09/11: Team Status Reports

The Capstone Experience

Dr. Wayne Dyksen
Department of Computer Science and Engineering
Michigan State University
Fall 2013
Team Auto-Owners

Status Report

Catastrophe Insurance Adjuster App

• Project Description
  ▪ Manage independent insurance adjusters
  ▪ Handle claims resulting from catastrophes
  ▪ Provide remote support at sites of catastrophe

• Project Plan Document
  ▪ Eleven pages written
  ▪ Approximately one-third done
Team Auto-Owners

Status Report

Catastrophe Insurance Adjuster App

• Server Systems / Software
  ▪ Linux Server (Ubuntu)
  ▪ Apache HTTP server
    ▪ Our server is up and running
  ▪ MySQL database
  ▪ CodeIgniter framework (PHP)

• Development Systems / Software
  ▪ HTML5
  ▪ CSS3
  ▪ JavaScript/jQuery
Team Auto-Owners

Status Report

Catastrophe Insurance Adjuster App

• Client Contact
  ▪ In-person meeting
  ▪ Weekly client meeting call scheduled (Wed. 4-5 P.M.)

• Team Meetings
  ▪ Weekly meeting (Tue. 6:30-7:30 P.M.)
  ▪ Triage meeting (Fri. 4-5 P.M.)

• Team Organization
  ▪ Client liaison: Renee
  ▪ No team leader
Catastrophe Insurance Adjuster App

Risks

- Supporting multiple platforms
  - Supporting different resolutions, browsers, and devices
- Testing, considering more general UI design prior to implementations
- Integrating with other APIs
  - Google Maps API, which potentially needs some tweaking to work with our project
- Effectiveness issues with limited resources
- Battery life and data access limit (25,000 calls per day for Google Maps)
Continuous Improvement of Boeing Assembly Lines

• Project Description
  ▪ Simulate Aircraft Assembly Line
  ▪ Teams of Humans and Robots
  ▪ Optimize Assembly Line Layout, Efficiency and Safety

• Project Plan Document
  ▪ The current status of our Project Plan Document is “Work in Progress”
  ▪ We have started working on the document.
  ▪ We have a skeleton written.
  ▪ It is currently 5% complete
Team Boeing

Status Report

Continuous Improvement of Boeing Assembly Lines

• Server Systems / Software
  ▪ We’ve installed Windows Server 2008, and are currently in the process of installing software to it
  ▪ We have decided to use Git as our source control
  ▪ Visual Studio Team Foundation Server

• Development Systems / Software
  ▪ Unity is downloaded, Sean is proficient, the rest of us are learning
  ▪ Blender is downloaded
  ▪ Microsoft Visual Studio 2012 is downloaded
Continuous Improvement of Boeing Assembly Lines

• Client Contact
  ▪ We made first contact with our client on Thursday, September 5, at 5:30pm
  ▪ We have a weekly client meeting on Thursdays at 5:30pm

• Team Meetings
  ▪ Our team has met seven times
  ▪ Our team meetings are on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays at 5:30pm, and Sundays at 1:00pm, and Away Football Game Saturdays at 1:00pm
  ▪ Our triage meetings are on Tuesdays at 5:10pm

• Team Organization
  ▪ Sean is our Client Contact and Project Design Lead
  ▪ Ross is our Keeper of the Time
  ▪ Dave is our Test Lead and 2D Design Lead
  ▪ Kyle is our Daily Build Enforcer and 3D Design Lead
Continuous Improvement of Boeing Assembly Lines

• Risks
  • Purchasing of Unity License
    ▪ We will require access to Unity Pro, which will require the purchase of a license after 30 days.
    ▪ $129 license available through http://www.studica.com/unity
  • Familiarity with the concept of Inverse Kinematics
    ▪ Wikipedia: Inverse kinematics refers to the use of the kinematics equations of a robot to determine the joint parameters that provide a desired position of the end-effector.
    ▪ Become more familiar with the concept of inverse kinematics.
• Knowing which metrics to measure
  ▪ There are hundreds, possibly even thousands of factors that go into measuring safety and efficiency on an assembly line
  ▪ Speak with Jayson, and decipher which metrics are the most relevant, and which aren’t
• GUI for Unity
  ▪ We are trying to use Unity, a game developing tool, to create a useful simulation “game”, however limitations with unity’s built-in UI functionality will force alternate approaches to be considered.
  ▪ Figure out if it’s possible, and if it’s not, change our approach
Augmented Reality Mobile App Guide

