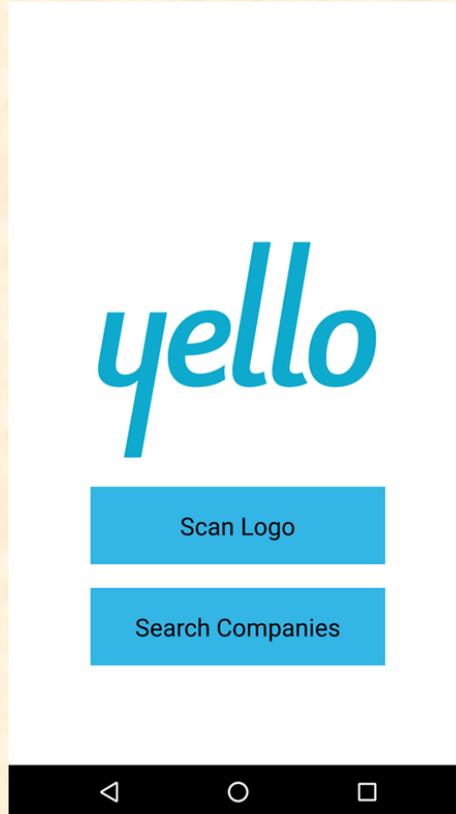


Team Yello Alpha Presentation

Team Yello Alpha Presentation

e.

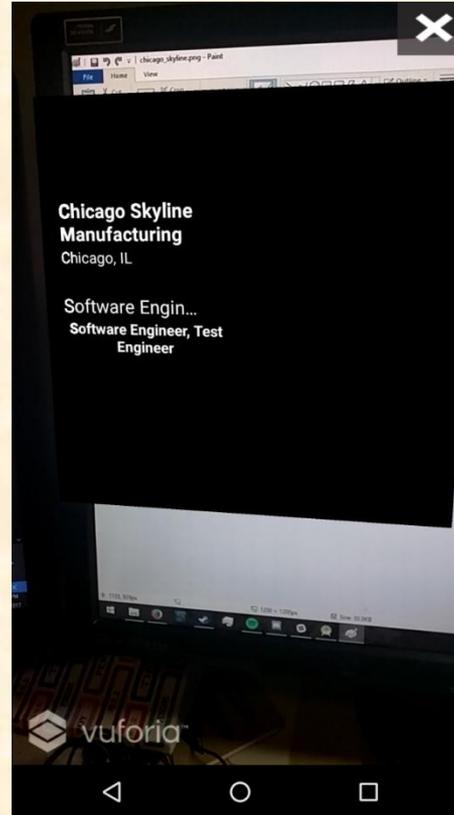
Starting Screen



Team Yello Alpha Presentation

e.

Image Recognition



The Capstone Experience





Team Yello Alpha Presentation

Team Yello Alpha Presentation

e.

Search by Company Name

Chicago Skyline Manufacturing

Lake Michigan Partners

Michigan Ave Retail

Millennium Park Bank

Navy Pier Products, Inc.

Water Tower Consulting Group



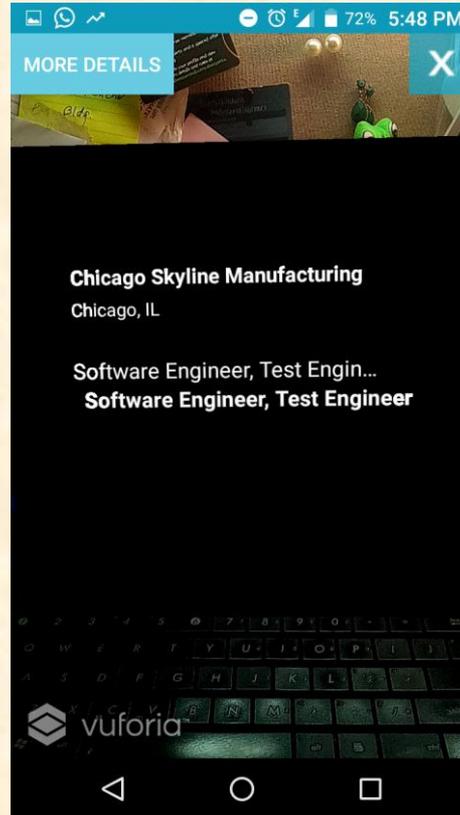


Team Yello Beta Presentation

Team Yello Beta Presentation

e.

