MICHIGAN STATE
U N I V E R S I T Y

09/16: Team Status Reports

The Capstone Experience

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Fall 2015

From Students…
…to Professionals

Team Amazon

Status Report

Seller Forums Echo Companion

- Project Description
  - Voice Interface for Amazon Seller Forums
  - Using Amazon Echo and Alexa
  - Come up with desired functionality
  - Implement with the desired functionality
- Project Plan Document
  - Began Project Plan
  - 20%
  - Document Started
  - Outlines for each section created

Team Amazon

Status Report

Seller Forums Echo Companion

- Server Systems / Software
    - Amazon Web Services – Functioning accounts
    - AWS Database System – Not up
    - Data parser – Not up
- Development Systems / Software
    - Alexa Skills on Amazon Echo - Added functioning skill
    - Command Queue – Not begun

Team Amazon

Status Report

Seller Forums Echo Companion

- Client Contact
  - John Marx, Amazon in Detroit
  - Weekly Video Meeting - Tuesdays 2:30-3:00
- Team Meetings
  - Triage Meetings - Tuesdays 2:10-2:30
  - Approximately 5 full attendance meetings
- Team Organization
  - Main Client Contact/Project Manager - Marc
  - DBA – Jake, Patrick
  - AWS Expert – Archer
  - Alexa Skills Team – Apoorv, Marc

Team Amazon

Status Report

Seller Forums Echo Companion
Risks

- Seller Forums Database
  - No easy way to pull data from the seller forums
  - Building and populating a database from a seller forums data dump
- Alexa Skill Creation
  - Programming language for the skills and what skills to create
  - Finding Documentation for using each language with Alexa
  - Learn what functions sellers would want
- AWS Tools
  - Lack of knowledge regarding the AWS tools we are given
  - Reading and experimentation
- Testing
  - Won't be able to run full tests due to security reasons
  - Emulate the receiving and delivery of data to the fullest extent we can

Team Auto-Owners

Status Report

HR Recruiting System

- Project Description

  - Develop a system to simplify the application process for both the applicant and the recruiter.

  - Support both desktop and mobile devices.

  - Introduce new ways of communication between the applicant and recruiter.

- Project Plan Document

  - Have not started project plan document

  - Will begin working on it starting Tuesday, September 15th.

Team Auto-Owners

Status Report

HR Recruiting System

- Server Systems / Software

  - Ubuntu server running properly.

  - MySQL has been set up.

- Development Systems / Software

  - Created "Hello World" app with NodeJS and will be utilizing AngularJS and MySQL in the future.

  - The app is running on our mounted server.

Team Auto-Owners

Status Report

HR Recruiting System

- Client Contact
  - Met with client in person the first week, discussed the project proposal and asked initial questions.
  - Set up weekly conference meeting on Wednesdays at 2:30pm.
- Team Meetings
  - Scheduled weekly meetings on Tuesday and Thursday from 6-7pm.
  - Also meeting briefly before or after class to get up to speed.
- Team Organization
  - Program manager: Abigael Onchiri
  - Systems Admin: Jun Gao
  - Client Contact: Gauthier Devolder
  - Tester: Ashwin Jayakumar
  - Developers: everyone

Team Auto-Owners

Status Report

HR Recruiting System

Risks

- Responsive design
  - Challenging to take into account old browsers, different resolutions and support both desktop and mobile devices.
  - Research available examples on the web, consult other developers on where to find useful information.
- Data storage
  - The ability to store multiple types of data in our database such as video, text, word documents, PDF files, etc..
  - Research different options available to us when it comes to storing the data for our application.
- UI/UE
  - Design a user-friendly UI for both the applicant and recruiter, communicate properly with our clients to sketch out a suitable layout.
  - Make sure we have a proper UI/UE design before implementation, research other designs, iterate, testing.
- Reliability
  - Ensure the data is persistent and reduce bugs by thoroughly testing each part of our application
  - Unit testing, having a specific tester, letting our clients test our application and getting feedback for improvements.

