The Capstone Experience

Dr. Wayne Dyksen
Department of Computer Science and Engineering
Michigan State University
Spring 2018
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., 1279 Anthony Hall
- Presentations By
  - Professor
  - Teams
    - Status Report Presentations
    - Formal Presentations
      - Project Plan
      - Alpha
      - Beta
    - Project Videos
  - Guest Speakers
All-Hands Meetings

- 01/09: Capstone Overview
- 01/11: Project Plan
- 01/16: Risks and Prototypes
- 01/18: Schedule and Teamwork
- 01/23: Team Status Report Presentations
- 01/25: Team Status Report Presentations
- 01/30: Team Project Plan Presentations
- 02/01: Team Project Plan Presentations
- 02/06: Team Project Plan Presentations
- 02/08: Team Project Plan Presentations
- 02/13: Resume Writing and Interviewing
- 02/15: Creating and Giving Presentations
- 02/20: Team Alpha Presentations
- 02/22: Team Alpha Presentations
- 02/27: Team Alpha Presentations
- 03/01: Team Alpha Presentations
- 03/06: (Spring Break, No Meeting)
- 03/08: (Spring Break, No Meeting)
- 03/13: Team Status Report Presentations
- 03/15: Team Status Report Presentations
- 03/20: Design Day and the Project Videos
- 03/22: Camtasia Demo
- 03/27: Intellectual Property
- 03/29: Ethics and Professionalism
- 04/03: Team Beta Presentations
- 04/05: Team Beta Presentations
- 04/10: Team Beta Presentations
- 04/12: Team Beta Presentations
- 04/17: Status Report Presentations
- 04/19: Status Report Presentations
- 04/24: Project Videos
- 04/26: Project Videos and All Deliverables
- 04/26: Design Day Setup
- 04/27: Design Day
- 05/03: Project Videos
The Capstone Experience

Team Accenture

Department of Computer Science and Engineering
Michigan State University
Spring 2018
accenture
NEW ISN’T ON ITS WAY.
WE’RE APPLYING IT RIGHT NOW.

Accenture is answering real business challenges for our clients through innovation and deep industry knowledge. Here’s how.
Team Accenture
Project Overview

AMAP: Automated Malware Analysis Platform

• Functionalities
  ▪ Automate Analysis of Malware
  ▪ Provide All-Inclusive Platform

• Features
  ▪ Ingest Malware Samples
  ▪ Decode Configuration Settings
  ▪ Recover Malware Artifacts
  ▪ Create Relationships in iDefense Platforms
  ▪ Save Payloads in Malware Repository

• Technologies
  ▪ Accenture iDefense Malware Repository
  ▪ Accenture iDefense IntelGraph
  ▪ Database Technologies
    ○ MongoDB
    ○ mySQL
  ▪ Python
Team Accenture
Griffin Metevia, Sam Kling, Julian Ellis, Andrew Mitchell, Teng Xu
Team Accenture
Project Plan Presentation

Screen Mockup: Malware Search

Malware Sample Search

- File Name: 040d71e56512ao786bcs.xls
- File Size: 77824 bytes
- File MimeType: application/vnd.ms-excel
- File Type: Composite Document File V2 Document
- MD5: 040d71e56512ao786b
- SHA1: a4jn43kn34mk34kmk343mk3443mk
- Notes:
Team Accenture
Project Plan Presentation
Team Accenture
Project Plan Presentation

Architecture Diagram

AMAP Modules

iDefense
Part of Accenture Security

Malware Database

AMAP Dashboard

Data Server

AMAP Modules:
- Python

Applications:
- MongoDB
- Django
- AWS Web Services
- HTML
- CSS
- JavaScript
Team Accenture Project Plan Presentation
# Team Accenture

## Alpha Presentation

Current Process Status Page

![Process Status Dashboard](image)

### Processes

<table>
<thead>
<tr>
<th>#</th>
<th>SHA256</th>
<th>MDS</th>
<th>Overall Progress</th>
<th>Start Date</th>
<th>View</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>b3d9caf55ech22ibbc3d0f1395313e5ab90be9ae87456afaf5546bf537999</td>
<td>eb6s64b584704e2b65996e6a88531ae5</td>
<td>1B-1-27 1:54:24</td>
<td>View</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>df02aca12419fcfe772199c3cb5764ef9f65d1x737282b9aa2ee3d4ed</td>
<td>4871e4752b67662ac943584014391ed</td>
<td>1B-2-2 1:19:52</td>
<td>View</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>d278f944aabe7ba4c348bce09f0fe6a62e6f9f664ec0f2b165de37b6edfd</td>
<td>3501b1f022bcb6d79376d5c973777b5</td>
<td>1B-2-3 5:52:45</td>
<td>View</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2c112b6f5a0a6a3124b0243359c07f526b074949bda74976d105</td>
<td>9490e48701d12350a8b8597f1b18907</td>
<td>1B-2-3 6:00:23</td>
<td>View</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>9ac3acc466a70884091364b5e2e13534c6a7815352f3f1e4970b6bc3d5fabe</td>
<td>68b329a9893e34099c7d8ad5c9c940</td>
<td>1B-2-5 12:32:02</td>
<td>View</td>
<td></td>
</tr>
</tbody>
</table>
Team Accenture
Alpha Presentation
Team Accenture Beta Presentation
AMAP Wizard

AMAP is Currently Running

Config Options:
- Time between each pull from database: 10 seconds
- Files retrieved during each pull: 1

Active Modules:
- ratdecoder
- file-type
- SHA256
- sha1
- Cuckoo

Return to Dashboard  Quit AMAP
Team Accenture
Beta Presentation

AMAP Dashboard

Dashboard
File Upload
Processes

Todays Processed Files
New Malicious Files: 1125
New Non-Malicious Files: 500

Average Processing Time
Time: 3.5 minutes

Malware Processed Per Hour

New Malware Samples Per Hour

File Types
- Windows Executable
- Microsoft Office Documents
- Other
The Capstone Experience

Team Amazon

Department of Computer Science and Engineering
Michigan State University
Spring 2018
AMPED: Amazon Marketplace Podcast Earnings Detection

• Functionalities
  ▪ Play Podcasts
  ▪ Show Listeners Related Amazon Products
  ▪ Support Listener’s Favorite Content Producer

• Features
  ▪ Create Integrated Audio Player
  ▪ Enable Uploading of Podcast by Producer
  ▪ Transcribe Speech to Text
  ▪ Comprehend Content
  ▪ Find Related Amazon Products
  ▪ Package Results Into API for Player

• Technologies
  ▪ AWS Compute & Database Services
  ▪ Amazon Transcribe
  ▪ Amazon Comprehend
  ▪ Amazon Item Search
  ▪ Amazon Queuing and Notification Services
  ▪ Amazon Elastic Beanstalk and API Gateway
Team Amazon
Zach Whitener, Hansheng Zhao, Dillon Stock, Cam Korzecke, Chess Luo
Team Amazon
Project Plan Presentation

Screen Mockup: Web App Dashboard
Podcast Upload Modal

CREATE A NEW PODCAST

Team Amazon Project Plan Presentation
Team Amazon
Project Plan Presentation
Team Amazon
Project Plan Presentation

Screen Mockup: Podcast Details Page
See VB Module UTL_PresentationSlidesSend2FB.

Team Amazon
Alpha Presentation
Team Amazon
Alpha Presentation

AMPED Dashboard

Plant Money
The economy, sustainable, with stories and surprises. Imagine you could call up a friend and say, “Meet me at the bar and tell me what’s going on with the economy.” Now imagine that’s actually a fun evening. That’s what we’re going for at Planet Money. People seem to like it.
Team Amazon Alpha Presentation
Podcast Library and Product Detail Page

Team Amazon
Alpha Presentation
Team Amazon Beta Presentation
Team Amazon
Beta Presentation

AMPED Dashboard
Team Amazon
Beta Presentation

Podcast Library

What America Sells To The World
Fresh Air
2018-02-20 00:26

Episode 821: The Other Davos
On Point
2018-02-20 00:26
Team Amazon
Beta Presentation

Product Display

FIRE TV STICK WITH ALEXA VOICE REMOTE
$39.99
The Capstone Experience

Team Aptiv

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Team Aptiv
Project Overview

CMS: Cybersecurity Management System

• Functionalities
  ▪ Automate Aptiv’s Cybersecurity Process
  ▪ Visualize and Analyze Data Trends

• Features
  ▪ Modules for all Cybersecurity Processes
    o Threat Analysis and Risk Assessment
    o Vulnerability/Penetration Assessment
    o Mitigation Remediation
    o Incident Response
  ▪ Database Visualizations and Analysis
    o Threats/Risks
    o Vulnerabilities
    o Incidents
    o Mitigations
  ▪ Provide Communication Through Task Manager and Request System

• Technologies
  ▪ ASP.NET (C#)
  ▪ CSS/HTML
  ▪ MS SQL
  ▪ Synopsys Protecode
  ▪ Microsoft Azure
Team Aptiv
Dillon Brown, Clayton Peters, Ashtaan Rapanos, Winton Qian, Wei Jiang
Team Aptiv
Project Plan Presentation

Architecture Diagram

Internal Network

Internal Server

Microsoft Azure

SQL Database Server

Application Server

.NET Web Application

Active Directory

APTIV

Admin

Product Engineer

Cybersecurity

Protecode SC
Team Aptiv
Project Plan Presentation
Team Aptiv
Alpha Presentation
Team Aptiv
Alpha Presentation

Product Dashboard
Team Aptiv
Alpha Presentation
Team Aptiv
Alpha Presentation

Project Page
Team Aptiv
Beta Presentation

Product Lines
Team Aptiv
Beta Presentation
The Capstone Experience

Team Auto-Owners

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Auto-Owners Insurance

Life • Home • Car • Business
Auto-Owners Web Site

For What Matters Most

Insurance built around your needs by a local independent agent

FIND AN AGENT FOR A QUOTE

Why choose an independent agent?

