

# 01/17: Team Status Reports

## The Capstone Experience

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Spring 2019



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

# Team Amazon

## Status Report

[1 of 4]

### Browser Sharing for Customer Support

- Project Overview
  - Co-Browsing between customer and service rep
  - Customer presses button for assistance, assigned to queue
  - Features
    - Chat with the representative
    - Optional – annotations on screen
- Project Plan Document
  - About ~20% completed
  - Risks 80%
  - Design Specs 30%
  - Schedule 30%

# Team Amazon

## Status Report

[2 of 4]

### Browser Sharing for Customer Service

- Server Systems / Software
  - Amazon AWS EC2 – Installed and running
  - Database/SQL – Undecided on NoSQL/other
  - Node.js for server communication – IDE installed
- Development Systems / Software
  - Amazon CLI – Installed and running
  - Rest API – Runs on amazon EC2 instance
  - Github – setting up repository

# Team Amazon

## Status Report

[3 of 4]

### Browser Sharing for Customer Support

- Client Contact
  - Weekly Conference calls planned for every Tuesday
  - Met client in person Friday (1/11)
  - Colin is the point of contact
- Team Meetings
  - Have had 3 team meetings
  - Plan to meet twice a week
- Team Organization
  - Divided into teams of 2.
  - Recording(Eunice & Megha), Rest services(Colin & Jonathan), and Playback(Liyuan & Rahul)

# Team Amazon

## Status Report

[4 of 4]

### Browser Sharing for Customer Support Risks

- Risk 1
  - Fidelity of capturing DOM events
  - Research what events, if any, cannot be captured
- Risk 2
  - Amount of data
  - Co-browsing should be real time, compress data when sending
- Risk 3
  - Cross browser support
  - Researching differences in DOM events in different browsers

# Team Aptiv

## Status Report

[1 of 4]

### Analysis of Autonomous Vehicle Testing Video

- Project Overview
  - Identify and annotate scenarios in autonomous driving data that are currently unidentified
  - Create schema to keep track of driving data
  - Design and implement an algorithm to label objects in a video
  - Store labeled video in database so that objects can be queried
- Project Plan Document
  - Title page and table of contents - Complete
  - Executive summary, Risks - Complete
  - Tentative schedule - 30% complete
  - Document 40% complete

# Team Aptiv

## Status Report

[2 of 4]

### Analysis of Autonomous Vehicle Testing Video

- Server Systems / Software
  - Microsoft SQL Server - database up and running
  - Rack mount server - setup almost complete
- Development Systems / Software
  - Python 3.6 - installed
  - Anaconda Distribution 5.2 (with Jupyter notebook) - installed
  - TensorFlow 1.5 (ML library) - installed



# Team Aptiv

## Status Report

[3 of 4]

### Analysis of Autonomous Vehicle Testing Video

- Client Contact
  - Monthly in-person meetings, first meeting on Friday 1/11 in Troy 2-4pm
  - Conference call every Tuesday and Thursday 11am-12pm
- Team Meetings
  - Six team meetings conducted as of Wednesday 1/16
  - At least two meetings a week, Mondays 12:30pm (in-person) and Wednesdays 11:30pm (conference call)
- Team Organization
  - Harshita, Diana – Schema creation and database development
  - Shivaani, Patrick, Rebecca – Model and algorithm design
  - Rebecca – Client point of contact
  - Different Program Manager assigned for every sprint
    - Sprint 1 Program Manager - Shivaani



# Team Aptiv

## Status Report

[4 of 4]

### Analysis of Autonomous Vehicle Testing Video

#### Risks

- Knowledge Gap
  - Description: Lack of experience with Deep Learning Framework
  - Mitigation: Do the Learn and Use ML tutorials and read documentation available at [tensorflow.org](https://www.tensorflow.org)
- Lack of Large Dataset for Training Model
  - Description: Attempted to use Berkeley Driving Dataset but data is in incorrect format and unusable
  - Mitigation: Contacted client on 1/15; Laptops have been provided with Aptiv data for us to use
- Image Processing Capabilities
  - Description: Need a machine with high computational power and memory to process video
  - Mitigation: Spoke with Ryan at Triage meeting this week and now looking into using MSU machine for project



# Team Auto-Owners

## Status Report

[1 of 4]

### Secretary of State (SoS) Software Robot

- Project Overview
  - Expedite worker's compensation insurance claim submission
  - Reconcile business name against Secretary of State websites
  - Utilize software robots
- Project Plan Document
  - 25% finished with document
  - Completed cover page, table of contents, and executive summary
  - In-progress sections: functional requirements, design requirements, technical requirements, risks and prototypes



# Team Auto-Owners

## Status Report

[2 of 4]

### Secretary of State (SoS) Software Robot

- Server Systems / Software
  - Rack server with Linux OS – waiting for setup
  - JavaScript, jQuery, Node.js - waiting for setup
  - PHP7, Apache, MariaDB(MySQL) - waiting for setup
- Development Systems / Software
  - Windows 10 based development and testing platform
  - PhpStorm IDE – installed and running
  - UiPath Community Edition- installed and running

# Team Auto-Owners

## Status Report

[3 of 4]

### Secretary of State (SoS) Software Robot

- Client Contact
  - First meeting at Auto-Owners on 1-11 with Ross Hacker
  - Weekly meetings every Friday (via phone and in-person)
- Team Meetings
  - Biweekly meetings with all members
  - Slack used for team communication
- Team Organization
  - Trello to be used to keep track of current tasks and team roles



# Team Auto-Owners

## Status Report

[4 of 4]

### Secretary of State (SoS) Software Robot

#### Risks

- Risk 1
  - Interfacing UiPath with our database system - high
  - Utilizing the resources in the UiPath Academy to learn querying techniques
- Risk 2
  - Creating automated processes through timing or triggered events - high
  - Learn to use a UiPath web application called “Orchestrator” to manage our software robot
- Risk 3
  - UiPath takes over a systems UI, affecting the user’s experience - medium
  - Look into the ability to hide the UiPath operations in new minimized or hidden windows.
- Risk 4
  - UiPath runs under the assumptions of specified screen size - low
  - Look into the ability to dynamically calculate user screen size



# Team Consumers Energy

## Status Report

[1 of 4]

### New Customer Service Channel

- Project Overview
  - Create a web application that utilizes technologies to sync with an ongoing phone call that allows the user to navigate a call tree and save valuable time.
  - The web application would allow the user to make payments, inquiries, and setup other services that do not require a phone representative's help.
  - If the specific inquiry requires a phone representative's assistance, the web application would send a request to the ongoing phone call to forward to a representative.
  - Potentially include a chat bot service to support a user when call volume is high.
- Project Plan Document
  - Functional Requirements, Executive Summary – 60% Complete
  - Technical Specifications, Design Requirements – 30% Complete
  - Schedule – 20% Complete
  - Risk Analysis – 20% Complete
  - Total – 36% Complete





# Team Consumers Energy

## Status Report

[2 of 4]

### New Customer Service Channel

- Server Systems / Software
  - Reserved server to host mock data provided by client to emulate customer information. Data will be sent to the capstone team as soon as it has been approved for release by CE.
  - MySQL database will be used to manage customer data.
  - Currently discussing with client on what server OS would be best suited for this project. CE development team will provide an update within the week.
- Development Systems / Software
  - Programming will mainly be done via Visual Studio using the .NET framework and C#.
  - Front end development will be done using Angular framework.
  - The capstone team will be provided access to APIs purchased by Consumer Energy that are similar to that of existing services (i.e. Genesys). ETA: this week or the following week.