Team Ford

Status Report

Connected Vehicle Protocol Test Harness and Evaluation

- Project Description
  - Evaluation of messaging protocols
  - Difficulty associated with implementation
  - Speed/Reliability/Durability
- Project Plan Document
  - Templating plan document
  - Actively filling in sections

Team Ford

Status Report

Connected Vehicle Protocol Test Harness and Evaluation

- Server Systems / Software
  - Windows Server 2012 - installing
  - RabbitMQ - installing
- Development Systems / Software
  - Eclipse - installed
  - MQTT/AMQP
  - RabbitMQ - installed

Team Status Reports

Team Ford

Status Report

Connected Vehicle Protocol Test Harness and Evaluation

- Client Contact
  - Michael Volk
  - Met/Emailed
- Team Meetings
  - Weekly teleconference
  - Met 9/11 at Ford
  - Working on a monthly in person
- Team Organization
  - Weekly meetings
  - Git/Docs

Team Ford

Status Report

Connected Vehicle Protocol Test Harness and Evaluation

Risks

- MQTT
  - Unknown language being used for messaging (TCP)
  - Tutorials to get familiar with languages
- AMQP
  - Unknown language being used for messaging (UDP)
  - Basic tutorials to get familiar with languages
- RabbitMQ
  - Main protocol used by both the client-server relationship
  - Tutorials and documentation
- Discovery Box
  - Main hardware of the project
  - Asking questions as soon as we get them

Team GM

Status Report

Asynchronous Service Desk Callback App

- Project Description

  - Native iOS and Android Mobile App

  - Cut waiting times on phone

  - Request help from Global Service Desk

  - Force utilization of FAQ first

- Project Plan Document

  - We have started it

  - Assigned who is responsible for what

  - ~5% complete

Team GM

Status Report

Asynchronous Service Desk Callback App

- Server Systems / Software

  - Windows Server 2012 with Hyper – V

  - Ubuntu 14.04.3 VM with Apache, MySQL, and php/perl (LAMP stack) Also has phpMyAdmin utility

  - Microsoft Exchange Server 2010 VM – Not installed

- Development Systems / Software

  - Installed Xcode version 6.4

  - Installed Android Studio version 1.3

  - Installed PhpStorm 8.0.3

Team GM

Status Report

Asynchronous Service Desk Callback App

- Client Contact
  - Have had one conference call (9/8) and set up weekly Thursday calls from 9:00am-10:00am
  - Scheduled visit/tour for 11/20 at 9:00am

- Team Meetings
  - Have met 4 times and plan to meet Mon-Thurs 5:00pm-8:00pm or more if necessary

- Team Organization
  - Team iOS
  - Team Android

Asynchronous Service Desk Callback App

Risks

- Client application to Database communication
  - If we set up DB connections and they are not easily integrated into GM's systems, our apps are useless to them
  - Generalize and document as much as possible for a smooth integration
- Code Consistency
  - Multiple people working on one project can lead to inconsistent code
  - Utilize code sourcing tools like GitHub or SourceTree to ensure consistency and keep regular backups
- Microsoft Exchange Integration
  - GM wants our apps to integrate with their clients' schedules. The APIs are complex and this feature could lead to a time drain.
  - By working ahead, we aim to maximize the time available to complete the feature. Due to where it fits in the workflow, this feature will be added towards the end.
- FAQ Integration
  - GM wants our apps to support integration with their knowledge database
  - Since we do not have access to their knowledge database, we have to create as general of a solution as possible so that future integration with their services will be possible.

Team Meijer

Status Report

In-Store Price Compare

- Project Description
    - Mobile application to be used in-store (iOS to start)
    - Scan items to compare prices with 3rd party stores
    - Keep track of items scanned in a database to be analyzed
    - Possibly offer customers coupons based on price difference
- Project Plan Document
    - Assigned parts of document to be worked on
    - Drafted mockups
    - Rough timeline completed

Team Meijer

Status Report

In-Store Price Compare

- Server Systems / Software
  - SQL Server 2012
    - Installed, working on setting up
  - Possibly Microsoft Azure
    - Ubuntu running on half server for azure
- Development Systems / Software
  - Xcode to develop iOS app
    - Downloaded Xcode
  - If time, Android Studio for Android app
  - Possibly Xamarin

In-Store Price Compare

- Client Contact
  - Weekly Conference Calls: Thursdays 4:10 – 5:10 PM
  - No in-person meeting scheduled
- Team Meetings
  - Met 3 times
  - Scheduled team meetings: Wednesdays 4:00 – 5:20 PM
  - Meeting with TA: Wednesdays 5:20 – 5:40 PM
- Team Organization
  - Point of Contact: Brian Wyss
  - Sys Admin: Brandon Bielicki
  - Developers: Anthony Laurain, Spencer Ottarson, Zandra Russell