Pay Your Bill		Report a Claim

Policies to Meet Your Needs
Team Auto-Owners
Project Overview

IMAGINE: IMAGe INtake Experience

• Functionalities
  ▪ Evaluate Physical Environments (for Insurance Purposes)
  ▪ Leverage Virtual Reality
  ▪ Create Virtual Environments Using Spherical Camera

• Features
  ▪ Support Image Import From Spherical Camera
  ▪ Classify the Environment
  ▪ Detect and Identify Objects
  ▪ Create Virtual Environment
  ▪ Provide Playback, Navigation and Inspection
  ▪ Build and Display Inventory View

• Technologies
  ▪ Unity Game Engine
  ▪ Oculus Rift and Touch Controllers
  ▪ Oculus Rift Sensor
  ▪ Ricoh Theta V Spherical Camera
  ▪ Image Processing and Recognition
Team Auto-Owners
Zack Geizer, Reece Cole, Sean Larabell, Nick Frederick, Xinyun Zhao
Team Auto-Owners
Project Plan Presentation

Screen Mockup: Web Application
Screen Mockup: VR User Interface

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

Screen Mockup: VR User Interface
Team Auto-Owners
Alpha Presentation
### Invenory View

**Smith Home**  
324 Maple Street

<table>
<thead>
<tr>
<th>Image</th>
<th>Object</th>
<th>Room</th>
<th>Characteristics</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>sink</td>
<td>bathroom #1</td>
<td>Pedestal</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Shower/Tub</td>
<td>Bathroom #2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Mirror</td>
<td>Bathroom #2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Bed</td>
<td>Bedroom #1</td>
<td>Queen</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Drawer</td>
<td>Bedroom #1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Team Auto-Owners
Alpha Presentation

Object Detection
Team Auto-Owners Alpha Presentation
Team Auto-Owners
Alpha Presentation

VR: Selecting Object Nodes
Team Auto-Owners
Beta Presentation
Website Environments Page
Team Auto-Owners
Beta Presentation
Object Recognition Bounding Boxes
Team Auto-Owners
Beta Presentation
Team Auto-Owners

Beta Presentation

VR Object Nodes and Info Display
The Capstone Experience

Team Dow

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Team Dow
Project Overview

Virtual Reality Simulation for Railcar Loading

• Functionalities
  ▪ Teach How to Load a Railcar Safely
  ▪ Via First Person Virtual Reality Game

• Features
  ▪ Support Two Levels of Difficulty
    o Non-Certified
    o Certified
  ▪ Handle Various Scenarios
    o Normal Filling
    o Response to Spills
  ▪ Manage Player Points
    o Award for Positive Actions
    o Deduct for Negative Actions
  ▪ Enable Interaction with Game Objects
    o Personal Protective Equipment (PPE)
    o D-Rails
    o Slide Valves
  ▪ Use Audio to Indicate When Action Needed
  ▪ Simulate Different Weather Conditions
  ▪ Provide Feedback to Player at Game End

• Technologies
  ▪ Unity Game Engine
  ▪ Vive and Touch Controllers
  ▪ Vive SDK
  ▪ Microsoft .NET / C#
  ▪ Xamarin
Team Dow
Kyle White, Matthew Smith, John Yoo, JD Hayward, David Wang
Team Dow
Project Plan Presentation

Screen Mockup: The Loading Area
Team Dow
Project Plan Presentation

Architecture Diagram

Software
- Ps
- 3DS MAX
- Audacity
- C#

Language
- SDK

Hardware
- VRTK
- STEAM® VR

Assets
System Architecture

Software
- Ps
- 3DS MAX
- Audacity
- C#
- Unity
- Languages
- SDK

Hardware
- SteamVR
- VRTK
- Assets

Team Dow
Project Plan Presentation
Team Dow
Project Plan Presentation

Screen Mockup: The Railcar
See VB Module UTL_PresentationSlidesSend2FB.
Team Dow
Alpha Presentation
Team Dow
Alpha Presentation

Load Arm and Spreader
Team Dow
Alpha Presentation
Team Dow
Alpha Presentation

Derailer
Team Dow
Beta Presentation
Team Dow
Beta Presentation

Load Arm and Spreader
Team Dow
Beta Presentation

Derail
Team Dow
Beta Presentation
Incoming Railcar
The Capstone Experience

Team DRIVEN-4

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Driven To Enable Your Success!

We are technology leaders who were in your shoes yesterday. We can help you achieve your PLM, IoT & CyberSecurity journey like no-one else.
Team DRIVEN-4
Project Overview

2020 Business in a Box

• Functionalities
  ▪ Develop Futuristic Business Environment
  ▪ Base on Internet of Things (IoT) Architecture
  ▪ Target 2020 and Beyond

• Features
  ▪ Model Five to Ten Components
  ▪ Connect Components via WiFi
  ▪ Validate and Verify Design via Simulation
  ▪ Develop Manufacturing Processes and Artifacts
  ▪ Demonstrate Capabilities for Collaboration and Integration
  ▪ Utilize Various Product Development Software Systems

• Technologies
  ▪ Computer Aided Design (CAD) / Siemens NX and PTC CREO
  ▪ Product Lifecycle Management (PLM) / Siemens Teamcenter and PTC Windchill
  ▪ Design Simulation Tools / PTC and Siemens
  ▪ Factory Floor Simulation / Siemens
  ▪ IoT Platforms / PTC ThingWorx and Siemens MindSphere
  ▪ 3D Printing
  ▪ Conveyor and Sight System
  ▪ Augmented and Virtual Reality (VR/VR) / PTC Thingworx Studio
Team DRIVEN-4
Brian Pinsky, Nick Mikelsavage, Charles Carroll, Betty Wu, Sam Coffey
Team DRIVEN-4
Project Plan Presentation

Screen Mockup: Manufacturing
Team DRIVEN-4
Project Plan Presentation
Team DRIVEN-4
Project Plan Presentation
Team DRIVEN-4
Project Plan Presentation

Screen Mockup: AR Service
Team DRIVEN-4
Alpha Presentation

Manufacturer’s Web Portal Dashboard
Team DRIVEN-4
Alpha Presentation

Customer Mobile Application
Team DRIVEN-4
Alpha Presentation
3D Model for Augmented Reality
Team DRIVEN-4 Beta Presentation
Team DRIVEN-4
Beta Presentation

Manufacturer Dashboard
Team DRIVEN-4
Beta Presentation

Customer View
Team DRIVEN-4

Beta Presentation

Device Simulator and AR
The Capstone Experience

Team GM

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Your new vehicle is waiting

SHOP OUR VEHICLES

Shop Chevrolet.com

Shop Buick.com

Shop GMC.com

Shop Cadillac.com
Team GM
Project Overview

Plato: DevBot for Microsoft Teams

• Functionalities
  ▪ Create and Manage Virtual Machines
  ▪ Manage and Run Test Cases
  ▪ Target GM Developers

• Features
  ▪ Provide Single Unified Environment
  ▪ Integrate with Microsoft Teams
  ▪ Design Simplified User Controls
  ▪ Use Natural Language Processing

• Technologies
  ▪ CSS / HTML5 / JavaScript
  ▪ Microsoft
    o .NET / C#
    o Bot Framework
    o Language Understanding Intelligent Services (LUIS)
    o Team Foundation Server
    o Teams / O365
    o Azure
  ▪ Natural Language Processing (NLP)
  ▪ RESTful Web Services and JSON

Detroit, Michigan
Team GM
Alex Lepird, Tao Tao, Simeon Goolsby, Matthew Eaton, Colin Coppersmith
Team GM
Project Plan Presentation

Screen Mockup: VM Creation
Team GM
Project Plan Presentation
Team GM
Project Plan Presentation

Architecture Diagram
Team GM
Project Plan Presentation
Team GM
Project Plan Presentation

Screen Mockup: Web Dashboard

React to user input

Microsoft Azure SQL
Microsoft Azure
Visual Studio Team Foundation Server

Azure Bot Service

.NET Framework

Microsoft Teams

React to user input
Team GM
Alpha Presentation
Team GM
Alpha Presentation

VM Creation Through Bot
Virtual Machines Dashboard
Team GM
Alpha Presentation
Team GM
Alpha Presentation

Information on Clicked Test
Team GM

Beta Presentation

Virtual Machines Dashboard
Team GM
Beta Presentation

Tests Dashboard
Team GM
Beta Presentation

Creating a VM

Colin Coppersmith (MSU) 11:33 PM
gm-plato create a debian virtual machine with 16gb of ram and 4 cores and a 256gb hard drive

gm-plato 11:33 PM
I can help you create a virtual machine! Let's get started.

What would you like to name your virtual machine?

Colin Coppersmith (MSU) 11:33 PM
gm-plato CoolDebianVM

gm-plato 11:33 PM
Would you like to create a Debian VM with 16GB of RAM, 4 Cores, and 256GB of hard disk space?

Colin Coppersmith (MSU) 11:33 PM
gm-plato yes

gm-plato 11:33 PM
OK! Your virtual machine has been created! Click 'start' to start it!

CoolDebianVM
OS: Debian RAM: 16GB Cores: 4 Disk Space: 256GB Status: New
The Capstone Experience

Team Herman Miller

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Team Herman Miller
Project Overview

Adjust: Augmented Reality Chair Adjustment

• Functionalities
  ▪ Simplify Adjusting High Performance Office Chair
  o Ergonomic
  o “Developer Chair”
  ▪ Use Chatbot to Explain How

• Features
  ▪ Automatically Identify Chair via Photo
  ▪ Provide Step-by-Step Instructions
  ▪ Customize to User’s Ergonomic Needs
  ▪ Support Apple iOS and Google Android Devices
  ▪ Leverage Facebook Messenger

• Technologies
  ▪ Apple iOS / Swift
  ▪ Google Android / Java
  ▪ Image Processing and Recognition
  ▪ Natural Language Processing (NLP)
  ▪ Facebook Messenger
Team Herman Miller

Kevin Gaban, Mike Bremiller, Kyle Kinsey, Jacob Weber, Han Huang
Team Herman Miller
Project Plan Presentation

Screen Mockup: Identifying Chair

Tap the "Adjust" button and sit in your chair to begin guided adjustment.