# Team Consumers Energy

## Status Report

[3 of 4]

### New Customer Service Channel

- Client Contact
  - Client phone conference occurred last Friday. An in-person visit by the client occurred this past Monday where formal introductions took place. The team was introduced to the technologies and process flow used. Project work will be coordinated with the Business, Engineering, and Portfolio teams at CE.
  - Meetings scheduled every Friday afternoon (2:30p-3:00p) to provide regular updates to the client and clear up any questions/concerns about the project.
  - Future in-person visits are being scheduled. Next week the capstone team will be visiting the East Lansing CE facility to understand the work flow and process behind customer inquiries at the call center.
- Team Meetings
  - The team has met five times to assign specific team roles and work on the project plan.
  - Meetings set at least three times a week to keep work progress consistent (Mon, Wed, and Friday).
- Team Organization
  - The team has decided to use a modified Agile development methodology and will alter team roles weekly.
  - Development is divided based on team members strengths/expertise:
    - Client Contact: Ibraheem
    - Backend Development : Andrew, Muhammed, and Hang
    - Frontend Development: Ibraheem and Ben



# Team Consumers Energy

## Status Report

[4 of 4]

### New Customer Service Channel

#### Risks

- Risk 1
  - Learning and working with Consumers Energy's existing internally built Interactive Voice Response system and APIs.
  - Work with their developers to obtain a better understanding of its process flow.
- Risk 2
  - Allowing an ongoing phone call to work with a web application and respond to commands received from the web application.
  - Research and apply new methods/technologies that allow for this relationship to work.
- Risk 3
  - Provide easy to read functionality for customers, while meeting the company's business requirements.
  - Discuss layout's with the business team, as well as the development team to decide on the best interface based on providing a seamless experience for the customer.



# Team Dow

## Status Report

[1 of 4]

### AR Model Management Platform

- Project Overview
  - Market Products Using Augmented Reality on iOS Devices
  - Architect and Build Universal Dow Platform
  - Cloud Hosted Backend for 3D Models
  - Download and View 3D Models Easily
- Project Plan Document
  - 30% Complete
  - Executive Summary 40% Complete
  - Functional Specifications 75% complete
  - Schedule 25% complete

# Team Dow

## Status Report

[2 of 4]

### AR Model Management Platform

- Server Systems / Software
  - SharePoint – More from Dow later this week
- Development Systems / Software
  - Lab iMacs Setup with Unity, Xcode, ARKit Plugin
  - Receiving 2 iPads from Client Friday, Jan. 18
  - Frontend Developers have personal Unity, Xcode Environments

# Team Dow

## Status Report

[3 of 4]

### AR Model Management Platform

- Client Contact
  - First Meeting Friday, Jan. 11<sup>th</sup>
  - Weekly Call Fridays at 10:30 am EST – In person this Friday
  - Shared Slack Workspace
- Team Meetings
  - Weekly Meeting Fridays After Client Meeting
  - Tentative Plan for Meeting on Sundays if Needed
- Team Organization
  - Client Contact – David, Project Manager – Matt
  - 4 Frontend Developers, 2 Backend Developers

# Team Dow

## Status Report

[4 of 4]

### AR Model Management Platform

#### Risks

- Storing 3D models in SharePoint
  - SharePoint needs to store 3D models for the app
  - Researching and recreating prior examples of 3D model storage
- Downloading
  - Downloading files from SharePoint to an iOS app may introduce new issues
  - Create a simple iOS app that will download a file from SharePoint
- Security of Giving Out Access to Models
  - Users can give out access to models, how will that be securely handled
  - Create simple app that allows changes in access in SharePoint by only certain Roles





# Team DRIVEN-4

## Status Report

[1 of 4]

### Product Development Portfolio and Planning

- Project Overview
  - Use capacity based planning technique to forecast and track execution of the annual product development budget.
    - **Portfolio Planning:** Build scenarios of different portfolios loaded with different projects for a 1, 3, or 5 year plan.
    - **Portfolio Execution:** Build, baseline, and track execution of an annual portfolio of projects.
    - **Product Planning:** Develop capabilities that allow the Product Manager to define and baseline an interactive 10 year product plan.
- Project Plan Document
  - Created a skeleton document with table of contents.
  - Wrote 100% of the Executive Summary and Functional Specifications.
  - Wrote 10% of the Technical Specifications.
  - Completed roughly 15% of the document in total.





# Team DRIVEN-4

## Status Report

[2 of 4]

### Product Development Portfolio and Planning

- Server Systems / Software
  - ThingWorx Platform installed locally (including PostgreSQL).
- Development Systems / Software
  - Testing ThingWorx Platform.
    - Currently testing with client provided training on local machines.
  - Flutter in Android Studio is installed and configured.
    - Android and iOS emulators have been tested.
  - Set up iMacs in the capstone lab.

# Team DRIVEN-4

## Status Report

[3 of 4]

### Product Development Portfolio and Planning

- Client Contact
  - We have talked with our client and have scheduled weekly conference call every Thursday from 1-2pm.
  - Face-to-face meeting with our client on campus on Tuesday 1/22.
- Team Meetings
  - The team has met 6 times.
  - The team will meet **at least** once per week on Thursdays at 5pm.
- Team Organization
  - Hassan Tarar: Client Contact, Frontend.
  - Dan Tinsman: Project Manager, ThingWorx.
  - Kevin Kye: Mobile Developer.
  - Kyle Forbes: Web Developer.
  - Athena Zhang: Web/Mobile Developer.



# Team DRIVEN-4

## Status Report

[4 of 4]

### Product Development Portfolio and Planning Risks

- Backend Development Technology
  - No team member has worked with the ThingWorx Platform.
  - Completing official training videos and asking client for demo.
- Mobile App Development
  - The lack of flexibility using the client requested cross platform technology (Flutter).
  - Working with client to prioritize required features.
- Integrating App to Client's Environment
  - Integrating our product with their AWS infrastructure.
  - Continuously integrate small pieces of the app to client's environment.
- Dividing the team to complete Web and Mobile Platforms
  - Client prioritized the completion of fully featured Web App over Mobile.
  - Most of the team will prioritize completing the backend services before starting the Mobile App.