Logo Recognition



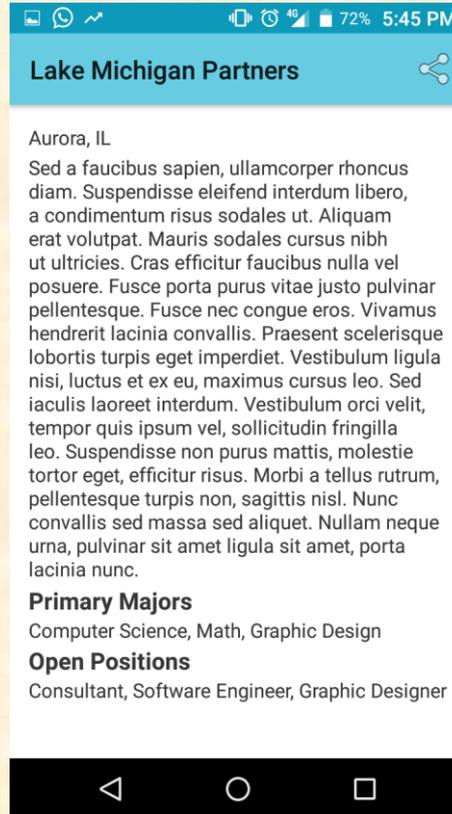
The Capstone Experience



Team Yello Beta Presentation

e.

More Details



The screenshot shows a mobile application interface. At the top, there is a teal header bar with the text "Lake Michigan Partners" and a share icon. Below the header, the text "Aurora, IL" is displayed. The main content area contains a paragraph of placeholder text: "Sed a faucibus sapien, ullamcorper rhoncus diam. Suspendisse eleifend interdum libero, a condimentum risus sodales ut. Aliquam erat volutpat. Mauris sodales cursus nibh ut ultricies. Cras efficitur faucibus nulla vel posuere. Fusce porta purus vitae justo pulvinar pellentesque. Fusce nec congue eros. Vivamus hendrerit lacinia convallis. Praesent scelerisque lobortis turpis eget imperdiet. Vestibulum ligula nisi, luctus et ex eu, maximus cursus leo. Sed iaculis laoreet interdum. Vestibulum orci velit, tempor quis ipsum vel, sollicitudin fringilla leo. Suspendisse non purus mattis, molestie tortor eget, efficitur risus. Morbi a tellus rutrum, pellentesque turpis non, sagittis nisl. Nunc convallis sed massa sed aliquet. Nullam neque urna, pulvinar sit amet ligula sit amet, porta lacinia nunc." Below this text, there are two sections: "Primary Majors" with the subtext "Computer Science, Math, Graphic Design" and "Open Positions" with the subtext "Consultant, Software Engineer, Graphic Designer". At the bottom of the screen, there is a black navigation bar with three white icons: a back arrow, a circle, and a square.

Aurora, IL

Sed a faucibus sapien, ullamcorper rhoncus diam. Suspendisse eleifend interdum libero, a condimentum risus sodales ut. Aliquam erat volutpat. Mauris sodales cursus nibh ut ultricies. Cras efficitur faucibus nulla vel posuere. Fusce porta purus vitae justo pulvinar pellentesque. Fusce nec congue eros. Vivamus hendrerit lacinia convallis. Praesent scelerisque lobortis turpis eget imperdiet. Vestibulum ligula nisi, luctus et ex eu, maximus cursus leo. Sed iaculis laoreet interdum. Vestibulum orci velit, tempor quis ipsum vel, sollicitudin fringilla leo. Suspendisse non purus mattis, molestie tortor eget, efficitur risus. Morbi a tellus rutrum, pellentesque turpis non, sagittis nisl. Nunc convallis sed massa sed aliquet. Nullam neque urna, pulvinar sit amet ligula sit amet, porta lacinia nunc.