Aeron (remastered)
Screen Mockup: Identifying Chair
Team Herman Miller
Project Plan Presentation

Architecture Diagram

3D assets

Model Target Generator

Vuforia matches model target to camera input

Camera Input

Unity displays appropriate interactive 3D model

Xcode

iOS

Builds

Builds

Android
Team Herman Miller
Project Plan Presentation
Team Herman Miller
Project Plan Presentation

Screen Mockup: Interactive 3D Model

Step 1: Height Adjustment
Locate and tap the highlighted height adjustment level on your Aeron chair.
Team Herman Miller
Alpha Presentation
Team Herman Miller
Alpha Presentation

Interactive Model
Seat Depth Adjustment

Front handles on the right and left sides of the seat.

In the proper position, you will have approximately three fingers of clearance between the back of your knees and the seat edge.

To increase or decrease depth: Lift your thigh weight from the front of the seat. Gently lift up the front handles on the right and left sides to disengage the lacking seat depth adjustment. Slide seat forward or back into proper depth for use; then release downward to lock the seat.
Team Herman Miller
Alpha Presentation

Menu

Camera
Use your phone's camera to detect your Herman Miller chair.

Gallery
Select from our gallery of Herman Miller office chairs.

About Us
Learn more about Herman Miller and our range of products.
Do not delete this textbox.
It's used as a marker in VB code.

See VB Module UTL_PresentationSlidesSend2FB.

Team Herman Miller
Beta Presentation
Team Herman Miller
Beta Presentation

Chair Detection Interface

Scan Chair
Detecting Chair...
Chair Detected: Embody
Adjust Chair
Team Herman Miller
Beta Presentation

Interactive Adjustment Interface

Getting Started...

Sit all the way back in your seat.

Make sure your entire back is making contact with the backrest.

Let's Go!
Team Herman Miller
Beta Presentation

Firebase Analytics Dashboard
The Capstone Experience

Team Meijer

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Thrifty: Personal Shopping Assistant

• Functionalities
  ▪ Streamline Shopping Experience
  ▪ Leverage Mobile App
  ▪ Interact by Voice or Chatting

• Features
  ▪ Create Mobile Apps
    o Apple iOS
    o Google Android
  ▪ Determine Product Information
    o Location in Store
    o Stock
    o Sale
    o Coupon
  ▪ Compare Prices to Other Stores
  ▪ Integrate with mPerks
  ▪ Send Notifications to In-Store Team Members

• Technologies
  ▪ Microsoft
    o .NET Framework (C# / ASP.NET)
    o Bot Framework
    o Language Understanding Intelligent Service (LUIS)
    o Azure
    o Application Insights
    o Visual Studio
  ▪ Xamarin
  ▪ Meijer Web Services
  ▪ SQL Server / MongoDB

Team Meijer
Project Overview

The Capstone Experience

Grand Rapids, Michigan
Team Meijer
Emerson Chen, Zach Richardson, Megan Lippert, Jacob Bonesteel, Aaron Carlso
Team Meijer
Project Plan Presentation

Screen Mockup: Chat Interface

Hi, I'm Thrifty, your personal shopping assistant. Feel free to ask me anything, or you can tap this message for some more options.

Ask Thrifty

- mPerks
- Help

These are some of the FAQ's tap one to begin your search.

- "Is there a coupon for ___?"
- "Is ___ in stock?"
- "What are the competitor prices for ___?"
- "Where can I find ___?"

Ask Thrifty

- mPerks
- Help
Team Meijer
Project Plan Presentation

Architecture Diagram

- iOS
- Apple Speech
- Android
- Google Speech
- Bot Framework
- Azure
- mperks
- SQL
- Competitor Pricing
- LUIS
- BLUEBIRD

The Capstone Experience
Team Meijer
Project Plan Presentation

Screen Mockup: Functionality

- Soda Pop
- Coca-Cola
- Pepsi
- Dr. Pepper

- Out-Of-Stock
  - Click here to alert a Meijer Team Member

- Coupon Available
- Competitor Prices

- Ask Thrifty

Coca-Cola: 24 pk
$7.99 ea
Aisle 12

Competitor Prices on a 24 pack of Coke:

- Coca-Cola: 24 pk
  - Meijer: $7.99
  - Walmart: $7.99
  - Kroger: $7.99
  - Target: $8.99

Here is what I found.
Team Meijer Alpha Presentation
Team Meijer
Alpha Presentation

Home Screen

![Home Screen Image]
Team Meijer
Alpha Presentation

The Capstone Experience
Team Meijer
Alpha Presentation
Team Meijer
Alpha Presentation

Product Page and Conversations

The Capstone Experience
Team Meijer
Beta Presentation
Team Meijer
Beta Presentation

Chat Interface
Team Meijer
Beta Presentation

Ice Cream Cake Roll, Oreo, 32 fl oz
$9.99
Aisle 28

Diet Coke Caffeine Free - 6/12 oz Bottles
$4.59
Aisle 3

Related Products

Ask Thrifty

The Capstone Experience
Team Meijer
Beta Presentation

mPerks
Team Michigan State University
Project Overview

Pulse: Classroom Engagement System

• Functionalities
  ▪ Provide Real-Time Feedback and Communication During Class
  ▪ Keep Track of Student Attendance

• Features
  ▪ Provide Web App for Instructors
    o Create Questions, Surveys and Quizzes
    o Open Questions and Quizzes at Specific Times
    o View and Save Results in Real Time
      ➢ Class Results with Charts and Graphs
      ➢ Individual Results
    o Push Content to Student Devices
    o View Student Questions and Comments
    o Track and View Class Attendance
  ▪ Provide Mobile App for Students
    o Answer Survey and Quiz Questions During Class
    o View Instructor-Posted Content
    o Post Questions and Comments
  ▪ Take Attendance with Mobile Devices via iBeacons

• Technologies
  ▪ Apple iOS / Swift
  ▪ Google Android / Java or Kotlin
  ▪ Amazon Web Services (AWS)
  ▪ iBeacons
Team Michigan State University
Owen McMahon, Adam Blaida, Lauren Malik, Yaqeen Al-Marhoon, David York, Andrew Schafer
Team Michigan State University
Project Plan Presentation

Android and iOS Design
Team Michigan State University
Project Plan Presentation
Team Michigan State University
Project Plan Presentation

Architecture Diagram

- Mobile Student Client
- Instructor Web Client
- Estimote Beacons
- ID
- API Gateway
- Sockets

Components:
- EC2
- RDS
- SNS
- Node.js
- Amazon Web Services
Team Michigan State University
Project Plan Presentation
Team Michigan State University
Project Plan Presentation

Screen Mockup: Forums - Web
Team Michigan State University
Alpha Presentation
Team Michigan State University
Alpha Presentation

Mobile Questions

Question 1
00:20

Which university resides on the banks of the Red Cedar River?

- University of Michigan
- Wayne State University
- Michigan State University
- Oakland University

Submit

The Time Complexity of this Algorithm is:

- O(N)
- CONSTANT
- O(DLOGN)
- O(N^2)

Submit
Team Michigan State University
Alpha Presentation
The Time Complexity of this Algorithm is:

- $O(n)$
- Constant
- $O(n^2)$
- $O(\log N)$

Team Michigan State University
Alpha Presentation
Team Michigan State University Beta Presentation
Team Michigan State University
Beta Presentation

<table>
<thead>
<tr>
<th>Question Set</th>
<th>Forum</th>
<th>Instructor Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSE 472</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quiz on Friday has been moved. The quiz over ray tracing and openGL will be next week, Tuesday the 12th.</td>
<td>Posted at 04/02/2018 03:22 PM by Andrew in 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem Solved</td>
<td>Thanks for the help everyone!</td>
<td>Posted at 04/02/2018 03:23 PM by student in 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Group</td>
<td>Would anyone like to meet to prepare for the quiz Friday?</td>
<td>Posted at 04/02/2018 03:26 PM by student in 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homework 2 Reminder</td>
<td>A lot of you have forgotten to change the app name from &quot;app_name&quot; to your username. If you were one of these forgetful souls, please resubmit.</td>
<td>Posted at 04/02/2018 03:29 PM by Andrew in 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems with Visual Studio</td>
<td>It is brought to my attention that many of you are having trouble with step 8. Make sure you are using version 5.0 of OpenGL plugin.</td>
<td>Posted at 04/02/2018 03:25 PM by Andrew in 1</td>
</tr>
</tbody>
</table>
Team Michigan State University
Beta Presentation

Mobile - Forum
Team Michigan State University
Beta Presentation
Web Question View – Short Answer

Michigan State University
Question Sets
Forum
Instructor Tools
Results

Join with
Display Results

D : C:\...
A : Interactive State
B : Presentation View
C : The Capstone Experience

Show Correct
Close

A
B
C
The Capstone Experience

Team Mozilla

Department of Computer Science and Engineering
Michigan State University
Spring 2018
The new Firefox

Fast for good.

With 2x the speed, built-in privacy protection and Mozilla behind it, the new Firefox is the better way to browse.