# Team Evolutio

## Status Report

[1 of 4]

### AppDynamics Platform Configuration Tool

- Project Overview
  - The goal is to enable Evolutio clients to easily utilize Cisco AppDynamics by allowing them to configure, deploy and manage large scale web environments.
  - There are 3 main parts of the project:
    - Modern, User-Friendly Web Application
    - Import/Export Human Readable Configuration Files
    - Notification System to Monitor Changes
- Project Plan Document
  - The Project Plan Skeleton is completed.
  - The Executive Summary, Functional Specifications and Risks are completed.
  - Overall 40% is completed.

# Team Evolutio

## Status Report

[2 of 4]

### AppDynamics Platform Configuration Tool

- Server Systems / Software
  - Web server setup on the server rack in Capstone Lab
  - Linux VM and AppDynamics installed and setup iMac
- Development Systems / Software
  - Eclipse IDE set up and installed
  - Testing Client API Console Application

# Team Evolutio

## Status Report

[3 of 4]

### AppDynamics Platform Configuration Tool

- Client Contact
  - First Client Meeting January 14<sup>th</sup>
  - Weekly Conference Call: Friday's 9:30 AM
- Team Meetings
  - Weekly Group Meeting: Every Tuesday at 5pm
  - Total Times Met: 5
- Team Organization
  - John Dressel: Client Contact, Back-End
  - Cameron Rasico: Front-End
  - Ben Haase: Front-End
  - Ian Guswiler: Project Manager, Back-End
  - Kp Inuaeyen: Front-End



# Team Evolutio

## Status Report

[4 of 4]

### AppDynamics Platform Configuration Tool Risks

- Java App Into REST Service
  - Unsure of feasibility of exposing Java app to REST service
  - Working with client in resolving this
- Maintaining Saved Profiles/Configurations
  - Loss of connection results in losing rule configuration work
  - Saving Profiles to JSON file
- Managing Scalable Deployments
  - Large setup in addition to lots of deployments creating issues
  - Research containers such as Docker and work with client as well



# Team Ford

## Status Report

[1 of 4]

### Greenfield Labs SHARED Locker System

- Project Overview
  - Encourage Use of Shared High-Value Assets (Devices)
  - Showcase Existence
  - Track via Easy Check-Out / Check-In
  - Target Ford's Greenfield Labs (Palo Alto)
- Project Plan Document
  - We have started it.
  - We have written the outline.
  - It is 10% complete.

# Team Ford

## Status Report

[2 of 4]

### Greenfield Labs SHARED Locker System

- Server Systems / Software
  - Docker,Snipe-IT
    - Completed Setup on local computers.
  - Flask
    - Tutorial will be completed this week.
- Development Systems / Software
  - React,React-Native
    - Basic login UI, navigation between pages
    - Working on OAuth,google Sign In
- Hardware
  - Raspberry-PI,lockers,Micro-controllers,LED lights
    - Will get the required Hardware on Friday

# Team Ford

## Status Report

[3 of 4]

### Greenfield Labs SHARED Locker System

- Client Contact
  - We have talked with/met with our clients two times.
  - We have a pending scheduled conference call on Tuesdays at 2:00 p.m. and an onsite meeting this upcoming Friday at their Dearborn, MI location.
- Team Meetings
  - Our team has met three times so far.
  - Team meetings have been scheduled for at least once a week.
- Team Organization
  - Mobile Application iOS & Android: Wei Dai & Brett Dziedzic
  - Web Application: Ning Han
  - Back End: Seth Killian
  - Raspberry PI/RGB Light Strip/12V Actuated Lock: Rob Sulaka & Brett D.



# Team Ford

## Status Report

[4 of 4]

### Greenfield Labs SHARED Locker System

- Risk 1
  - Raspberry PI
  - Mitigation: Many videos and online tutorials for Raspberry PI development
- Risk 2
  - Cross platform : Web, Android, IOS
  - Mitigation: Using React library and react native so web and mobile apps will both use a similar JavaScript frontend
- Risk 3
  - Mobile development using React Native
  - Mitigation: Learn through Udemy course
- Risk 4
  - Microcontroller hardware for locker
  - Mitigation: Using Arduino for lights and lock, many tutorials and resources for working with Arduino controllers.

# Team Google

## Status Report

[1 of 4]

### Kubernetes Cluster Inspection Tool

- Project Overview
  - Develop an open source local web application
  - Aggregate Kubernetes cluster logs into a single view
  - Provide insight into what operations occurred within a cluster
  - Create a visualization tool to monitor Kubernetes clusters both in real time and historically
- Project Plan Document
  - System Architecture Diagram draft
  - 10% complete
  - Outline complete
  - Delegated sections to each team member

# Team Google

## Status Report

[2 of 4]

### Kubernetes Cluster Inspection Tool

- Server Systems / Software
  - Stackdriver API
  - Kubernetes, k8s API
  - Fluentd
- Development Systems / Software
  - Go
  - Vue.js
  - Grafana

# Team Google

## Status Report

[3 of 4]

### Kubernetes Cluster Inspection Tool

- Client Contact

- Weekly meetings scheduled
- Have had two conference calls to discuss the scope of our project as well as project requirements

#### Team Meetings

- Weekly meetings scheduled
- Have met multiple times a week outside of the scheduled meeting time

- Team Organization

- Set up Slack, Trello, Google Calendar, and Google Hangouts
- Brief and general role and responsibility distribution



# Team Google

## Status Report

[4 of 4]

### Kubernetes Cluster Inspection Tool

#### Risks

- Cluster Health Visualization
  - Using Vue to create a single page application with drilldown into Kubernetes cluster health metrics
  - Lansing local dev meet-ups to get advice from other developers
- Pod to Pod Communication
  - Limited knowledge on the way that pod to pod communication works
  - Exploration of the k8s API and a deeper dive into the Kubernetes architecture
- Integration of Technologies
  - Integration of multiple technologies (fluentd, stackdriver, etc.)
  - Small scale testing to learn how they interface with each other
- Awaiting GCP Resources
  - Could delay development and testing
  - Pending authorization for a GCP account

# Team Herman Miller

## Status Report

[1 of 4]

### Indoor AR Navigation

- Project Overview
  - Effectively navigate buildings through use of AR without regular location services.
  - Two users' interface: Facility Manager and End User
  - Facility view ideally is done once for every building and new changes are applied using machine learning during end use.
- Project Plan Document
  - Technical Specifications - 20%
  - Functional Specifications - 30%
  - System Architecture - 20%
  - Design Specifications - 25%



# Team Herman Miller

## Status Report

[2 of 4]

### Indoor AR Navigation

- Server Systems / Software
  - AWS Clusters (pending)
  - SQL Database
- Development Systems / Software
  - Xcode (Swift)
  - iOS Location services
  - ARKit service

# Team Herman Miller

## Status Report

[3 of 4]

### Indoor AR Navigation

- Client Contact
  - Weekly conference calls (11:00AM Friday)
  - MSU on-site meeting (Thursday 1/17 @ 12)
- Team Meetings
  - We have met 5 times
  - Weekly meetings on Sunday noon-whenever
- Team Organization
  - Client contact - John
  - Tester - Matthew
  - Project Manager - Zhenru
  - Dev. - Aaron
  - System Admin. - Stefan