• Project Description
  ▪ iPhone App
  ▪ Point phone at car to display make and model
  ▪ Displays price, options, nearest dealer
  ▪ Social sharing and posting of findings

• Project Plan Document
  ▪ Rough Outline
  ▪ Executive Summary
  ▪ Core Functionality
  ▪ Testing
Augmented Reality Mobile App Guide

- Server Systems / Software
  - Potentially using GM API for vehicle information

- Development Systems / Software
  - Using Metaio for Tracking - Tested Working
  - Xcode
  - iOS 6
Team GM

Status Report

Augmented Reality Mobile App Guide

• Client Contact- Keith Fry
  ▪ Weekly Conference Call 1pm Friday
  ▪ On Site Visit Friday 9/13

• Team Meetings
  ▪ Triage Monday 4:40 pm
  ▪ Weekly Status Meeting Afterwards

• Team Organization
  ▪ Client Contact- Jon, Program Manager - Madalyn
  ▪ All Developers
Augmented Reality Mobile App Guide

Risks

- Car Identification
  - Identify cars with just a picture
  - We are using scaled model cars to photograph cars in a controlled environment
- Proper Technology
  - We need specialized software to process image recognition
  - We are working with GM and MSU to get the necessary licensing
- App Development
  - The team all has minimal experience with mobile app development, but not extensive experience
  - Our team is spending extra time in the lab reading tutorials and learning Xcode
- GM API
  - The current support is unknown for vehicle information retrieval
  - Information may initially be hard coded until support is available
IT Consultant Toolkit

• Project Description
  ▪ IT Consulting Tool
  ▪ Gathering clients current and expected business practices
  ▪ Synthesizing client information to highlight potential gaps and issues in their future goals
  ▪ Allows clients to better incorporate IT into their business model

• Project Plan Document
  ▪ Our project plan document is at the starting point
  ▪ Skeleton of main Areas needed to be addressed
  ▪ Most of the material is there to be put in
  ▪ Just need to organize it
  ▪ Roughly 10% completed
Team IBM

Status Report

IT Consultant Toolkit

- Server Systems / Software
  - DB2 – Express C database kit
  - Web Server on IBM side?

- Development Systems / Software
  - Microsoft Visual Studio 2010 with the .NET 4.0 framework
  - SQL for database queries
  - Visual C# for GUI interactions and front end calculations
  - Potentially PHP and HTML for web pages
  - Microsoft Excel for generating spreadsheets, if web server isn’t an option
Team IBM

Status Report

IT Consultant Toolkit

• Client Contact
  ▪ Met 3 times in person, with 3 conference calls with many different representatives
  ▪ Very convenient since our main contact, Louise, lives in Owosso
  ▪ Monday at 6 is the weekly conference call

• Team Meetings
  ▪ Met 6 times already
  ▪ At least 3 times a week
  ▪ Weekly work times on Fridays
IT Consultant Toolkit

• Risks

• DB2
  ▪ DB2 is the one of IBM’s servers for the back-end data collection, which needs to interact with Visual Studio
  ▪ Alex has been working with setting it up, and has it working successfully on localhost
  ▪ Very likely this risk will be gone soon

• IBM web server
  ▪ Only able to use free software, which requires no licensing
  ▪ Security issues with creating a web server to access client data
  ▪ Will be mitigating by just integrating their current Powerpoint/email system into our project
Team Meijer

Status Report

Chief Information Officer Dashboard

• Project Description
  ▪ Web page to inform CIO of company’s status
  ▪ Simple graphical representation
  ▪ Options for more detailed financial reports
  ▪ Desktop and mobile friendly

• Project Plan Document
  ▪ Document is skeletonized
  ▪ Sections assigned
  ▪ Progress on presentation
Team Meijer

Status Report

Chief Information Officer Dashboard

• Server Systems / Software
  ▪ Server running & up to date
  ▪ SQL Server running
  ▪ Sharepoint, SVN server installed

• Development Systems / Software
  ▪ Virtual machine installed & updated (159 updates?!)  
  ▪ Lab and personal computers set up for IDE and Office
  ▪ Starting first prototype
Team Meijer

Status Report

Chief Information Officer Dashboard

• Client Contact
  ▪ Bi-weekly conference call, status report
  ▪ Regular email contact

• Team Meetings
  ▪ Meet ~daily after class
  ▪ Schedule additional meetings as needed