Download Firefox

Firefox Privacy Notice
Team Mozilla
Project Overview

Dark Theme Darkening

• Functionalities
  ▪ Increase Customizability of Firefox
  ▪ Leverage Firefox Quantum Theming API

• Features
  ▪ Provide Ability to Customize New Areas
    o Menus
    o Sidebars
    o In-Product Pages
  ▪ Apply CSS Custom Variables and JavaScript
  ▪ Leverage Inter-Process Communication
    o Pass Messages
    o Between Privileged and Unprivileged Code
  ▪ Support Apple macOS, Microsoft Windows and Linux
  ▪ Ship with Future Release of Firefox

• Technologies
  ▪ CSS
  ▪ JavaScript
  ▪ Python
  ▪ XUL / XBL / HTML
  ▪ Mercurial
  ▪ IRCCloud
  ▪ Bugzilla
  ▪ Review Board
  ▪ Microsoft Windows
  ▪ Apple macOS
  ▪ Linux
Team Mozilla
Vivek Dhingra, Connor Masini, Dyl Stokes, Bogdan Pozderca, Zhengyi Lian
Team Mozilla
Project Plan Presentation

Screen Mockup: In-Product Page

Drag your favorite items into the toolbar or overflow menu.

- History
- Synced Tabs
- New Private Window
- Save Page
- Find
- Open File
- Add-ons
- Zoom Controls
- Edit Controls
- Subscribe
- Text Encoding
- Email Link
- Preferences
- Forget
- NoScript 10.1.6.4
- Developer
- HTTPS Everywhere
- Decentraleyes
- Privacy Badger
- LastPass
- uBlock Origin (off)
- uMatrix
- WebIDE
- Print
- New Window
- Full Screen
- Bookmarks Menu
- Search

Overflow Menu
Drag and drop items here to keep them within reach but out of your toolbar...
Team Mozilla
Project Plan Presentation
Team Mozilla
Project Plan Presentation

Architecture Diagram

API

Firefox Theme

Chrome Theme
Team Mozilla
Project Plan Presentation
Team Mozilla
Project Plan Presentation

Screen Mockup: Menus
Do not delete this textbox. It's used as a marker in VB code. See VB Module UTL_PresentationSlidesSend2FB.
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Alpha Presentation
Team Mozilla
Alpha Presentation

Find Bar and Menu Styling
Team Mozilla
Beta Presentation
Team Mozilla
Beta Presentation
Address Bar Auto-Complete Styling
Team Mozilla
Beta Presentation

Sidebar Styling
Team Mozilla
Beta Presentation

In-Product Page Styling
The Capstone Experience

Team MSUFCU

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Your morning coffee could win you $800.

Find Out More
Team MSUFCU
Project Overview

Digital Assistant and Personal Financial Coach

• Functionalities
  ▪ Offer Personalized Financial Coaching Services
  ▪ Use Digital Assistant

• Features
  ▪ Answer Questions and Provide Recommendations
    o Can I afford to buy that?
    o How much can I spend at the store today?
    o What do people like me spend on rent?
  ▪ Take Actions and Provide Services
  ▪ Handle Text and Voice Input
  ▪ Create Middleware API to MSUFCU
  ▪ Analyze Anonymized Account and Transaction Data
  ▪ Support Apple iOS and Google Android Devices
  ▪ Integrate with Various Services
    o Facebook Messenger
    o Apple iMessage
    o Amazon Alexa
  ▪ Provide Administrative Web Portal

• Technologies
  ▪ CSS / HTML / PHP / JavaScript
  ▪ Apple iOS / Swift
  ▪ Google Android / Java
  ▪ Facebook Messenger API
  ▪ Apple iMessage
  ▪ Amazon Echo / Alexa Skills Kit
  ▪ Machine Learning (ML)
  ▪ Natural Language Processing (NLP)
  ▪ MySQL / Encryption Based on SQL Standards
Team MSUFCU
Patrick Dame, Dallas Nowak, Michael Carter, Rachel Beard, Dane Holmberg
Team MSUFCU
Project Plan Presentation

Screen Mockups: Android App
Team MSUFCU
Project Plan Presentation

Architecture Diagram

Admin Portal

 Middleware

MSUFCU SQLite Database

MSU
BUILDING DREAMS TOGETHER

iOS App, Android App, Amazon Alexa, Facebook Messenger, and iMessage
Team MSUFCU
Project Plan Presentation

Screen Mockup: Web Admin Portal

Account Info | Resources | About
Team MSUFCU
Alpha Presentation
Alexa, transfer $500 from my checking account to another checking account.

6000.

Welcome, Kathryn. How may I help you?

Please enter the account number of the account you would like to transfer to.

Please confirm transferring $500 from your checking account.
Team MSUFCU
Alpha Presentation

Android App

MSUFCU Chatbot

Avengers

Thanks! You are now logged in.

add expense

Which expense would you like to add?

rent

How much is your new expense?

120

Successfully added expense.

Enter message SEND
Team MSUFCU
Alpha Presentation

Facebook Messenger
Team MSUFCU
Beta Presentation
Team MSUFCU
Beta Presentation

Android and iOS Chatbots

MSUFCU Chatbot

Hello Beverly Crusher! How can I help you today?

what do people like me spend on groceries?

Edgar

Would you filter by age or income, Beverly?

Income

Members in your income demographic spent an average of $613.34 last month on Groceries, Beverly. Is there anything else I can help you with?

Enter message

Hello Kathryn Janeway! How can I help you today?

Can I afford to buy a laptop

A 'laptop' costs about $539.99 according to Google Shopping. You should probably not be spending $539.99 anytime soon, Kathryn.
I see you spent $124.62 at RadioShack, Taco Bell, Toys ‘R’ Us a number of times last month, Elim. You could save $18.69 if you cut back just 15% over the next month and $224.28 if you continue this trend over the next year! Would you like me to help you implement this savings plan?
Team MSUFCU
Beta Presentation
Alpha, transfer $500 from my checking account to another checking account.

6000.

Welcome, Kathryn. How may I help you?

Please say the account number of the account you would like to transfer to.

Please say your Alexa PIN to confirm this transaction of $500 to account 6000.
The Capstone Experience

Team Phoenix Group

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Team Phoenix Group
Project Overview

Customer Service System with Chatbot

• Functionalities
  ▪ Enhance Customer Service Experience
  ▪ Ensure Easy Access to Product User Manuals
  ▪ Answer Customer Questions via Chatbot

• Features
  ▪ Create Web and Android Apps
  ▪ Manage Quick Reference Guides (QRCs)
    o Ingest by Photo or PDF
    o Determine Keywords via OCR
    o Search via Text and Voice
    o Display Like E-Book
  ▪ Provide Companion Administrative App
  ▪ Implement Chatbot on Corporate Website
    o Product Inventory
    o Available QRCs
    o Various Frequently Asked Questions (FAQs)
  ▪ Drive Customers to Contact Sales Reps

• Technologies
  ▪ CSS / HTML / PHP / JavaScript
  ▪ Google Android Tablets and Phones / Java
  ▪ Microsoft Bot Framework
  ▪ Microsoft Language Understanding Intelligent Service (LUIS)
  ▪ Docker
  ▪ Kubernetes
  ▪ MongoDB
  ▪ Optical Character Recognition (OCR)
Team Phoenix Group
James Finch, Sarah Fillwock, Dan Shumaker, Fatema Alsaleh, Aman Goshu
Team Phoenix Group
Project Plan Presentation

Screen Mockup: QRG Home Screen

Quick Reference Guide Viewer

Search for QRG ...

advanced QRG search

Hello, Amanda

Add QRG

VERIFONE VX 680
XEVA440
RETAIL

First Data FD130
750FD130
RETAIL

VERIFONE VX 520
XEVA440
RESTAURANT

Showing top viewed
Team Phoenix Group
Project Plan Presentation
Team Phoenix Group
Project Plan Presentation
Team Phoenix Group
Project Plan Presentation

Screen Mockup: QRG Edit Screen

Quick Reference Guide Viewer

manufacturer
Verifone

terminal type
VX 680

application type
Retail

product number
0300034

version
XEVA440

Add comment ...
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Alpha Presentation

QRG Viewer Home Screen
Team Phoenix Group
Alpha Presentation

QRG Viewer View Screen
Team Phoenix Group
Alpha Presentation
Team Phoenix Group
Alpha Presentation

Customer Service Chatbot
Team Phoenix Group
Beta Presentation
Team Phoenix Group
Beta Presentation

QRG Manager Application: Administration Screen

![QRG Manager Application: Administration Screen](image-url)

<table>
<thead>
<tr>
<th>User</th>
<th>Add QRG</th>
<th>Edit QRG</th>
<th>Admin</th>
</tr>
</thead>
<tbody>
<tr>
<td>James Abbot</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatema Alsaleh</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lauren Anderson</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jackson Avery</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olivia Baker</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dan Bell</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mary Bunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jonny Dowdall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bob Dyksen</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wayne Dyksen</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emily Enbody</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charles Erickson</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sarah Fillwock</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>James Finch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>James Mariani</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erin Owen</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Team Phoenix Group
Beta Presentation
Team Phoenix Group
Beta Presentation

Customer Service Chatbot
The Capstone Experience

Team Proofpoint

Department of Computer Science and Engineering
Michigan State University
Spring 2018
GARTNER MQ LEADER IN ENTERPRISE INFORMATION ARCHIVING FOR 6 YEARS RUNNING

GET THE GARTNER REPORT
Team Proofpoint
Project Overview

Next Generation Malware Analysis Platform

• Functionalities
  ▪ Process Millions of Malware Samples Daily
  ▪ Develop New and Innovative Techniques

• Features
  ▪ Build Lifecycle Processing Dashboard
  ▪ Leverage Many Malware Tools
  ▪ Create Malware Signatures Automatically
  ▪ Identify “Like” Samples and Clusters
  ▪ Visualize Malware Clusters
    ▪ Provide Drill Down Capability
    ▪ Show Signatures Created
  ▪ Prioritize Samples for Further Analysis