# Team Herman Miller

## Status Report

[4 of 4]

### Indoor AR Navigation

#### Risks

- Risk 1
  - Uncertainty of ARKit's full capabilities involving navigation
  - Develop proof of concept, involves blending AR persistence with distance detection
- Risk 2
  - Choosing stable features, creating a long lasting map
  - Making a template for choosing "good" features when FM does initial layout
- Risk 3
  - Not knowing where machine learning applies and how data would be used effectively
  - Discuss client's needs and research accordingly
- Risk 4
  - Exposing code as APIs for later use in other applications
  - Talk to Client about what is needed



# Team Humana

## Status Report

[1 of 4]

### Technology Peripheral Inventory Predictor

- Project Overview
  - Peripheral Vending Machines
  - View Purchase History
  - Forecast Future Purchases
  - Log New Purchases and Integrate for Future Predictions
- Project Plan Document
  - Skeleton document created
  - Executive Summary 100% complete
  - Functional Specifications 100% complete
  - Overall, 25% complete





# Team Humana

## Status Report

[2 of 4]

### Technology Peripheral Inventory Predictor

- Server Systems / Software
  - Mac SSH is set up
  - Need server software to host frontend, will be on Mac
- Development Systems / Software
  - Python3 installed
    - Using Keras+Tensorflow for machine learning
    - Using Django for web backend
  - Git repository set up with skeleton project

# Team Humana

## Status Report

[3 of 4]

### Technology Peripheral Inventory Predictor

- Client Contact
  - Met with Owen
  - Weekly conference call every Tuesday at 12:00
- Team Meetings
  - In-person team meetings Wednesday at 4:30, Sunday as needed
- Team Organization
  - Katie is client contact
  - Linda is project manager
  - Front end: Linda, Katie
  - Back end: Siru, Brendan, Gabe

# Team Humana

## Status Report

[4 of 4]

### Technology Peripheral Inventory Predictor

#### Risks

- Prediction Format
  - It is unclear what specific type of predictions the client wants, e.g. giving a clear “purchase x on day y” or instead saying we expect increased demand for some specific peripheral. This affects the way that the machine learning algorithm should be written.
  - Explore a variety of options. Ask which one is preferred during client meetings.
- New Purchases
  - Don’t know how new purchases will be integrated into the system, either through Humana’s database or entering it on the front end
  - Ask client for more specifics regarding this, design system so that either can be implemented quickly.
- Online Machine Learning
  - Client wants to have the algorithm update as they add more data to it automatically. Our team does not have experience with this.
  - Do research on the topic; ask other students who have experience with this type of problem how they would approach it.

# Team Meijer

## Status Report

[1 of 4]

### Location-Based Personalized Shopping

- Project Overview
  - Track customers' locations within the Meijer store
  - Provide personalized mPerks offers
  - Encourage sales of additional items
- Project Plan Document
  - Outlined document
  - Began Executive Summary
  - Began Functional Specs
  - 10% complete

# Team Meijer

## Status Report

[2 of 4]

### Location-Based Personalized Shopping

- Server Systems / Software
  - Microsoft Azure access
  - Repository created for project
  - MIST admin-portal access
- Development Systems / Software
  - Visual Studio with Xamarin installed
  - VMWare installed
  - Meijer phone apps on iPhone and Android
  - 'Hello World' apps developed

# Team Meijer

## Status Report

[3 of 4]

### Location-Based Personalized Shopping

- Client Contact
  - Initial Meeting on Friday the 11<sup>th</sup>
  - Scheduled calls for every Tuesday and Thursday morning
- Team Meetings
  - Initial Meetings (Three in the first week)
  - Sprint 1 and 2 Meetings (Mon – 14<sup>th</sup> and Thurs – 17<sup>th</sup>)
- Team Organization
  - Client Contact – Jack Studzinski
  - Project Manager – Sasha Morford
  - Lead Tester – Chris Le
  - Lead Developers – Blaire Izbicki & Jacob Kalt



# Team Meijer

## Status Report

[4 of 4]

### Location-Based Personalized Shopping

#### Risks

- MIST
  - New technology; Limited access to hardware; Off-site testing one hour away
  - Research conducted; Will receive access points; Direct contact with MIST
- Azure
  - Connecting Azure to the Xamarin app through APIs
  - In contact with experienced technologists at Meijer to confirm proper cloud service architecture
- Account for changing data
  - Store layouts can change; Item inventory will consistently change
  - Acquire sample data from Meijer; Create testing data and confirm validity with Meijer
- Mocking the Meijer/mPerks App
  - Develop a reasonable and reliable stand-in to represent the Meijer mobile app
  - Communicate our intentions of included features with the client; Implement necessary app features



# Team Michigan State University HPCC

## Status Report

[1 of 4]

## Simplifying High Performance Computing

- Project Overview
  - Provide user interface for job statistics
  - Provide GUI for job statistics for several user roles
  - Create GUI that writes job scripts for users
  - Sandbox to test jobs
- Project Plan Document
  - We are 15% complete
  - Wrote skeleton outline
  - Functional specifications complete
  - Remaining sections assigned to team members



# Team Michigan State University HPCC

## Status Report

[2 of 4]

### Simplifying High Performance Computing

- Server Systems / Software
  - Have installed CentOS on all servers.
  - Have installed OpenHPC software on master node.
  - Need to setup cluster and connect nodes.
- Development Systems / Software
  - Using OpenHPC, in process of getting it working fully.
  - Using Slurm for scheduling, not installed.
  - Web app with Vue.js framework, Apache, SQL, and PHP. Not tested yet.
  - SQL database derived from HPCC data sample, waiting for data.



# Team Michigan State University HPCC

## Status Report

[3 of 4]

### Simplifying High Performance Computing

- Client Contact
  - 2 Design Meetings
  - Biweekly Update Meetings
- Team Meetings
  - Group Discord, GitHub, and Google Drive
  - Weekly Planning Meetings
- Team Organization
  - Hardware setup- Matt Williams, Zach Roush, Christian Luedtke
  - Software Research – Caleb Winner, Zhihan Wang, Krista Solem



# Team Michigan State University HPCC

## Status Report

[4 of 4]

## Simplifying High Performance Computing

### Risks

- Don't know how to build a cluster
  - To avoid interfering with the HPCC we must set up our own cluster for development and testing.
  - Meeting with system administrator to help setup OpenHPC on cluster.
- Don't know how to connect cluster to website
  - Web app must be able to directly login and interact with the cluster
  - Prototype simple echo application to test/debug interfacing
- Don't know how to implement an isolated Test Cluster
  - Allow users to test job resource usage on dedicated nodes
  - Prototype on our cluster before discussing how to isolate nodes with HPCC admins
- Unsure how to implement Admin privileges
  - HPCC has various levels of administrator privilege for controlling user actions
  - Discuss with HPCC admins the hierarchy and organization of privileges





# Team Michigan State University ITS

## Status Report

[1 of 4]