• Team Organization
  ▪ Determined point of contact, server monkey
  ▪ Design tasks assigned as they come up
Chief Information Officer Dashboard

Risks

• Some lack of experience with ASP.NET
  ▪ Two members have some experience, two have none
  ▪ Will work together early to answer questions, access resources

• No experience maintaining Windows servers
  ▪ More complicated permissions, security
  ▪ Must thoroughly read resources, be cautious with security

• Lack of business logic and SSRS experience
  ▪ Unfamiliar with some financial terms, concepts
  ▪ Need to discuss requirements in detail with client

• Corporate data unavailable
  ▪ Can’t access Meijer databases, uncertainty of correct output data
  ▪ Generate sample data, specify desired data models, confirm with client
Team Mozilla

Status Report

Australis-Styled Widgets for Mozilla Firefox

• Project Description
  ▪ 3 Widgets for new Firefox UI
  ▪ Weather
  ▪ Bugzilla
  ▪ Music Player

• Project Plan Document
  ▪ 20 % done
    ▪ Outline, summary, overview, mockups, schedule, test plan
Team Mozilla

Status Report

Australis-Styled Widgets for Mozilla Firefox

• Server Systems / Software
  ▪ Ubuntu Server 12.04 LTS LAMP Stack
  ▪ Bugzilla
  ▪ Github repository and local mirror

• Development Systems / Software
  ▪ Windows VM with Microsoft Office
  ▪ Firefox UI branch nightly build and download script
  ▪ IRC clients and bots on Mozilla’s server
Team Mozilla

Status Report

Australis-Styled Widgets for Mozilla Firefox

• Client Contact
  ▪ 1 In-Person/Teleconference Meeting (8/30/2013)
  ▪ Tentative weekly meetings Fridays at 4:20pm

• Team Meetings
  ▪ 4 full meetings, 4 partial meetings
  ▪ Weekly full meetings on Friday and Sunday afternoon

• Team Organization
  ▪ Dan: Client Liason, Lead Developer; Dave: Writer, Developer;
    Eric P.: P. M., UI/ UX; Eric S.: Admin, Test Developer
  ▪ Establishing ownership of modules
Australis-Styled Widgets for Mozilla Firefox

Risks

- **Australis-Styled Widgets**
  - No documentation for creating extensions which use new UI
  - Work with client to develop a working understanding of new APIs
- **Scope Definition**
  - Widget functionality is undefined, may be a fourth widget
  - Client contact, frequent mockups
- **Third Party API Integration**
  - Must select and use third-party APIs
  - Interfaces for multiple APIs, cache and degrade, continuous integration
- **External Tooling Outages**
  - External tools such as Github or Mozilla’s Bugzilla instance may go down
  - Host repository mirror and Bugzilla instance on development server
Team MSUFCU

Status Report

In-School Banking Program

• Project Description
  ▪ Micro branch in elementary and middle schools
  ▪ iPad app serves as “Piggy Bank of the Future”
  ▪ Run by parent volunteers
  ▪ Creates summary for both students and local MSUFCU branch

• Project Plan Document
  ▪ Completed outline
  ▪ Tasks assigned to members
  ▪ Completed executive summary
  ▪ Completed functional specification
In-School Banking Program

- **Server Systems / Software**
  - Github – Accounts created, testing successful
  - MySQL database – not set up (joint responsibility)
  - SSL Authentication – being researched
- **Development Systems / Software**
  - Apple Enterprise Developer Membership – Provided by MSUFCU, not delivered/set up
  - Xcode – Project created, pushed to Github
Team MSUFCU

Status Report

In-School Banking Program

• Client Contact
  ▪ Initial meeting: 9/4/2013
  ▪ Weekly call/In person meetings: being discussed with client

• Team Meetings
  ▪ Team meets 2-3 times per week
  ▪ Scheduled for Mon/Wed after class, Sunday

• Team Organization
  ▪ Client Contact/PM: Phil Getzen
  ▪ iOS Leads: Adam Proschek, Phil Getzen
  ▪ Server/Web Leads: Mairin Chesney, Allen Koppman
In-School Banking Program

Risks

• Security
  ▪ Banking data and transactions need to be secure.
  ▪ SSL encryption when authenticating users.

• Integration with MSUFCU systems
  ▪ May be difficult to integrate with necessary database and web app.
  ▪ Work closely with MSUFCU to ensure compatibility.