• Technologies
  ▪ Malware Sandboxing
  ▪ Network Intrusion Detection Systems (IDS)
  ▪ Statistical Analysis
Team Proofpoint
Graham Thomas, Yash Patel, Crystal Lewis, Brad Doherty, George Zhao
Team Proofpoint
Project Plan Presentation

Screen Mockup: Nodal Graph

Batch Information
Files Processed: 103/250
Time Elapsed: 00:15:23
Flagged Files: 15

Flagged Files
TMP1CE2,TMP
Memo.pdf
DriverPack.exe
Virus.exe
NotSpyware.jar
Team Proofpoint
Project Plan Presentation

Architecture Diagram

Malware

Static Malware Detection Tools

PE Hash

Cluster Logic

Dynamic Decision Logic

Signature Information Aggregator

Malware Sandbox

Malware Analysis System

SQLite

Database Server

Postman API

Web Server

Bootstrap Javascript Framework
Team Proofpoint
Project Plan Presentation
Team Proofpoint
Project Plan Presentation

Screen Mockup: File Analysis

Batch Information
Files Processed: 103/250
Time Elapsed: 00:15:23
Flagged Files: 15

File Analysis
File Name: WannaCry.exe
File Signature: File matched known signature of Ransom:WannaCry
Behavior Profile: Behaves like a trojan and a worm
File Size: 5.65MB

Flagged Files
TMP1CE2.TMP
Memo.pdf
DriverPack.exe
Virus.exe
NotSpyware.jar
Team Proofpoint Alpha Presentation
## Analyzed Malware

<table>
<thead>
<tr>
<th>SID</th>
<th>File Name</th>
<th>File Type</th>
<th>Flagged?</th>
<th>YARA Match</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>C6A13AFC583109680CCB54FBB2B3D14E4BA06E9C7A363C884B138C5EE81FAA</td>
<td>PE32 executable (DLL) (GUI) Intel 80386 (stripped to external PDB), for MS Windows</td>
<td>No</td>
<td>XMRIG_Miner</td>
</tr>
<tr>
<td>8</td>
<td>48678EC33D22C571774ACE303C4C771B46C8121FBE46AFA807E54787671DE13</td>
<td>PE32 executable (DLL) (GUI) Intel 80386 (stripped to external PDB), for MS Windows</td>
<td>No</td>
<td>XMRIG_Miner</td>
</tr>
</tbody>
</table>
Team Proofpoint
Alpha Presentation

In Depth Analysis of a File

In-Depth Analysis of 6BDE693CE8EB45445C0B38E3DE3AF97E0D21C8D33E8408B52E711EA67ABFD27

File Statistics and Information

<table>
<thead>
<tr>
<th>File Information</th>
<th>Statistic Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Extension</td>
<td>PE32+ executable (console) x86-64, for MS Windows</td>
</tr>
<tr>
<td>File Size</td>
<td>333.8 KB (330752 bytes)</td>
</tr>
<tr>
<td>Total Analysis Time</td>
<td>0:00:0:296</td>
</tr>
<tr>
<td>Static Analysis Time</td>
<td>0:00:0:296</td>
</tr>
<tr>
<td>Dynamic Analysis Time</td>
<td>0:00:0:296</td>
</tr>
</tbody>
</table>

File Hashes

<table>
<thead>
<tr>
<th>Hash Types</th>
<th>File Hash</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE Hash</td>
<td>3N9KgRTEU3H0KhXmWNdB3Q6Jqy8FWUq+R7yR+Fy7hV4R11N8eBcY4ASl2q99Y+yF</td>
</tr>
<tr>
<td>SHA256</td>
<td>6BDE693CE8EB45445C0B38E3DE3AF97E0D21C8D33E8408B52E711EA67ABFD27</td>
</tr>
<tr>
<td>SHA1</td>
<td>02OFQ9CP8B79H2DBC436T9D4C9AB8740676</td>
</tr>
<tr>
<td>MD5</td>
<td>0B682A6809AB38F198C0360E3C8D3</td>
</tr>
</tbody>
</table>

Similar Malware

<table>
<thead>
<tr>
<th>File Name</th>
<th>PE Hash</th>
</tr>
</thead>
<tbody>
<tr>
<td>31TED9D1F8E9B605A8369219C94BD1095D2FD2B6308CA414535AABB913167</td>
<td>3N9KgRTEU3H0KhXmWNdB3Q6Jqy8FWUq+R7yR+Fy7hV4R11N8eBcY4ASl2q99Y+yF</td>
</tr>
<tr>
<td>4E31D223ED5C53AE561259AN3A8697D232C9F935P6274362C277E983E14</td>
<td>3N9KgRTEU3H0KhXmWNdB3Q6Jqy8FWUq+R7yR+Fy7hV4R11N8eBcY4ASl2q99Y+yF</td>
</tr>
<tr>
<td>695C2B2EBBF73BB8E736C788663C3D84C5778CA9F935773104277178</td>
<td>3N9KgRTEU3H0KhXmWNdB3Q6Jqy8FWUq+R7yR+Fy7hV4R11N8eBcY4ASl2q99Y+yF</td>
</tr>
</tbody>
</table>
Team Proofpoint
Beta Presentation

Main Page On Dashboard
Team Proofpoint
Beta Presentation

Top 25 Yara Rules Matched Graph
Team Proofpoint
Beta Presentation
The Capstone Experience

Team Quicken Loans

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Providing Affordable Mortgages and Award-Winning Client Service for More than 30 Years

Start

Type of Loan
Select One

Team Quicken Loans
Project Overview

Fundamenta: Trust in New Home Construction

• Functionalities
  ▪ Enable Collaborative New Home Construction
  ▪ Include All Players

• Features
  ▪ Create Responsive Web App
  ▪ Allow Choice of Home Model, Exterior and Interior
  ▪ Support Various Roles
    o Home Buyer
    o Builder
    o Multiple Contractors
    o City Inspector
  ▪ Use Dynamic Workflow
  ▪ Alert Players When Action Assigned or Due
  ▪ Provide Full Transparency
    o Deliverables
    o Milestones
    o Workflow
    o Complete Transaction History
  ▪ Utilize Blockchain for Storage
    o Home Buyer’s Build Requirements
    o Workflow Tasks

• Technologies
  ▪ CSS / HTML / JavaScript / AngularJS
  ▪ Microsoft .NET
  ▪ Blockchain
  ▪ Hyperledger
  ▪ Microsoft Azure or Amazon Web Services (AWS)
Team Quicken Loans
Vishal Adusumilli, Riley Annis, Erin O'Hara, Turner Anderson, Jaiwant Bhushan
Team Quicken Loans
Project Plan Presentation

Screen Mockup: User Login

Fundamenta by Quicken Loans

Username
Enter a username...

Password
Enter a password...

Role
- Home Buyer
- Builder
- Contractor

Log In or Sign Up
Team Quicken Loans
Project Plan Presentation
Team Quicken Loans
Project Plan Presentation

Screen Mockup: Build Workflow

Fundamenta by Quicken Loans

House Options
- Model
- Exterior
- Interior

Conversation
- Home Buyer: How much longer?
- Builder: I'll let the contractor answer.
- Contractor: About 1 month left.
- Home Buyer: Great, thank you!

Tasks:
- Task 22
- Task 21
- Task 20
- Task 19
- Task 18
- Task 17
- Task 16
- Task 15
- Task 14
- Task 13
- Task 12
- Task 11
- Task 10
- Task 9
- Task 8
- Task 7
- Task 6
- Task 5
- Task 4
- Task 3
- Task 2
- Task 1

Buttons:
- Cancel
- Save
- Submit

Leave a comment...
Team Quicken Loans Alpha Presentation
Team Quicken Loans
Alpha Presentation

Sign Up
Team Quicken Loans
Alpha Presentation

Dashboard
Team Quicken Loans
Alpha Presentation

![Build Status](image-url)
Team Quicken Loans

Beta Presentation

Dashboard
Team Quicken Loans
Beta Presentation

![Image of a dashboard interface]

- Current Stage: Execution
- Tasks Include:
  - Submit Home Specs
  - Submit Field Plans
  - Submit Permit
  - Order Exterior Supplies
  - Order Interior Supplies
  - Assign Contractor Tasks
  - Complete Exterior Tasks
  - Complete Interior Tasks
  - Approve Exterior Tasks
  - Approve Interior Tasks

Progress:
- Complete
- In Progress
- Ongoing for Competency
- Incomplete
See VB Module UTL_PresentationSlidesSend2FB.
The Capstone Experience

Team Rook

Department of Computer Science and Engineering
Michigan State University
Spring 2018
OPTIMIZE SECURITY OPERATIONS

Force is a Security Operations Management Platform that equips your team for success by optimizing security resource workflows, metrics, and outcomes.
Team Rook
Project Overview

Endpoint Data Monitoring and Analysis Agent

- Functionalities
  - Detect and React to Security Threats
  - Capture and Analyze Agent Health Metrics and Log Files
- Features
  - Create Endpoint Dashboard
    - Enable Remote Agent Configuration
    - Do Health Checks and Data Analysis
    - Display Health Check Information
    - Create Alert Thresholds
  - Store Metrics and Log Files
    - RESTful Endpoint
    - Amazon Simple Storage Service (S3)
    - Locally
  - Implement State Awareness
  - Support Cross Platform Compatibility
  - Integrate with Rook’s Force Platform
- Technologies
  - Force Platform
  - Go
  - JavaScript / JSON
  - Python / Django
  - React / Redux
  - Ubuntu 16.04
  - Amazon Simple Storage Service (S3)
  - RESTful Web Services
Team Rook
Jeremy Specht, Bohao Gao, Vikram Thakur, Jared Clark, Drew Gilbertson
Team Rook
Project Plan Presentation

Screen Mockup: System Health
Team Rook Project Plan Presentation
Team Rook
Project Plan Presentation

Architecture Diagram

- Lambda
- S3 API
- REST API
- S3
- Elasticsearch
- Django
- React JS
- Agents
- Local Storage
Team Rook
Project Plan Presentation
Team Rook
Project Plan Presentation