### Group Project Organization and Scheduling

- Project Overview
  - Automated schedule processing
  - Easy or no setup collaborative tooling
  - Integration of various student used products
  - Targeted specifically for student group collaboration
- Project Plan Document
  - Executive Summary, Functional, Design, Technical, Risk and Schedule all have high level points. (30% across the board)
  - Made complete Project Plan skeleton
  - Writing and reviewing tasks defined, draft due for client on (1/18)
  - 40% complete overall (contingent on client approval)





# Team Michigan State University ITS

## Status Report

[2 of 4]

### Group Project Organization and Scheduling

- Server Systems / Software
  - AWS Lambda Serverless Compute & AWS Relational Database Service
  - Well defined resource limitations and all members have AWS access
  - Deployed hello world and simple interactive site using AWS
- Development Systems / Software
  - Version Control and DevOp set up
  - Created Gitlab group and repository
  - Research and small testing on Office 365 Management APIs



# Team Michigan State University ITS

## Status Report

[3 of 4]

### Group Project Organization and Scheduling

- Client Contact
  - Met with client representatives once to identify the project specs and main use case
  - Weekly in-person meetings Fridays at 2pm.
- Team Meetings
  - Full Team meetings 3 times
  - Scheduled Weekly meetings Fridays at 3 PM
- Team Organization
  - Frontend: Jacob D (PM), Sarah (Dev), Kristin (Tester)
  - Backend: Jacob B (Sys Admin), Cyndy (Client Contact), Jack (Dev)



# Team Michigan State University ITS

## Status Report

[4 of 4]

### Group Project Organization and Scheduling

#### Risks

- Risk 1
  - Upkeep for 3rd party API's
  - Great DevOps, maintain continuous validation by automating local tests
- Risk 2
  - Security concerns with storing users' information
  - Try to store as little personal data as possible and delegate to authentication APIs
- Risk 3
  - Validating that non-MSU students have same accessibility
  - Creating and testing with mock non MSU users and finding potential users from other schools
- Risk 4
  - Supporting multiple interpretation of calendars
  - Identify the most common use case and stick to a well defined and well documented approach



# Team Mozilla

## Status Report

[1 of 4]

### Optimizing Firefox Localization

- Project Overview
  - Asynchronous loading of localized strings
  - Experiment parser optimization
  - Improve tooling around localization system (Fluent)
- Project Plan Document [15%]
  - Discussed deliverables with clients at Mozilla
  - Compiling risks and resources
  - Created outline

# Team Mozilla

## Status Report

[2 of 4]

### Optimizing Firefox Localization

- Server Systems / Software
  - Configured credentials for VCS
  - Experimenting with local mochi test server
- Development Systems / Software
  - Environment for building Firefox
  - Tracking issues on Bugzilla
  - Using Phabricator for code review
  - Started developing and testing migrations to Fluent

# Team Mozilla

## Status Report

[3 of 4]

### Optimizing Firefox Localization

- Client Contact
  - Two meetings so far
  - Scheduled weekly video conference calls
  - Frequent communication on IRC
- Team Meetings
  - Three full team meetings
  - Minimum two full meeting per week
- Team Organization
  - Avery: Client Liaison; migrating page about:tabcrashed
  - Brian: migrating page reset profile
  - Chris: migrating page info dialog
  - Ian: migrating browser migration wizard
  - Nick: migrating safe mode dialog
  - Yuan: migrating about dialog





# Team Mozilla

## Status Report

[4 of 4]

### Optimizing Firefox Localization

#### Risks

- Large Codebase
  - navigating more than ~35 million lines of code in 43 languages
  - use searchfox.org, communicate with Firefox developers
- Asynchronization
  - Tooling surrounding asynchronization
  - Use JS promises
- Improve tooling around the new localization framework (Fluent)
  - More robust testing system
  - Analyze and compile pitfalls and ways to improve current testing system
- Rust based fluent parsing
  - Determining how to evaluate performance gains
  - Compare existing tools for performance evaluation

# Team MSUFCU

## Status Report

[1 of 4]

### AutoBudget Chatbot

- Project Overview
  - Cross platform app to understand and control spending
  - Break down spending by category (merchant code)
  - Budget future spending / compare spending by demographic
  - Interact with this app via Alexa / Google Home
- Project Plan Document
  - 5% complete
  - Started
  - Outline complete
  - Schedule not yet determined



# Team MSUFCU

## Status Report

[2 of 4]

### AutoBudget Chatbot

- Server Systems / Software
  - REST API not started
  - SQL server not set up
- Development Systems / Software
  - iOS dev. environment set up
  - Alexa dev. account set up, made simple Skill
  - Web Admin Panel created with placeholders



# Team MSUFCU

## Status Report

[3 of 4]

### AutoBudget Chatbot

- Client Contact
  - Met in-person @ MSUFCU 1.11.2019
  - Recurring Friday 12-1pm conference calls
- Team Meetings
  - 3 recurring meetings scheduled (M/W/F)
  - Created Google Calendar for team availability
- Team Organization
  - David Evenson is client contact
  - All members assigned roles for alpha development

# Team MSUFCU

## Status Report

[4 of 4]

### AutoBudget Chatbot

#### Risks

- Incomplete Data
  - Data set with few features
  - Accept risk and discuss with client
- Lack of Testing Device
  - Do not have Amazon Show for Skill testing
  - Online simulator and Echo Dot available
- Unfamiliarity with Hardware
  - No experience as user or developer for Alexa Show / Google Hub
  - Play with simulator / device (eventually)
- Unclear Goals
  - Goals for machine learning not clearly defined
  - Further discussion with client this Friday

# Team Principal

## Status Report

[1 of 4]

### Integrated Analyst Ratings and Notes

- Project Overview
  - Design and develop a capability for analysts to input context sensitive numerical ratings (for companies, products, industries, securities, and fund managers)
  - Create prose notes that may incorporate additional media (web pages, attachments, videos, audio, etc.)
  - Support intelligent distribution of the notes and ratings, and maintain both current and historical notes and ratings
- Project Plan Document
  - 15% complete overall
  - Executive summary - 90%
  - Clarifying technical and functional specifications during in-person meeting, 1/18





# Team Principal

## Status Report

[2 of 4]

### Integrated Analyst Ratings and Notes

- Server Systems / Software
  - AWS – Awaiting credentials from client
  - PostgreSQL Server through AWS – Awaiting credentials from client
- Development Systems / Software
  - PHP and JavaScript – Have a working IDE
  - AWS Sandbox – Awaiting credentials from client

# Team Principal

## Status Report

[3 of 4]

### Integrated Analyst Ratings and Notes

- Client Contact
  - Initial client conference call, 1/11
  - In-person client meeting, 1/18
  - Weekly conference call every Wednesday, 4:30pm
- Team Meetings
  - Initial team meetings, 1/9 and 1/10
  - Every Tuesday, 4:30pm
- Team Organization
  - Client Contact, Back-End Development – Alexana Steck
  - System Administrator – Carter Trpik
  - Project Manager – Ryenn McAdory
  - Front-End Development – Jacob Rieck
  - UX Designer – Ziyi Huang