• Usability & Scope
  ▪ Usability for our target audience is a very high priority and feature creep is a possible problem for the application.
  ▪ A detailed functional spec and extensive usability testing.
Team Quicken Loans

Status Report

Survey and Voting Web Apps

- Project Description
  - Internally administered website
  - Voting and surveys
  - Reporting of results
  - Analytics of completed surveys/votes

- Project Plan Document
  - Executive summary completed
  - System architecture completed
  - Schedule completed
  - Initial Mock-ups completed
Team Quicken Loans

Status Report

Survey and Voting Web Apps

- Server Systems / Software
  - Active Directory
  - SQL Server 2008
  - Team Foundation Server

- Development Systems / Software
  - Visual Studio 2012
  - Internet Information Services
  - .NET Framework
Team Quicken Loans

Status Report

Survey and Voting Web Apps

• Client Contact
  ▪ 1:00 PM Wednesday
  ▪ Email follow-up and in-person TBD

• Team Meetings
  ▪ Team meetings M/W/Sun
  ▪ Met 5-7 times

• Team Organization
  ▪ Client contact - Jake
  ▪ Manager – Kate
  ▪ Lead Programmer – Mike
  ▪ Server Admin - Clif
Team Quicken Loans

Status Report

Survey and Voting Web Apps

Risks

• Active Directory
  ▪ Getting set-up to properly mock Quicken Loans network – Can connect to server domain
• Quicken Loans API Integration
  ▪ Integrate Quicken Loans software for data access and authentication
  ▪ Early start and open communication with client
• Data Storage
  ▪ Determine appropriate storage schema for required data
  ▪ Get client requirements and design around technology limitations
• Website Usability
  ▪ Usable between desktop and mobile devices – bootstrap/JQuery mobile
• Geo-location
  ▪ Need the ability to integrate client location into surveys and voting
  ▪ Determine client expectations and research technologies
Team Spectrum Health

Status Report

Talent Connection

• Project Description
  ▪ A mobile HR website
  ▪ Easily search and apply for jobs via smart phones or tablets
  ▪ Responsive design, one code-base for both phones and tablets
  ▪ Speed application process for internal applicants
  ▪ Integrate with LinkedIn and other 3rd parties (Dropbox, Box, etc.)
  ▪ Use secure SOAP service for back-end data connections

• Project Plan Document
  ▪ Started
  ▪ Technical and Functionality sections completed
  ▪ Design section still very rough
  ▪ Approximately 50% done
Team Spectrum Health
Status Report

Talent Connection

• Server Systems / Software
  ▪ Capstone server running with test IIS website working
  ▪ Need to connect to Client’s Enterprise Web Service (EWS)
    o Involves VPN and Certificates for secure connection
    o May need help from Client to set up

• Development Systems / Software
  ▪ Able to deploy test website via Visual Studio to our server
  ▪ Private GitHub repository created
  ▪ Git Extensions installed and correctly connecting to GitHub repository
Team Spectrum Health

Status Report

Talent Connection

• Client Contact
  ▪ Weekly phone calls scheduled for Tuesdays at 3:00pm
  ▪ In-person meetings
    ○ Business requirements meeting occurred on Tuesday, Sep 10th
    ○ Design session meeting scheduled for Tuesday, Sep 17th

• Team Meetings
  ▪ Triage meetings scheduled for Tuesdays at 4:10pm
  ▪ Team meeting before call on Tuesday at 2:30pm
  ▪ Team has met 6 times

• Team Organization
  ▪ Nathan Langolf – Developer, Client Contact
  ▪ Hayden Boroski – Developer, Program Manager & Systems Administrator
  ▪ Chris Cheaney – Developer, Tester
  ▪ Max Sweet – Developer, Tester & Team Motivator
Team Spectrum Health

Status Report

Risks (In order from High to Low Importance)

• Security Integrations
  ▪ Setup VPN connection and install Security Certificates to ingest WSDL for proper SOAP integration
  ▪ Mike Ply is willing to come to Lansing to help us with this if needed

• Access to Resources
  ▪ Ability to get in contact with people from Spectrum Health
  ▪ Rely on our Project Manager (at Priority Health) to handle this

• Uploading Resumes / 3rd Party Integrations
  ▪ Allowing a mobile user to include a resume (PDF, Word, etc.) with their job application
  ▪ Have user type out resume information or rely on LinkedIn info