Screen Mockup: Configuration
Team Rook
Alpha Presentation
Team Rook
Alpha Presentation
Team Rook
Alpha Presentation
## Team Rook
### Alpha Presentation

**Storage System**

![Image of AWS console showing Amazon S3 bucket with files]

<table>
<thead>
<tr>
<th>Name</th>
<th>Last modified</th>
<th>Size</th>
<th>Storage class</th>
</tr>
</thead>
<tbody>
<tr>
<td>webAuthentication1</td>
<td>2018-02-06</td>
<td>4.6K</td>
<td>Standard</td>
</tr>
<tr>
<td>webAuthentication2</td>
<td>2018-02-06</td>
<td>4.6K</td>
<td>Standard</td>
</tr>
<tr>
<td>webSystem1</td>
<td>2018-03-01</td>
<td>365K</td>
<td>Standard</td>
</tr>
<tr>
<td>webSystem2</td>
<td>2018-03-01</td>
<td>365K</td>
<td>Standard</td>
</tr>
<tr>
<td>webSystem3</td>
<td>2018-03-01</td>
<td>365K</td>
<td>Standard</td>
</tr>
<tr>
<td>webSystem4</td>
<td>2018-03-01</td>
<td>365K</td>
<td>Standard</td>
</tr>
<tr>
<td>webSystem5</td>
<td>2018-03-01</td>
<td>365K</td>
<td>Standard</td>
</tr>
<tr>
<td>webSystem6</td>
<td>2018-03-01</td>
<td>365K</td>
<td>Standard</td>
</tr>
<tr>
<td>webSystem7</td>
<td>2018-03-01</td>
<td>365K</td>
<td>Standard</td>
</tr>
</tbody>
</table>

- **Amazon S3 > mwa-06-test > VANDOSX > 1234**
- **Overview**
- **US East (Chn)**

This image shows a screenshot of the AWS console with a focus on an Amazon S3 bucket containing multiple files, each with specific last modified dates, sizes, and storage classes.
Team Rook
Beta Presentation
Team Rook
Beta Presentation

Agent Management Console
Agent Configuration Tab
Team Rook
Beta Presentation
Team Rook
Beta Presentation
Windows Agent Product Validator

**ROOK Agent System**

Step 1: Please Choose your Operation System
- Unix
- Windows

Step 2: Please Input your Key
Key: 

Step 3: Click “Submit” button to verify your ClientKey

Welcome to ROOK Agent
The Capstone Experience

Team SpartanNash

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Volunteer Tracking System

- Functionalities
  - Simplify Tracking of Associate Volunteer Hours
  - Use Web and Mobile Apps
- Features
  - Create Apps for Volunteer Reporting
    - Web
    - Apple iOS
    - Google Android
  - Handle Various Inputs
    - Associate ID
    - Name and Location of Place
    - Type of Service
    - Number of Hours
  - Track Hours
  - Enable Photo and Video Uploading
  - Utilize Geolocation for Easy Location Reporting
  - Gamify with Badging and Leader Board
  - Send Notifications
    - Volunteers
    - Program Facilitators
  - Build Companion Web Administrative App
- Technologies
  - CSS / HTML / JavaScript
  - Apple iOS / Swift
  - Google Android / Java
  - React Native
  - MySQL
Team SpartanNash
Tianyi Li, Aleks Bonev, Abbott Wang, Denis Andreev, Nino Candela
Team SpartanNash
Project Plan Presentation

Screen Mockup
Team SpartanNash
Project Plan Presentation
Team SpartanNash
Project Plan Presentation

Architecture Diagram

Mobile Applications
- React-Native
  - Android App
  - IOS App

Websites
- HTML/PHP
  - Web Form
  - Admin Panel

MySQL

SpartanNash inSite APIs
System Architecture

Mobile Applications
- React Native
- Native
- Web Apps
- Android App
- iOS App

Websites
- HTML, CSS
- URLs

Team SpartanNash Project Plan Presentation
Team SpartanNash
Project Plan Presentation

Screen Mockup

- Username
- Password

Sign In

Forget your Password?

Recover

Volunteer Form

Organization Name *
Enter The Organization Name

Volunteer Activity or Event Name *
Enter The Event Name

Area of support *
None selected

Area not on the list(optional)
Enter the areas

Commitment *
One Time

Date of Event *
01/29/2018

Hour of Event *

Message
Enter extra message here...

Submit →

SpartanNash
Do not delete this textbox. It's used as a marker in VB code. See VB Module UTL_PresentationSlidesSend2FB.

Team SpartanNash Alpha Presentation
Team SpartanNash
Alpha Presentation

Website Admin Panel
Team SpartanNash
Alpha Presentation

Newsfeed and Profile
Volunteer Tracking Form

Team SpartanNash
Alpha Presentation
Leaderboards

Team SpartanNash
Beta Presentation

- 822 hours
- 851 hours
Volunteer Tracking Form

Team SpartanNash
Beta Presentation
Team SpartanNash
Beta Presentation
The Capstone Experience

Team Spectrum Health

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Team Spectrum Health
Project Overview

Spectrum Health Go

• Functionalities
  ▪ Improve Patient and Visitor Experience
  ▪ Help Navigate Spectrum Health Facilities

• Features
  ▪ Create Apple iOS and Google Android Apps
  ▪ Provide Real-Time On-Screen Directions
  ▪ Guide via Pre-Configured Waypoints
  ▪ Use Optical Character Recognition (OCR)
  ▪ Collect Anonymous Route Data
  ▪ Provide Administrative Web App
    o Create and Print Waypoints
    o Configure and Improve Routes
    o Add New Locations and Routes

• Technologies
  ▪ CSS / HTML / JavaScript
  ▪ Apple iOS / Swift
  ▪ Google Android / Java
  ▪ Microsoft .NET / C#
  ▪ Microsoft SQL Server
  ▪ Microsoft Azure
  ▪ GitHub / ZenHub
  ▪ Optical Character Recognition (OCR)
  ▪ Identity Server

Spectrum Health Go
Project Overview
Team Spectrum Health
Grand Rapids, Michigan
Team Spectrum Health
Andrew Astakhov, Collin Skonieski, Rachel Polus, Pierce Neal, Xin Zhao
Team Spectrum Health
Project Plan Presentation

Screen Mockup: Android App
Team Spectrum Health Project Plan Presentation
Team Spectrum Health
Project Plan Presentation

Architecture Diagram

Web Application
- ASP.NET
- REST API

SQL Database

iOS Application
- ALAMOFIRE

Android
- Retrofit
Team Spectrum Health
Project Plan Presentation
SpectrumGO LOBBY Waypoint

Paths

- To Operating Room
  - Directions: Turn left. Walk forward until Angle: 180
  - Update
- To Nursing Ward
  - Angle: 180
- To Cardiology
  - Directions: Turn around. Take the first Angle: 90
  - To Pharmacy
  - Directions: Take the staircase on your Angle: 45
  - Update

Add | Delete
Team Spectrum Health
Alpha Presentation

Web Application

SPECTRUM HEALTH

SpectrumGO Management Portal

Manage Facilities

Manage Waypoints
Manage Connections
Manage Pathways

© 2018 - Spectrum Health Go 2018
Team Spectrum Health
Alpha Presentation

iOS Application
Team Spectrum Health Alpha Presentation
Team Spectrum Health
Alpha Presentation

Android Application
### Team Spectrum Health

#### Beta Presentation

Web Application Waypoint Page

---

**Waypoints At Engineering Building**

<table>
<thead>
<tr>
<th>Facilities</th>
<th>Name</th>
<th>QR Code</th>
<th>Edit</th>
<th>Manage Connections</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Building</td>
<td>Capstoned Lab</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering Building</td>
<td>Room 3353</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering Building</td>
<td>Room 3355 (Pantry)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering Building</td>
<td>Drinkin' Fountain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

The Capstone Experience
Team Spectrum Health
Beta Presentation

iOS Application
Team Spectrum Health
Beta Presentation
Team Spectrum Health
Beta Presentation

Android Application
The Capstone Experience

Team Symantec

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Securing the Cloud Generation
Fueled by the world's largest civilian threat intelligence network

LEARN MORE

REPORT
Symantec Named a Leader in

REPORT
Gartner Positions Symantec as
Detecting Security Threats from User Authentications

• Functionalities
  ▪ Detect Security Threats
  ▪ Use Symantec Validation and ID Protection (VIP)
  ▪ Visualize VIP Authentication Patterns

• Features
  ▪ Ingest VIP Reporting Service Log Data
  ▪ Create Operational Dashboard with Alerting
    o Number of Authentications Per Time Unit
    o Successful vs Failed Authentications
    o Unique Users Per Time Unit
    o Distribution of Risk Reasons
  ▪ Create Security Dashboard and Alerting
    o Trends of Failed Authentications
    o Find Risky Users
    o Flag Increases in Credential Use
  ▪ Integrate with Splunk Enterprise and Splunk Cloud

• Technologies
  ▪ Symantec VIP Reporting Service
  ▪ Splunk
  ▪ Amazon Web Service (AWS)
  ▪ RESTful Web Services
  ▪ Elastic Search, Kibana, Logstash
  ▪ Apache Spark
Team Symantec
Robert Novak, Abby Urbanski, Stephen Alfa, Keerthana Kolisetty, Echo Wu
Team Symantec
Project Plan Presentation

Screen Mockup: Dashboard in Splunk

Operational Trends
Panels that display basic statistics of SAML authentications

- Authentifications Across Different Device Types
- Total Number of Authentications: 19,809
- Success vs. Failure Authentications

Number of Authentications Over Last Seven Days

Success vs Fall Attempts For Each Device Type
Team Symantec
Project Plan Presentation
Team Symantec
Project Plan Presentation

Architecture Diagram

Two-factor authentication

Data & Event Logs

VIP Reporting Client

Data Documents

ELK

Splunk

Internet

Customers

AWS

Powered by MSU Team Symantec

Powered by Symantec

Symantec VIP services
Team Symantec
Project Plan Presentation

Screen Mockup: Dashboard in ELK
Team Symantec
Alpha Presentation
Team Symantec
Alpha Presentation

Splunk Dashboard
Team Symantec
Alpha Presentation

ELK Dashboard

Dashboard / Operational Dashboard

Record Count

6,226
Record Count

Number of Users

477
Number of Users

Authentication Status

Users Created Over Time

Authentication per Hour

Uses Lucene query syntax
Team Symantec
Alpha Presentation
Team Symantec Alpha Presentation

ELK Alerting on Slack
Team Symantec Beta Presentation
Team Symantec
Beta Presentation

Splunk: Operation Trends Dashboard
Team Symantec
Beta Presentation

Splunk: Geolocation Dashboard
Team Symantec
Beta Presentation
ELK: Operational User Analysis Dashboard
The Capstone Experience

Team TechSmith

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Create Powerful Visuals. No Design Skills Needed.