# Team Principal

## Status Report

[4 of 4]

### Integrated Analyst Ratings and Notes

#### Risks

- Integrate WebApp into client's SSO
  - Client has developed code for Windows Authentication that we must implement
  - Working with client to understand their code
- Verify system will integrate with compliance soft bots
  - Client will have bots that parse data to verify that it meets compliance standards for the finance industry
  - Create a user account specifically for bot access to the stored information
- Accommodate the functionality of 4 different systems that are currently in use
  - Merging 4 different applications into one unified system without losing performance
  - Iterate through multiple mock-ups before adding back-end



# Team Proofpoint

## Status Report

[1 of 4]

### Defeating Malware Payload Obfuscation

- Project Overview
  - Determine whether or not a file contains malware without detonation
  - Must be more efficient than executing the file in a sandbox
  - Must maintain accuracy when compared to execution in sandbox
  - Machine learning as a viable approach
  - Advanced hashing techniques as a viable approach
- Project Plan Document
  - Project plan document is ~30% complete
  - Executive Summary written
  - Most risks written
  - Some design and technical specifications written



# Team Proofpoint

## Status Report

[2 of 4]

### Defeating Malware Payload Obfuscation

- Server Systems / Software
  - Django
  - Python Web App
  - CSS/JavaScript/HTML5 front end
  - SQL Database
  - Proofpoint provided server being set up
- Development Systems / Software
  - Machine Learning library
  - PyCharm
  - Obfuscation Analysis Script



# Team Proofpoint

## Status Report

[3 of 4]

### Defeating Malware Payload Obfuscation

- Client Contact
  - Spoke over conference call twice
  - Have set up weekly meeting with client
  - In-person meeting being planned
- Team Meetings
  - Set up 3 weekly meetings
  - Team has met 5 times
- Team Organization
  - Team is using Agile style development using one week sprints
  - Nick Lojewski as Client Liaison
  - Adam Johanknecht as Project Manager





# Team Proofpoint

## Status Report

[4 of 4]

### Defeating Malware Payload Obfuscation

#### Risks

- No experience using Machine Learning
  - Machine Learning is integral to the core system of our product
  - Mitigation: Team will research existing solutions and techniques. Client will provide learning sessions to aid in development
- Achieving efficient execution time while maintaining accuracy
  - Our solution should be faster than the current detection techniques while maintaining equal or better accuracy
  - Mitigation: Use best practices with algorithm design and prioritize efficiency while developing
- Identifying file characteristics that can be used to identify malware
  - Team does not have experience identifying characteristics of files that indicate malicious behavior
  - Mitigation: More meetings with client to learn about malware and research into malicious system calls



# Team Spectrum Health

## Status Report

[1 of 4]

### Patient Training Tool

- Project Overview
  - User lists their symptoms to their Google Home
  - App then explains potential condition to user
  - Google Home App recommends a Spectrum Health service to users
    - includes ER, urgent care, virtual appointments
  - User informs app which service they utilize, used for future recommendations
- Project Plan Document
  - Completed executive summary – 200 words
  - Completed functional specifications – 400 words
  - Remaining sections are each approximately 10% complete
  - Project plan is approximately 35% Complete



# Team Spectrum Health

## Status Report

[2 of 4]

### Patient Training Tool

- Server Systems / Software
  - Microsoft Azure DevOps: Received accounts from client
- Development Systems / Software
  - DialogFlow: Started tutorials and learning more about it
  - Scrapy: Have done tutorials on Scrapy
  - Google Home: Have not yet received from client



# Team Spectrum Health

## Status Report

[3 of 4]

### Patient Training Tool

- Client Contact
  - Initial contact with client on 1/9/19, in-person 1/11/19
  - Weekly conference call @ 11AM on Monday
- Team Meetings
  - Team has met 5 times, set up Discord group chat
  - Weekly meeting: Friday @ 12PM, otherwise as needed
- Team Organization
  - Client contact: Ryan Mathews, Program Manager: Blake Williams
  - Back-end: Grant Schonhoff, Tester: Mohammed Naji
  - Front-end: Matt Kelley



# Team Spectrum Health

## Status Report

[4 of 4]

### Patient Training Tool

#### Risks

- Risk 1
  - Risk: Some conditions will have identical lists of symptoms.
  - Mitigation: More questions for the user to pinpoint the exact condition.
- Risk 2
  - Risk: Don't have an easy way to obtain training data.
  - Mitigation: Scrape data using the Scrapy framework.
- Risk 3
  - Risk: Explaining a patient's condition in an easy to understand manner.
  - Mitigation: Present information concisely and free of jargon.
- Risk 4
  - Risk: Finding a way to update the applications future recommendations based on the services users chose.
  - Mitigation: Implement a ranking system based on user feedback.



# Team Surge Solutions

## Status Report

[1 of 4]

### Surge xOS: Visualization of Automated Underwriting

- Project Overview
  - Displays decision path of a loan based on it's Product Policy
  - Suggests the best financial product to meet customer's needs
  - Performs Monte Carlo simulations to analyze changes to a financial product
  - Embedded within Surge's xOS platform
- Project Plan Document
  - Document created
  - Schedule 30% complete
  - Technical Specifications 75% complete
  - 25% complete overall





# Team Surge Solutions

## Status Report

[2 of 4]

### Surge xOS: Visualization of Automated Underwriting

- Server Systems / Software
  - AWS (S3) – Receiving access in the next few days
    - Have been working closely with client to complete onboarding
- Development Systems / Software
  - React & D3 for Node.js– Installed and Hello World created
  - Salesforce Lightning – Receiving access in the next few days
  - Jira & Confluence – Researched and receiving access in the next few days

# Team Surge Solutions

## Status Report

[3 of 4]

### Surge xOS: Visualization of Automated Underwriting

- Client Contact
  - Conference Calls – Friday, Jan 11<sup>th</sup> & Tuesday, Jan 15<sup>th</sup>
  - Stand-up meetings 3 times a week (M/W/F)
- Team Meetings
  - Team met as a whole on 4 occasions
  - Plan on having team meetings after stand-up with the client
- Team Organization
  - Erika – Client Contact, PM, Front-end
  - Drew – PM, Front-end
  - Pawel - Salesforce, Back-end
  - Dakota - Front-end
  - Sam - Back-end
  - Prudhvi - AWS, Back-end



# Team Surge Solutions

## Status Report

[4 of 4]

### Surge xOS: Visualization of Automated Underwriting Risks

- Process of Underwriting
  - Determining whether a customer is qualified for a financial product.
  - Perform research and have multiple conversations with the client to understand the process.
- Generalizing the Product
  - Product needs to be scalable and customizable to allow it to be utilized by different lenders and customers.
  - Discuss with the client to learn the possible items that an end-user would need.
- Lack of Concrete Data/Variables
  - Inputs into the program will not be the same every time.
  - Research the types of possible inputs, how to store them and find a way to make it customizable.
- Salesforce / xOS Integration
  - Web Apps will be imbedded in Salesforce and Surge's own xOS platform
  - Gain access to xOS and additional Salesforce research