Team Meijer

Status Report

In-Store Price Compare

Risks

- iOS Development
  - None of the team has had experience with iOS Development
  - Start becoming familiar with Xcode
- Connect app to database
  - Figuring out how to send data from the app to the server
  - Test sending simple data to the server
- Comparing prices with third party stores
  - No idea on how to gather data from third party stores to compare
  - Research ideas, maybe consult with Meijer
- Meijer changing requirements
  - Unclear requirements from Meijer
  - Project plan with detailed requirements and sticking to it

Team MSUFCU

Status Report

Virtual Dollar Dog Store

- Project Description
  - Virtual Store that expands existing system
  - Teach children about banking
  - Web admin platform
  - Web, Android, IOS user platforms
- Project Plan Document
  - Functional Specifications complete
  - Design Specifications: UI mockups done, consistent across all platforms
  - Technical Specifications: Received schema from client
  - 35% complete overall

Team MSUFCU

Status Report

Virtual Dollar Dog Store

- Server Systems / Software
  - Windows Server 2012/ Installed
  - MySQL Database/ Task Assigned
- Development Systems / Software
  - Android Studio/ Comfortable
  - Xcode and Swift/ Gaining Familiarity
  - HTML CSS PHP /Comfortable

Team MSUFCU

Status Report

Virtual Dollar Dog Store

- Client Contact
  - In-person meeting happened once, scheduled every Th 4:30
  - Consistent email contact, sent UI mockups
- Team Meetings
  - Met 5 times so far
  - Scheduled twice a week and additional as necessary
- Team Organization
  - Android developers, IOS developers, Web frontend, backend
  - Client Contact

Team MSUFCU

Status Report

Virtual Dollar Dog Store

Risks

- Risk 1: Technology
    - Description: Several issues setting up technology
    - Mitigation: Frequent contact with Angie
- Risk 2: Integrating with Existing Software
    - Description: Unclear because can't receive access to user accounts
    - Mitigation: Consistent contact with client for all info possible
- Risk 3: Consistency across platforms
    - Description: Three different platforms and separate developers
    - Mitigation: Frequent communication and assisting each other, good design
- Risk 4: Usability
    - Description: Target audience is wide and tailored to kids
    - Mitigation: Several UI reviews with client

Team Quicken Loans

Status Report

Enterprise Architecture Roadmap

- Project Description
  - Visual representation of project roadmap
  - Includes what, why, and dependencies
  - Administrative mode for inputing data
  - Presentation mode for showing executive leaders
- Project Plan Document
  - Skeleton plan is made
  - Mock ups are very close to being done
  - ~15% complete

Team Quicken Loans

Status Report (2 of 4)

Enterprise Architecture Roadmap

- Server Systems / Software
  - Microsoft SQL Server 2012 Installed
  - PHPStorm – Installed
  - PHPMyAdmin - Installed
- Development Systems / Software
  - Windows 10 - Installed
  - PHPStorm - Installed
  - GitHub – Repository Established

Team Quicken Loans

Status Report

Enterprise Architecture Roadmap

- Client Contact
  - Made in person contact at Quicken Loans headquarters
  - Weekly conference calls on Wednesday 2-3 pm

- Team Meetings
  - Met 6 times since last week
  - Two scheduled full team meetings on Sunday and Tuesday

- Team Organization
  - Ben, Chase, and Eric will work on front end and UI design
  - Emily and Brian will work on back end

Status Report

Enterprise Architecture Roadmap
Risks

- User Friendliness of Editing and Presentation
  - There can be a lot of information to present and the construction and presentation of the data can become cluttered
  - Give the user to the ability to control the information that is brought to the front

- Open Ended
  - Lots of ways to interpret the problem
  - Constant contact with our client showing mock ups/ prototypes

- Little Web Development Experience
  - After design is chosen, we still have to implement in code
  - Utilize online resources and help from others(faculty, etc)

Team Spectrum Health

Status Report (1 of 4)

Patient Service Delivery Planning
- Project Description
  - Responsive Web Application
    - Patient
      - ❖ Ensuring efficient care by providing shortest estimated treatment times
    - Spectrum Staff
      - ❖ Providing optimal care by predicting staffing needs amongst facilities
- Project Plan Document
  - Approximately 40% complete
  - Designing system architecture, frameworks, and libraries
  - Created several mock interfaces to be reviewed by the client
  - Consulted a statistician about optimal analytical methods