TechSmith makes it simple for everyone to create high-quality screenshots, screencasts, and videos.

Shop Now
Team TechSmith
Project Overview

Snagit and Camtasia Output Extensibility

- Functionalities
  - Simplify Sharing of Media Produced by TechSmith Products
  - Extend Output Capabilities of Snagit and Camtasia

- Features
  - Use TechSmith Extensibility Framework
  - Build Three Plugins
    - TechSmith Video Review
    - Wistia
    - Student Choice
  - Design Highly Polished User Experience (UX)
  - Provide Media Upload Service with Link
  - Create Independent Test Harness

- Technologies
  - Microsoft .NET / C#
  - Windows Presentation Foundation (WPF)
  - TechSmith Cloud SDK
  - TechSmith Extensibility Framework (TEF)
  - Managed Extensibility Framework
Team TechSmith
Ryan Schiller, Logan Arent, Collin Dillinger, Carter Chamberlain
Team TechSmith
Project Plan Presentation

Screen Mockup: Output Mockups
Team TechSmith
Project Plan Presentation
Team TechSmith
Project Plan Presentation
Team TechSmith
Project Plan Presentation

Screen Mockup: Test Harness

Choose File ...

Output To:

- TechSmith Video Review
- Wistia
- Imgur

XXX
Media
Thumbnail
XXX

C:\Users\Capstone\Images\...
Team TechSmith
Alpha Presentation
Team TechSmith
Alpha Presentation

SnagIt Share Menu
Team TechSmith
Alpha Presentation
TechSmith Video Review

TechSmith Account
Logged in as:
example@gmail.com
Learn more about TechSmith Accounts.

TechSmith Video Review
Title: test
Review-by Date: 2/28/2018
Reviewer Prompt: Would love some feedback on the colors

Upload Cancel
See VB Module UTL_PresentationSlidesSend2FB.
Team TechSmith
Alpha Presentation

Test Harness
Team TechSmith
Beta Presentation

Updated Wistia Options

Wistia Output Options

- Project: Wistia Beta Project
- Name: Wistia upload
- Description: Screengrab upload

Select a Project

- Project: Wistia Beta Project
- Created: Monday, February 26, 2018 5:08 PM
- Updated: Sunday, April 1, 2018 10:38 PM
- Media Count: 1
- Name: Wistia Beta Project
- Description: Storage for Wistia Beta media.

Confirm
Cancel
Do not delete this textbox.
It's used as a marker in VB code.

See VB Module UTL_PresentationSlidesSend2FB.
Team TechSmith
Beta Presentation

Beta Test Harness
The Capstone Experience

Team Union Pacific

Department of Computer Science and Engineering
Michigan State University
Spring 2018
The Spirit Locomotive Honors U.S. Armed Forces

Locomotive No. 1943, The Spirit, spotlights Union Pacific's relationship with thousands of veterans who helped build America after defending the United States – a tradition dating back to the company's founding. Find out more.
Team Union Pacific
Project Overview

“Alexa, what’s my work schedule look like?”

• Functionalities
  ▪ Provide Information About Upcoming Work Assignments
  ▪ Utilize Voice Activated Digital Assistant
  ▪ Target Trainmen, Yardmen and Enginemen (TY&E)

• Features
  ▪ Create Suite of Mobile Apps
    o Responsive Design
    o Support Apple iOS and Google Android Devices
  ▪ Manage Users
    o Register
    o Identify
    o De-Activate
  ▪ Support All Major Voice Interfaces
    o Amazon Echo
    o Google Home
    o Apple Siri
    o Microsoft Cortana
  ▪ Use JSON Web Services
  ▪ Write Documentation for Each System

• Technologies
  ▪ Java
  ▪ JavaScript / AngularJS
  ▪ Amazon Echo
  ▪ Google Home
  ▪ Apple Siri
  ▪ Microsoft Cortana
  ▪ Natural Language Processing (NLP)
Team Union Pacific
Jared McMillan, Daniel Agbay, M Kim, David Hubble, Austin McGee
Team Union Pacific
Project Plan Presentation

Screen Mockup: Mobile Application

- Sign In
- Password
- User Setting
- User Name: Sporlan
- AM/PM (default)
- Military time

Icons: Phone, User, Gear
Team Union Pacific
Project Plan Presentation
Team Union Pacific
Project Plan Presentation

Architecture Diagram

- User Preferences
- Train Lineup
- Employee Authentication
- Employee Queue
- Company Database
- JavaScript webpage
- Assistants
Team Union Pacific
Project Plan Presentation
Screen Mockup: Assistant Conversation

Alexa, open the PST app.

Hello Sparty, what can I help for you today?

What’s my times out?

You are currently 4th out right now.

Thanks, that’s all.
Team Union Pacific Alpha Presentation

Google Assistant Interaction

Hello Team Union Pacific, welcome to PSTechnologies Schedule App Alpha! You can request information about a train lineup or request your current position in the employee queue.

Ofi! Here is information for lineup 1234. Train QWE456, departure time 9:00 a.m. Train ABC123, departure time 12:00 p.m. Train PIP987, departure time 1:00 p.m. Is there anything else I can do for you?

Your current position is 10th.
Team Union Pacific
Alpha Presentation

Alexa, open my PST app.
Welcome to PST application, you may request train lineup info or your queue position.
Show me train lineup 1234.
Here is train lineup 1234: MSU2018, departure time 10:00am, ABC123 departure time 3:00pm.
Would you like to check other things?
Yes, what’s my position?
You are 5th.
Would you like to check other things?
Stop.
Team Union Pacific
Alpha Presentation

Web App Reporting Page
Team Union Pacific
Beta Presentation
Team Union Pacific
Beta Presentation

Request Train Lineup

Hello Jared, welcome to PSTechnologies Schedule App Alpha! You can request information about a train lineup or request your current position in the employee queue.

Ok Jared, here is information for train lineup 1234. qwe456 at 09:00 AM, abc123 at 12:00 PM, pip987 at 01:00 PM. Is there anything else I can help you with?

Ok Jared, your time format is now Military time.

Ok Jared, here is information for train lineup 1234. qwe456 at 09:00, abc123 at 12:00, pip987 at 13:00. Is there anything else I can help you with?

Type a message

Change my time format to Military time

Show me lineup 1234
Team Union Pacific
Beta Presentation

Change Username
Team Union Pacific  
Beta Presentation
Team Union Pacific
Beta Presentation

Web App Dashboard
The Capstone Experience

Team Urban Science

Department of Computer Science and Engineering
Michigan State University
Spring 2018
EVERYONE HAS AN OPINION.
WE HAVE SCIENCE.

Since the day we started, we’ve been a force for change. We started with a problem to solve. We scrutinized it, developed a theory, tested it and applied the solution. And we have the same approach today, we listen to our clients’ needs and find a solution. We’re curious, objective, empirical and determined. Through this spirit, we invented The Power of 4™ formula to bring scientific discipline to the business world. It’s how we are Guiding Business Through Science.

SEE WHAT WE DO
Mobile Maestro

• Functionalities
  ▪ Control Maestro Exoskeletal Arm
  ▪ Use Mobile App with Voice Input

• Features
  ▪ Handle Various Arm Controls
    o Up, Down, Lock
    o Lock, Standby
  ▪ Provide Voice Control
    o Safe Word for Home/Reset Position
    o All Functions
  ▪ Implement Self-Leveling with Calibration
  ▪ Support Apple iOS and Google Android
  ▪ Collect Usage Statistics

• Technologies
  ▪ Maestro Exoskeletal Arm
  ▪ CSS / HTML / JavaScript
  ▪ Microsoft .NET / C#
  ▪ Apple iOS / Swift
  ▪ Google Android / Java
  ▪ Bluetooth Low Energy (BLE)
  ▪ Natural Language Processing (NLP)
Team Urban Science
Mustafa Jebara, Dane Rosseter, Samantha Oldenburg, Alex Wuillaume, Shun Ran
Team Urban Science
Project Plan Presentation

Screen Mockup: Home Screen

- Level
- Standby
- Voice
- Lock
- Raise
- Lower
- Home
- Settings
Team Urban Science Project Plan Presentation
Team Urban Science
Project Plan Presentation

Architecture Diagram
Team Urban Science Project Plan Presentation
Team Urban Science
Project Plan Presentation

Screen Mockup: Leveling Settings

Adjust leveling calibration

Raise

Lower
Team Urban Science
Alpha Presentation

No Buttons Active
Team Urban Science
Alpha Presentation

Up and Lock Active
Team Urban Science
Alpha Presentation
Team Urban Science
Alpha Presentation

Setting Page
Team Urban Science
Beta Presentation
Team Urban Science
Beta Presentation
Main Page – No Buttons Active
Team Urban Science
Beta Presentation

Main Page – Up and Lock Active
Team Urban Science
Beta Presentation
Team Urban Science

Beta Presentation

Auto Leveling Setup

Adjust the arms so they are comfortable for you using the buttons below.