# Team Technology Services Group

## Status Report

[1 of 4]

### Multi-Video Case Management

- Project Overview
  - Organize, annotate, and view security and mobile phone video files
  - Generate a map showing locations of where videos were created
  - Include ability to view and annotate these videos
  - Aggregate multiple videos into one to summarize an incident
- Project Plan Document
  - Skeleton laid out
  - Added executive summary
  - Began schedule and technical specifications sections
  - Roughly 15% complete



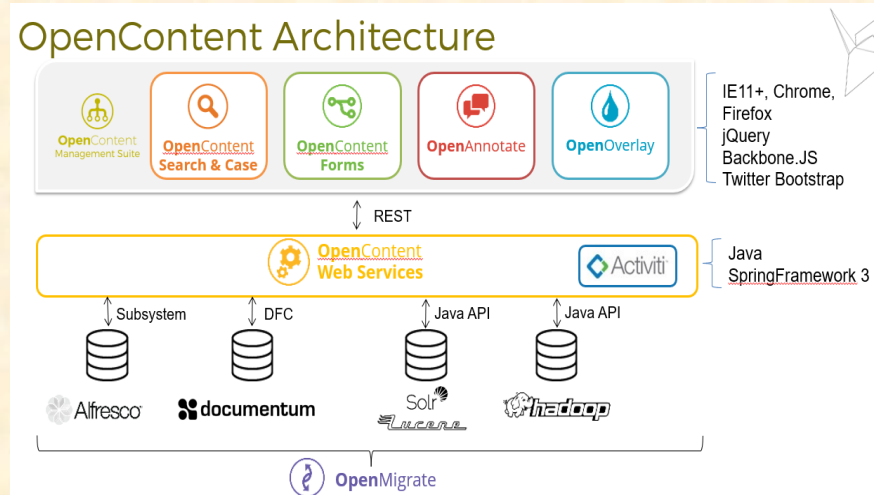
# Team Technology Services Group

## Status Report

[2 of 4]

### Multi-Video Case Management

- Development Systems / Software
  - TSG OpenContent Management Suite (OCMS)
  - TSG OpenAnnotate
  - Amazon Web Services
    - DynamoDB
    - S3 Cloud Storage
  - Local environment 80% set up on iMacs



# Team Technology Services Group

## Status Report

[3 of 4]

### Multi-Video Case Management

- Client Contact
  - Conference call with client last Friday, received document outlining project details
  - Recurring conference call Friday's at 4:30PM
- Team Meetings
  - Met with team 9 times
  - Recurring in-person team meeting every Friday, more if needed
- Team Organization

Noah	Client Contact
Sam	Program Manager
Adam	Backend/Database Expert
Jonathan	Frontend/UX Expert
Yichen	Testing/Documentation Expert
Matt	Config. Manager/ Project Facilitator





# Team Technology Services Group

## Status Report

[4 of 4]

### Multi-Video Case Management

#### Risks

- Obtaining MSU Security Video Data
  - Need to gain access to MSU security camera footage
  - Video footage may not have geolocation metadata
  - Mitigation: In contact with Rob McCurdy, MSU CIO
- Building and Manipulating a Map View
  - Unsure on how to overlay on a map based on location data of videos
  - Mitigation: Created a Google Map with icon overlays, still need prototype using location metadata
- Merging Multiple Videos Together
  - Must determine what software is capable of doing this
  - Mitigation: Currently researching and creating prototype using FFmpeg



# Team TechSmith

## Status Report

[1 of 4]

### Internal Telemetry

- Project Overview
  - Internal Telemetry Framework
  - C++ Native Application that calls into C#
  - C# application that calls into native c++
  - Web based dashboard ASP .Net Core
- Project Plan Document
  - Created Skeleton
  - ~20% Done with the overall report
  - Delegated Subtopics



# Team TechSmith

## Status Report

[2 of 4]

### Internal Telemetry

- Server Systems / Software
  - SQL Server
- Development Systems / Software
  - Visual Studio (C++, C#, ASP .NET Core, WPF)
  - Windows Error Reporting Software
  - Microsoft Partner Center

# Team TechSmith

## Status Report

[3 of 4]

### Internal Telemetry

- Client Contact
  - Setup a recurring conference call every Friday.
  - Have had an initial face to face meeting with client.
- Team Meetings
  - Have a weekly Friday meeting after our conference call with TechSmith.
  - Have a weekly meeting after Triage meeting.
- Team Organization
  - Team split between Web Dashboard, ITF, and Database.



# Team TechSmith

## Status Report

[4 of 4]

### Internal Telemetry

#### Risks

- Risk 1
  - Creating an application which can be incorporated into any Win32 application.
  - Collaborating with the client on implementation approaches.
- Risk 2
  - Automating the collection of user interactions leading up to the crash
  - Begin by automating the collection of provided log files.
- Risk 3
  - Implementing the interop layer between C++ and C#
  - Researching and developing simple prototype applications.



# Team Union Pacific

## Status Report

[1 of 4]

### Railroad Arcade

- Project Overview

- Build reusable components for railroad related simulations
- Components allow for different configurations and content
- Make components available on Windows PC and Web
- Create three or more demonstration games

- Project Plan Document

- Overall: 30%
  - Executive Summary – 60%
  - Functional Specifications – 40%
  - Design & Technical Specifications – 10%
  - Risk Analysis – 20%





# Team Union Pacific

## Status Report

[2 of 4]

### Railroad Arcade

- Server Systems / Software
  - WebGL – Created initial webpage to host games
  - Tomcat – Still researching documentation & set-up
- Development Systems / Software
  - Unity – Initial project file has been created
    - PDF creation & running on local host
  - Angular – Still researching documentation & set-up
  - Adobe Captivate – Licensing pending

# Team Union Pacific

## Status Report

[3 of 4]

### Railroad Arcade

- Client Contact
  - An initial in-person meeting was held last Thursday at 9 AM to gather the initial information from Union Pacific
  - Weekly client meetings have been planned for every Wednesday from 8:00 AM to 9:00 AM
- Team Meetings
  - We've met 5 times
  - Every week Wednesday at 4:30 pm, more when needed
- Team Organization
  - Client Contact: Margaret, Project Manager: Sarah
  - Back-End: Hongyu, Caleb, Sarah
  - Front-End: Gordon, Matthew, Margaret



# Team Union Pacific

## Status Report

[4 of 4]

### Railroad Arcade

#### Risks

- Reusability of Components
  - Need to allow use in a broad range of games while also giving the developer the ability to add more specific functions
  - Test games previously made by Union Pacific for commonly used functions, and test prototypes
- Connection of Windows App and Web App
  - Scoring information needs to be shared between Windows app and web app
  - Research how databases or Unity can connect this information
- Connecting Adobe Captivate to Unity
  - The training games need to allow Adobe Captivate popups and integration
  - Search through Adobe Captivate and Unity documentation for ways to connect the applications
- UP Framework
  - The UP team sent elements they typically use to build their webpages, but our client contacts don't directly work with it
  - Explore the framework's possibilities and see if utilizing it is worthwhile