Primary Majors
Computer Science, Math, Graphic Design

Open Positions
Consultant, Software Engineer, Graphic Designer



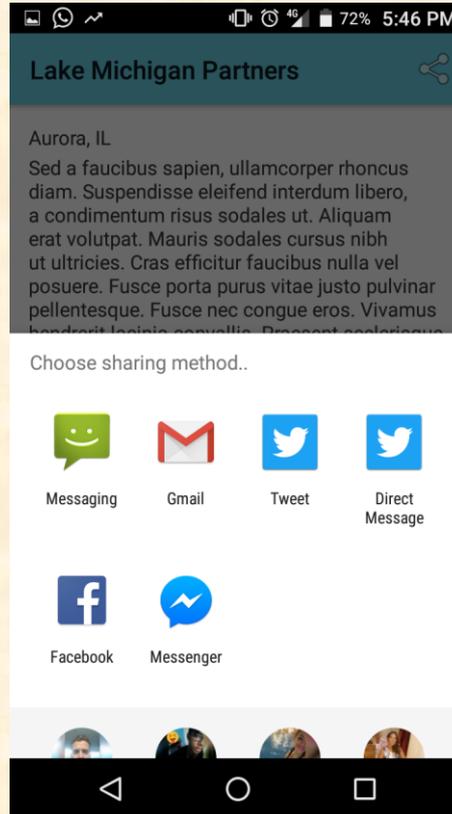


Team Yello Beta Presentation

Team Yello Beta Presentation

e.

Sharing Companies





Team Yello
Design Day

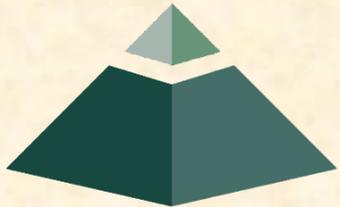
MICHIGAN STATE

UNIVERSITY

The Capstone Experience

Dr. Wayne Dyksen

Department of Computer Science and Engineering
Michigan State University
Spring 2017