[Images of buttons: Up, Down, Cancel, Continue]
The Capstone Experience

Team USAA

Department of Computer Science and Engineering
Michigan State University
Spring 2018
WE PROUDLY SERVE MILITARY MEMBERS AND THEIR FAMILIES

Since 1922, we have stood by our members. We’ve provided years of guidance and assistance — from helping establish financial independence, to raising a family, to retirement.

WHO WE SERVE
LIMElight: Life Insurance Made Easy

- **Functionalities**
  - Obtain Life Insurance Quote
  - Improve the Experience
    - For Applicant
    - For Insurer
  - Decrease Duration, Complexity and Cost

- **Features**
  - Provide Smooth User Experience
    - Responsive Web
    - Native Apple iOS and Google Android Apps
  - Generate Personalized Quote
    - Use Minimal Inputs from Applicant
    - Leverage Machine Learning
    - Match Underwritten Premium Closely
  - Create Health Record Blockchain
    - Controlled by Applicant
    - Ensure Privacy and Security
    - Accessible via RESTful API

- **Technologies**
  - Apple iOS / Swift
  - Google Android / Java
  - Blockchain
  - Machine Learning / Python
  - Microsoft Azure
  - RESTful Web Services
  - JavaScript / REACT / Angular 2+ / Vue
Screen Mockup: Quoting Process

Team USAA
Project Plan Presentation

Get a Term Life Insurance Quote

- M
- F

Age: 37
Weight: 180
Height: 6' 1"

Do you smoke? Y N
Do you exercise? ✓ 

GET A QUOTE
Screen Mockup: Quoting Process

Team USAA
Project Plan Presentation
Team USAA
Project Plan Presentation

Screen Mockup: Patient Login

Manage Who Can View Your Health Records

<table>
<thead>
<tr>
<th>Entity</th>
<th>Permission</th>
</tr>
</thead>
<tbody>
<tr>
<td>USAA</td>
<td>Y</td>
</tr>
<tr>
<td>Sparrow Health</td>
<td>N</td>
</tr>
</tbody>
</table>

Update
Quote Result

Quoted Monthly Payment

$60/Month

Quote ID

89437

Next Steps
Contact USAA today with your Quote ID to get started
800-531-USAA
Welcome Bob Jones

Your Authorized Practitioner

Authorize A Practitioner

Welcome Bob Jones

Your Authorized Practitioners

Authorize A Practitioner

Team USAA

Alpha Presentation
Welcome Bob Jones
Your ID: bob@gmail.com

Your Authorized Practitioners

dr.kelly@sparrow.org
Revoke Access

Authorize A Practitioner
Here is a list of practitioners you may authorize

Dr. Ted Seuss
Authorize
Team USAA
Beta Presentation

Your Personalized Quote

Price
$60/Month

Quote ID
13611

Next Steps
Contact USAA today with your Quote ID to get started
1-800-531-USAA
Risk Class 2
46% of Applicants
56% Accuracy

Risk Class 4
39% of Applicants
58% Accuracy
The Capstone Experience

Team Yello

Department of Computer Science and Engineering
Michigan State University
Spring 2018
yello
Humanize
The Candidate Experience

Provide unprecedented speed and transparency throughout the candidate journey.
InViAnTo: Interview Video Analysis Tool

- **Functionality**
  - Evaluate Video Interview Automatically
  - Include Sentiment and Emotional Analysis

- **Features**
  - Design and Build Web App
    - Record Live Video
    - Support Prerecorded Video
    - Enable Viewing and Rerecording by Applicant
  - Transcribe All Recordings and Store with Video
  - Apply Sentiment Analysis on Transcription
  - Run Emotion Detection on Audio and Video
  - Provide Administrative Web App
    - To View Results
    - By Hiring Team

- **Technologies**
  - CSS / HTML / JavaScript / JSON
  - Ruby on Rails
  - Microsoft Azure Emotion API
  - Microsoft Language Understanding Intelligent Services (LUIS)
  - Machine Learning
    - TensorFlow
    - scikit-learn
Team Yello
Jonathon Zeitler, Leo Yao, Jenn Proos, Quan Zhou, Brian Wang
Team Yello
Project Plan Presentation

Screen Mockup: Staff Management Page

Yello Capstone
Michigan State University
CSE 498

Follow Us!
Team Yello
Project Plan Presentation
Team Yello
Project Plan Presentation
Team Yello
Project Plan Presentation

Screen Mockup: Interview Recording Page
Team Yello
Alpha Presentation

Candidate Video Response

Facebook Web Designer

Question 2

Describe a situation where you had to work in a team that didn’t get on very well. What happened? What did you do and what role did you take? How did the situation evolve?

Submit
Team Yello
Alpha Presentation

Managing Interviews

Interviews

New Interview

Data Analytics Scientist

Author: Bob (bob@recruiter.co)

We are looking for a qualified data scientist to apply his or her expertise in quantitative analysis, data mining, and the presentation of data to see beyond the numbers and understand how our users interact with both our consumer and business products.

Facebook Web Designer

Author: Bob (bob@recruiter.co)

We are looking for an experienced developer to design and create web interfaces using Javascript, HTML5, and CSS.

Google Software Engineer

Author: Susan (susan@recruiter.co)

We are looking for an engineer with extensive experience in web development.
Team Yello
Alpha Presentation

Editing An Interview

Senior Test Engineer
We are looking for a quality assurance engineer to build out a set of modern test automation suites for Ruby and Java applications.

Question 1:
Think about an instance in which you came up with a project idea which was implemented primarily because of your efforts. What was it about? What was its outcome? What was your role?

Question 2:
Describe a situation in which you met a major obstacle in order to complete a project. How did you deal with it? What steps did you take?

Question 3:
Tell about an instance when you had to communicate a really bad piece of news to your supervisor or team members. How did you handle it? What was the outcome?

Invite Candidate
Invited Candidates
Name: Select a Candidate 1
Name: candidate
Email: candidate@yello.co
Completed?: No
Team Yello
Beta Presentation
Team Yello
Beta Presentation

Prerecorded Response Page

Taekwondo Instructor

Question 1

Do you have a national ranking? If so, what is it?

Time Limit: 00:30

Submit

Finish

Back to Interviews
Team Yello Beta Presentation
Team Yello
Beta Presentation

Analysis Results Page

Summary:
Emotion Score: 😊 Joy
Sentiment Score: 0.7 (Positive)
Sentiment Variation: 0.07

Question 1:
Are you excited about working here?

Transcript Sentiment:
0.26 (Positive)
Transcript:
I am so excited about the work we’re doing! I love learning new things, I love working on new ideas. I love being part of this team. I love Keith. 😊😊😊

Emotion:
Top Emotion: 😊 Joy
The Capstone Experience

Dr. Wayne Dyksen
Department of Computer Science and Engineering
Michigan State University
Spring 2018
The Capstone Experience Lab
The Capstone Experience Lab
The Capstone Experience Lab
The Capstone Experience Lab
View of Spartan Stadium
The Capstone Experience

Design Day Award Winners

April 28, 2017
All-Hands Design Day, April 28, 2017
Auto-Owners Exhibition Award
Team TechSmith, Spring 2017
Teacher’s Virtual Toolbelt
Alex Crimin, Zeke Zandbergen, Yang He, Ryan Cornillie
Presented by Scott Lake of Auto-Owners Insurance
MSU Federal Credit Union Praxis Award
Team Union Pacific, Spring 2017
Learning New Train Routes
Matthew Schleusener, Kangjie Mi, Nick Summers, Jon Wild
Presented by Liam Petraska of MSU-Federal Credit Union
TechSmith Screencast Award
Team Amazon, Spring 2017
ACRA: Amazon Customer Review Analyzer
Jie Wan, Jason Liu, Ian Whalen, Ankit Luthra, Tess Huelskamp
Presented by Wendy Hamilton of TechSmith
Urban Science Sigma Award
Team Michigan State University, Spring 2017

CATAlyst: Mapping CATA Buses in Real-Time
Charlie Ward, Cathy Dinsmoor, Tom Beaver, Jimmy Mkude, James Dodge
Presented by Linda Koepppe and Luke Mercier of Urban Science
The Capstone Experience

Design Day Award Winners

December 8, 2017
Auto-Owners Exhibition Award
Team Amazon, Fall 2017

Faia: Fashion Artificial Intelligence Assistant
David He, Dominic Zottolo, Zizhen Wang, Danielle Schugars, Nikhil Ramu

Presented by Ross Hacker and Scott Lake of Auto-Owners Insurance
MSU Federal Credit Union Praxis Award
Team Yello, Fall 2017
Automatic Resume Verification
Brandon Burt, Ryan Nagy, Giorgio Maroki, Nathaniel Hagan, Wan Kim
Presented by April Clobes of MSU Federal Credit Union
TechSmith Screencast Award
Team Union Pacific, Fall 2017

RailBuilder: The Great Race to Promontory
Declan McClintock, Jacob Young, Zachary Brenz, Kyle Bush, Trever Daniels
Presented by Matt Dupuis of TechSmith
Urban Science Sigma Award
Team Michigan State University, Fall 2017
SEA: Spartan Experience App
Nayana Kodur, Patrick Pale, Roy Perryman, Ryan Johnson, Scott Swarthout
Presented by Elizabeth Klee of Urban Science
The Capstone Experience

Dr. Wayne Dyksen

Department of Computer Science and Engineering
Michigan State University
Spring 2018
accenture
Auto-Owners
INSURANCE
LIFE • HOME • CAR • BUSINESS
Symantec
UNION PACIFIC

BUILDING AMERICA®