Team Spectrum Health

Status Report

Patient Service Delivery Planning

- Server Systems / Software
  - MongoDB (Database) - Have not started
  - Math.NET Numerics (Statistics Caculation) - Researching
  - IIS (Server) - Have not started
- Development Systems / Software
  - .NET/C# (Backend) - Have not started
  - Angular.js (Frontend) - Learning
  - D3.js (for data visualization) - Have not started
  - GitHub/TravisCI (Code collaboration) - Created Repos & CLI Complete
  - Slack/Trello (Communication) - Already in use

Team Spectrum Health

Status Report

Patient Service Delivery Planning

- Client Contact
  - Have been to Grand Rapids to meet the client and other Spectrum Health Staff
  - Weekly conference call is to be determined due to client contact be away this week
- Team Meetings
  - Triage Meetings (Wednesdays 2:30pm~2:50pm)
  - Team Meetings & Coding Sessions (Every Friday/Sunday)
- Team Organization
  - Angular.js (Frontend) - Josh & Justin & Chas (full stack)
  - .Net (Backend) - Luke & James & Chas (full stack)

Status Report

Patient Service Delivery Planning

- Risks
  - Risk 1
    - o Determining what actually affects people going to urgent care
      - ➢ Interviewing urgent care staff, studying past data
  - Risk 2
    - o Mathematically predicting number of patients expected per site
      - ➢ Use "regression model" method to set up a model that predicts over different variables
  - Risk 3
    - o Choosing the right technologies to integrate with Spectrum Health's systems
      - ➢ Consulting with the SH Enterprise Architect
      - ➢ Considering new technologies in place of SH legacy technology
  - Risk 4
    - o Easily accessible and usable user interface
      - ➢ Contacting SH designer about A-B testing and mockups
      - ➢ Simplicity for the sake of emergency

Team Symantec
Status Report

Integrated Silent Dynamic Authentication through Symantec VIP

- Project Description
  - Combine the convenience of Single Sign On (SSO) with the enhanced security of Two Factor Authentication (2FA)
  - Utilize Symantec VIP SDK
  - Eliminate the need for entering 2FA credentials manually
  - Allow seamless cross-application login (i.e., login on mobile app, be automatically authenticated on Chrome)
- Project Plan Document
  - Rough draft complete
  - Under assembly and review
  - 12 pages written
  - 80% complete

Team Symantec

Status Report

Integrated Silent Dynamic Authentication through Symantec VIP

- Server Systems / Software
  - Application server installed & running
  - Database configured
  - All systems tested and working
- Development Systems / Software
  - Android Studio, Xcode, and NetBeans downloaded and configured
  - Android and iOS SDK's downloaded and installed
  - Skeleton app created for iOS and Android

Team Symantec

Status Report

Integrated Silent Dynamic Authentication through Symantec VIP

- Client Contact
  - Held two conference calls with client and exchanged emails
  - Scheduled weekly conference call for Tuesdays at 4:30 P.M EST
- Team Meetings
  - Team has met in the lab several times
  - Team is collaborating continually via Slack
  - Scheduled weekly team meetings for Wednesdays at 4:00 PM
- Team Organization
  - Dan and Scott - Android development crew
  - Tyler and Chris - iOS development crew
  - James – Web Application Server

Team Symantec

Status Report

Integrated Silent Dynamic Authentication through Symantec VIP
Risks

- Integrating Symantec VIP SDK into our Application
  - Complications may arise during the integration of Symantec's SDK
  - Refer to provided documentation and request assistance from client
- API Documentation References Older Development Software
  - Provided documentation was written for Eclipse and may not be compatible
  - Workarounds may need to be found or development software changed
- Securely pass authenticated session from one application to another
  - Mobile application will be used to authenticate additional application
  - Researching different libraries to transfer session
- Inability to integrate biometric authentication into application
  - Client specified a stretch goal of using biometric authentication
  - Project specifications may have to be adjusted

Team TechSmith

Status Report

Intelligent Real World Text Recognition

- Project Description
  - A real-time Optical Character Recognition app
  - Performs appropriate actions based on text
  - Universal Windows 10 Application
  - Windows 10, Windows Phone, Windows tablet, Raspberry Pi
- Project Plan Document
  - Divided the document into sections for each team member
  - Created some early design mockups
  - Full team meeting to look at project plan and discuss specifics

Team TechSmith

Status Report

Intelligent Real World Text Recognition

- Server Systems / Software
  - Microsoft Azure accounts established
  - Nothing has yet been deployed
  - Sever integration will be implemented later in the project
- Development Systems / Software
  - Visual Studio installed on all machines
  - OCR engine deployed to an app
  - Connected to TechSmith repository (GitHub)