*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

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The Capstone Experience

Design Day Award Winners

December 9, 2016



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



All-Hands
Design Day, December 9, 2016



Auto-Owners Exhibition Award

Team Whirlpool, Fall 2016

Mooch

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

Presented by Scott Lake and Ross Hacker of Auto-Owners Insurance



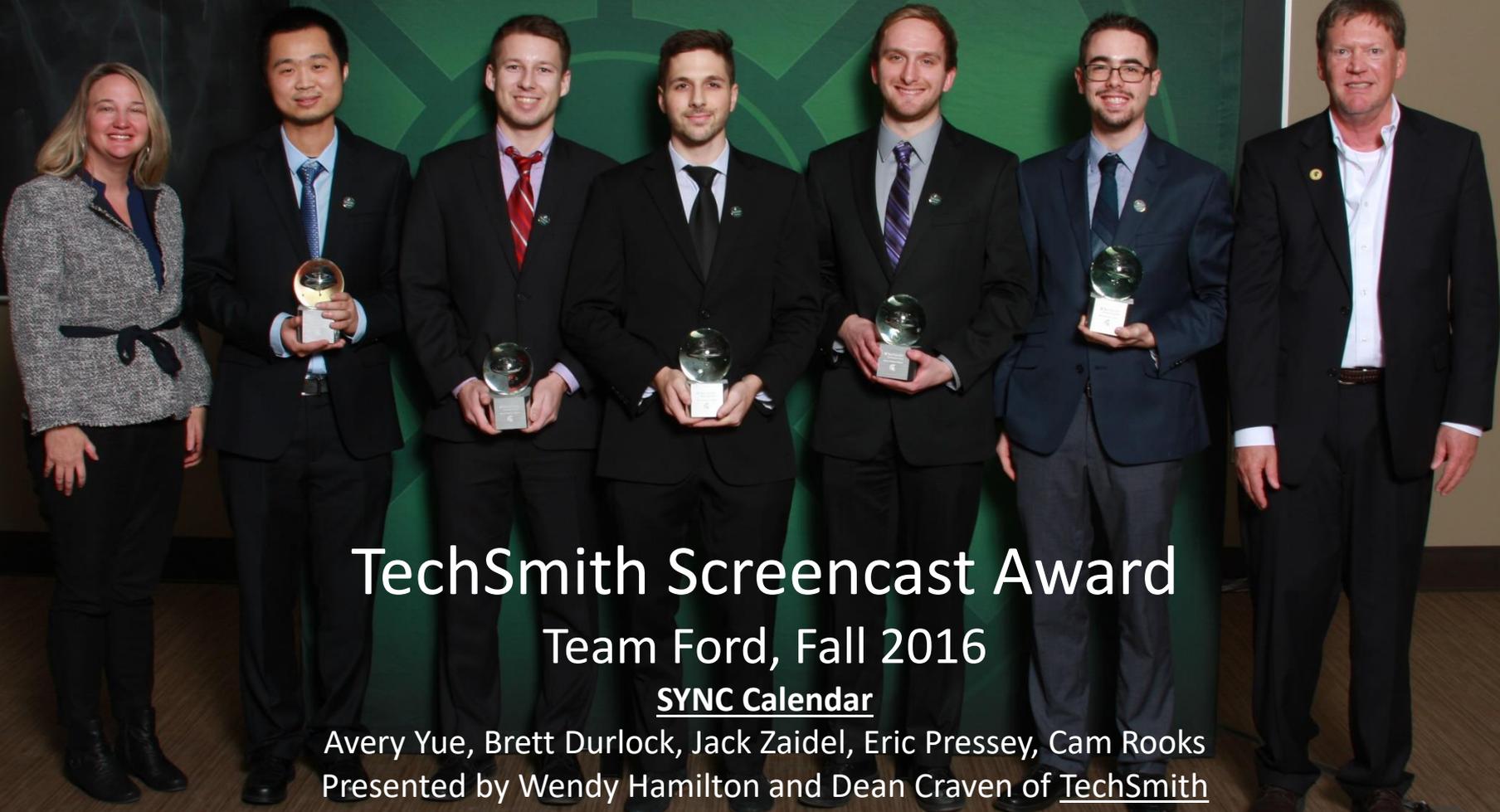
MSU Federal Credit Union Praxis Award

Team Rook, Fall 2016

Anomaly Detection Suite v2.0

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

Presented by Samantha Amburgey of MSU Federal Credit Union



TechSmith Screencast Award

Team Ford, Fall 2016

SYNC Calendar

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

Presented by Wendy Hamilton and Dean Craven of TechSmith



Urban Science Sigma Award

Team Amazon, Fall 2016

Asa: Your Amazon Shopping Assistant

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

Presented by Linda Koeppe and Elizabeth Klee of Urban Science

MICHIGAN STATE

U N I V E R S I T Y

The Capstone Experience

Design Day Award Winners

April 28, 2017



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



All-Hands
Design Day, April 28, 2017



MICHIGAN STATE
UNIVERSITY

COLLEGE OF ENGINEERING

Auto-Owners Exhibition Award

Team TechSmith, Spring 2017

Teacher's Virtual Toolbelt

Alex Crimin, Zeke Zandbergen, Yang He, Ryan Cornillie

Presented by Scott Lake of Auto-Owners Insurance



MSU Federal Credit Union Praxis Award

Team Union Pacific, Spring 2017

Learning New Train Routes

Matthew Schleusener, Kangjie Mi, Nick Summers, Jon Wild

Presented by Liam Petraska of MSU Federal Credit Union



TechSmith Screencast Award

Team Amazon, Spring 2017

ACRA: Amazon Customer Review Analyzer

Jie Wan, Jason Liu, Ian Whalen, Ankit Luthra, Tess Huelskamp

Presented by Wendy Hamilton of TechSmith



Urban Science Sigma Award

Team Michigan State University, Spring 2017

CATALyst: Mapping CATA Buses in Real-Time

Charlie Ward, Cathy Dinsmoor, Tom Beaver, Jimmy Mkude, James Dodge

Presented by Linda Koeppel and Luke Mercier of Urban Science

MICHIGAN STATE

UNIVERSITY

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

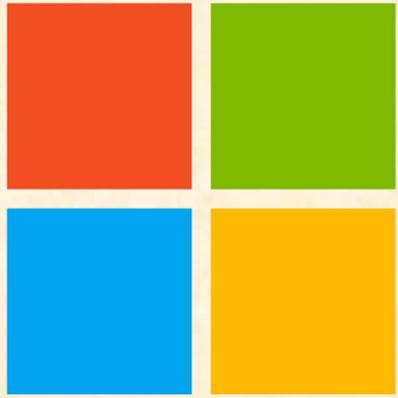




Humana

meijer[®]





Microsoft

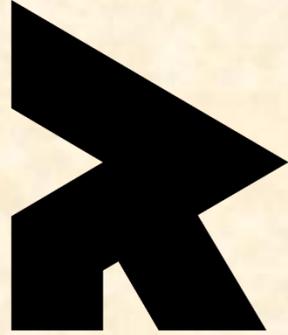


Firefox[®]



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

Building Dreams *Together*



ROOK SECURITY

SPECTRUM HEALTH





TechSmith[®]

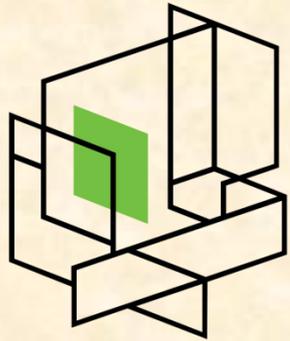


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BUILDING AMERICA[®]



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