# Team United Airlines

## Status Report

[1 of 4]

### Training Scheduling and Optimization System

- Project Overview
  - Build a course scheduling system for maintenance training
  - Incorporate time tracking functionality for instructors
  - Develop a schedule optimizer to suggest courses and assignments
  - Support both web and mobile (iOS)
- Project Plan Document
  - 45% complete overall
  - Executive summary 80% done
  - Functional Requirements 70% done
  - System Architecture Diagram 95% done
  - Technical Specifications in-progress 30% done



# Team United Airlines

## Status Report

[2 of 4]

### Training Scheduling and Optimization System

- Server Systems / Software
  - Server rack was reserved for a local MS SQL Server
  - Web application will be hosted on local machines for development
- Development Systems / Software
  - Visual Studio & XCode have been installed and test applications have been successfully deployed on both
  - MS SQL Server 2017 Developer has been installed but not connected to database yet
  - Tech Stack:
    - Angular, HTML5/CSS, ASP.NET Core (C#), Node.js, MS SQL Server, Swift



# Team United Airlines

## Status Report

[3 of 4]

### Training Scheduling and Optimization System

- Client Contact
  - Held conference call with client on Friday, Jan. 11 and Tuesday, Jan. 15
  - Scheduled a weekly conference call with client on Fridays
- Team Meetings
  - Scheduled a weekly meeting on Fridays after client conference call
  - We have met 5 times so far
  - Set up Slack, shared Google Calendar, shared Google Drive, and Trello
- Team Organization
  - Web App:
    - Front-End: Brian, Kailash
    - Back-End: Matt, Hydra
  - Web Service:
    - Nathan
  - iOS App:
    - Brian, Nathan





# Team United Airlines

## Status Report

[4 of 4]

## Training Scheduling and Optimization System

### Risks

- Web Service for iOS App
  - A web service needs to be implemented to allow communication from the iOS App to the MS SQL Server, but no one on the team has ever set up a web service before
  - We have dedicated a team member to lead the research and initial development of the web service
- Oracle Access Manager (OAM)
  - We are currently unclear how we are going to implement and test OAM since it is a technology hosted internally at United
  - We will work with the client to better understand how they use OAM and how we can integrate it into our project
- Familiarity with ASP.NET Core Framework
  - Due to our unfamiliarity with ASP.NET Core Framework it is difficult to determine how long tasks will take to complete while trying to plan
  - The team has been running through tutorials and documentation in order to increase knowledge and familiarity with ASP.NET Core
- Flexibility issues
  - Our client is open to the technologies used to implement this project but this could lead to potentially implementing this project in a technology that they dislike or disagree with
  - We will stay in frequent contact with the client to make them aware of the technology we plan to use



# Team Urban Science

## Status Report

[1 of 4]

### Dealer4U

- Project Overview

- Create Marketplace for Used Vehicle Leads
- Target Both Dealers and Customers
- Customer User Interface & Dealer User Interface
- Backend Data Storage and Processing

- Project Plan Document

- Started a draft of the project plan document.
- The draft is 55% complete
- Completed Executive Summary and Functional Specifications.
- Started Design Requirements, Technical Requirements, and Schedule.



# Team Urban Science

## Status Report

[2 of 4]

### Dealer4U

- Server Systems / Software
  - Claimed server for backend
  - Asked client about preferred server software
  - Tested local server & database for beginning development
- Development Systems / Software
  - Version control via GitLab setup among team
  - Setup lab computers with Windows 10 VM and Visual Studio with .NET and Xamarin tools
  - Ran sample Xamarin, Angular, and .NET apps



# Team Urban Science

## Status Report

[3 of 4]

### Dealer4U

- Client Contact
  - Weekly conference call, every Friday at 10 AM
  - Team site visit to Urban Science in Detroit next week
- Team Meetings
  - Meetings every Thursday, 4:20 PM and after Triage and Conference calls
  - Optional meetings throughout the week
- Team Organization
  - Client Contact, UI Designer
  - Mobile, Web, and Backend programmers



# Team Urban Science

## Status Report

[4 of 4]

### Dealer4U

#### Risks

- Understanding Project Design
  - Incorrect project design due to misinterpreting the project requirements.
  - Keep clear and close client contact and ask questions if needed.
- Server setup
  - No one on the team has experience in setting up a server
  - We plan on asking experts for advice and researching server setup online
- Xamarin location access
  - We don't know how to get user location from mobile using Xamarin
  - We will research Xamarin documentation on location services
- Xamarin maps access
  - We're not sure how to access native maps applications through our app
  - We will research Xamarin documentation about maps access



# Team Volkswagen

## Status Report

[1 of 4]

### Cognitive Enterprise Bot

- Project Overview
  - Develop soft-bot that reduces manual work of business processes
  - Phase 1: Basic Process Automation using the bot
  - Phase 2: Adding cognitive components predicting next click stream in a workflow.
  - Phase 3: Enable soft-bot to read and understand incoming emails.
- Project Plan Document
  - 25% Complete
  - Started: Executive Summary, Functional Specifications, & Risk Analysis
  - To-Do: Design Specifications, Technical Specifications, & Schedule





# Team Volkswagen

## Status Report

[2 of 4]

### Cognitive Enterprise Bot

- Server Systems / Software
  - Windows 10 (standard enterprise OS)
    - Triage meeting today to set up the Virtual Machine
  - iMac set up as ssh servers
  - Registered domain name
- Development Systems / Software
  - Git
  - Python – Development in PyCharm
  - Packages:
    - Tensorflow, keras, numpy, scikit-learn, matplotlib
    - Pyautogui, Pywinauto



# Team Volkswagen

## Status Report

[3 of 4]

### Cognitive Enterprise Bot

- Client Contact
  - Conference calls every Friday, in addition to regular communication via slack.
  - Still discussing dates for an in-person meeting.
- Team Meetings
  - To date, the team has met 5 times
  - At minimum, 1 weekly meeting is scheduled
- Team Organization
  - Client Contact: Fynn Reckhorn
  - Project Manager: Amelia Wilson
  - System Administrator: Zachary McCullough
  - Developer: Kevin Gu
  - Tester: Maryam Irannejadnajafabadi



# Team Volkswagen

## Status Report

[4 of 4]

### Cognitive Enterprise Bot

#### Risks

- Data Delay
  - Client needs to anonymize the data, we will receive it in 1-2 weeks
  - Expressed to the client the timeline and they have provided a business case with a small sample data set.
- Generalizability
  - Bot may perform correctly in test environment but the end goal is general performance in a production environment.
  - Attempt to generate or obtain real-world data for various processes to train the model.
- Computer Vision (CV)
  - Working with click screens but need to understand the screen using CV. No team member has previous experience in computer vision.
  - Researching CV by contacting professors and reading online resources.
- Deployment
  - Unsure if the solution will be easily deployable on various systems.
  - Attempt to deploy it on various frameworks and work closely with the client.