Team TechSmith

Status Report

Intelligent Real World Text Recognition

- Client Contact
  - Met on location once (9/8/2015)
  - Scheduled weekly conference calls (Thursdays @ 3:30 PM)
- Team Meetings
  - Mondays and Wednesdays after class (4:00 PM)
  - 4 meetings to this point, notes recorded from each
- Team Organization
  - Jordyn- Client Contact/Accessibility, Whitney- UI Design
  - Deb- OCR Manager, Cody and Max- Windows 10 Specialists

Intelligent Real World Text Recognition

Risks

- Risk 1
  - Windows 10 is a new development environment (prone to bugs)
  - Looking up documentation and researching discovered workarounds
- Risk 2
  - Using potentially inaccessible tools
  - Find tools that are not inaccessible, app regularly checked for accessibility standards
- Risk 3
  - No one has experience with Raspberry Pi
  - Learn the software and hardware before the project reaches that stage
- Risk 4
  - Sever-side Azure integration is not something we are familiar with
  - Looking up documentation and asking TechSmith when necessary

Team Urban Science

Status Report

Who Buys My Vehicles? Visualizing Brand Loyalty

- Visualize brand loyalty for OEM Loyalty Managers through tablet applications
  - Visualize loyalty/conquest/defector data in a meaningful way
  - Show KPIs for specific geographic region
  - Provide a cross-platform app for both Android and iOS
  - Send intelligent alerts
- Project Plan Document
  - Document started
  - Sections assigned to individuals
  - Drafted project requirements
  - Roughly 25% Completed

Team Urban Science

Status Report

Who Buys My Vehicles? Visualizing Brand Loyalty

- Server Systems / Software
  - Server hosted by Urban Science
  - Able to connect remotely through Remote Desktop
  - Microsoft SQL Server 2012
- Development Systems / Software
  - Using Ionic framework to develop for Android/iOS devices
  - GIT version control
  - Successfully built test application

Team Urban Science

Status Report

Who Buys My Vehicles? Visualizing Brand Loyalty

- Client Contact
  - Met in-person on 9/11
  - Conference calls every Wednesday
- Team Meetings
  - Met multiple times as a team
  - Weekly meetings after class
- Team Organization
  - Front-End: Jeff, Meghan, and Richard
  - Back-End: Asha and Nick

Team Urban Science

Status Report

Who Buys My Vehicles? Visualizing Brand Loyalty

Risks

- Accessing Server Data
  - Need to be able to query the server and extract the data
  - Work with Urban Science since we'll be using their server
- Using Inappropriate Technologies
  - Many different tools exist for mobile development. We must choose between a cross platform option or using native apps
  - Research, rapid prototype, and consult with Urban Science
- Visualizing Data
  - Misrepresenting data to the user or failing to display it at all
  - Check-ins with Urban Science to confirm the data is not being misrepresented to end users
- Time Management
  - Underestimate the time required to complete tasks and reach project goals
  - Weekly standups and team milestones

Team Whirlpool

Status Report

Whirlpool Indoor Maps

- Project Description
  - Indoor Mapping of Whirlpool Facilities using Micello
  - Individual Room Details in Real Time
  - Integrated Google Calendars, Authentication, & Maps
  - Real-time Navigation
- Project Plan Document
  - 35% Completion
  - Overall Timeline
  - Wireframe Mockups Started
  - Started Use-Cases

Team Whirlpool

Status Report

Whirlpool Indoor Maps

- Server Systems / Software
  - Window Server 2008 (Up and running)
  - PHP and MySql (Up and running)
  - JavaScript & Android SDK
- Development Systems / Software
  - xCode & Swift (Up and running)
  - Android & Java (Up and running)
  - Git (Up and running)

Team Whirlpool

Status Report

Whirlpool Indoor Maps

- Client Contact
  - Scheduled Weekly Meeting (Tuesdays)
  - Established Main Contract with Joshua
- Team Meetings
  - Met Four Times so far
  - Weekly Meetings: Monday, Tuesday, Wednesday
- Team Organization
  - Two on iOS
  - Three on Android

Team Whirlpool

Status Report

Whirlpool Indoor Maps
Risks
- Risk 1
  - Geo-location within building.
  - Use WIFI or use IndoorAtlas API
- Risk 2
  - Implementing Micello API and SDK
  - Use a web page to render the indoor maps provided by Micello
- Risk 3
  - Licensing using Micello API and turn by turn navigation
  - probably consider this feature as an enhancement
- Risk 4
  - Google map integration with Micello
  - Use a web page to render Micello data with slow response time