• Data Layer / EWS
  ▪ The SOAP integration to their HR system is being developed in tandem with our mobile website
  ▪ Spectrum will set up stubs with fake data if needed
Team TechSmith

Status Report

Learning Activity Capture

• Project Description
  ▪ Observe User Activity
  ▪ Determine Learning Activities
  ▪ Save and Store Learning Information
  ▪ Retrieve and Present Activities Back To User

• Project Plan Document
  ▪ Setup on Google Drive
  ▪ Functional Specifications Complete
  ▪ Design Outlined
  ▪ 40% Complete
Team TechSmith

Status Report

Learning Activity Capture

• Server Systems / Software
  ▪ Ubuntu Server
  ▪ ADL Learning Record Store
  ▪ Tin Can API

• Development Systems / Software
  ▪ .NET Desktop App
  ▪ Chrome Plugin
  ▪ TechSmith Media Player
Learning Activity Capture

- Client Contact
  - One Conference Call & One In-Person Meeting
  - Scheduled Weekly Conference Call and/or Meeting (Fridays)

- Team Meetings
  - Tuesday, Thursday, & Friday Afternoons
  - Met Six Times as a Full Team Thus Far

- Team Organization
  - Michael: Client Contact
  - David: Project Management
  - Development & Testing Will Be Handled By Everyone
Team TechSmith

Status Report

Learning Activity Capture

Risks

• Risk 1
  ▪ Unfamiliar Technology (ie. Learning Record Store)
  ▪ Find Existing Documentation/Samples

• Risk 2
  ▪ Securely Sending Information To And From Server
  ▪ Find Well-Documented Examples (ie. Watershed)

• Risk 3
  ▪ TechSmith Media Player
  ▪ Connectivity to Google Analytics As Basis

• Risk 4
  ▪ Scope of Learning Activities
  ▪ Start Narrow, Broaden Scope As Project Expands
Team Urban Science

Status Report

Dealership Consultant Mobile App

• Project Description
  ▪ Support Urban Science Consultants
    o Before, During, and After Meetings with Dealerships
  ▪ Optimize Consultant Reactions with Dealers
    o Propose Specific Action Plans
    o Record Dealer Reactions to Proposals
    o Rate General Atmosphere of the Meeting
  ▪ Record Dealership Metrics
    o See Effectiveness of Past Action Plans
    o Follow Progress on Current Action Plan
    o Track Key Performance Indicator (KPI) Improvement

• Project Plan Document
  ▪ Project Plan Document started, 20% Complete
Team Urban Science

Status Report

Dealership Consultant Mobile Apps

• Server Systems / Software
  ▪ Server is up and running
  ▪ Need to integrate their database with ours
  ▪ Implement web requests to access data

• Development Systems / Software
  ▪ XCode, Eclipse
  ▪ Ramping up on iOS development
  ▪ Investigating Android development
Team Urban Science

Status Report

Dealership Consultant Mobile Apps

• Client Contact
  ▪ First Skype Meeting with Urban Science Contacts on 9/3/2013
  ▪ On-Site Meeting on 9/6/2013
  ▪ Scheduled Weekly Skype Meetings

• Team Meetings
  ▪ Team Has Met in Capstone Lab Multiple Times
  ▪ Weekly Team Meeting Scheduled

• Team Organization
  ▪ Ryan Tempas - iOS
  ▪ Eric Zipple - iOS
  ▪ Zach Kuzmanic – Android, Client Liaison
  ▪ Matt Ao – Server Implementation, Android
Team Urban Science

Status Report

Dealership Consultant Mobile Apps

Risks

• Risk 1
  ▪ Fully completing apps on two separate platforms
  ▪ Staggering development of Android and focusing on iOS first

• Risk 2
  ▪ Backend implementation – User login and data
  ▪ Incorporate a login, research other mobile backend solutions

• Risk 3
  ▪ Unsolidified requirements, which could result in changes
  ▪ Get specs approved on a weekly basis
Team Whirlpool

Status Report

Connected Appliance SmartZones

• Project Description
  ▪ Mobile Application
  ▪ Appliance Control
  ▪ Geolocation
  ▪ User Alerts

• Project Plan Document
  ▪ Project Plan Started
  ▪ Major Details Present
Team Whirlpool

Status Report

Connected Appliance SmartZones

• Server Systems / Software
  ▪ Whirlpool Connected Appliance API
    o Still learning to connect and interact with Fridge API
    o Issues with WiFi detection/connectivity

• Development Systems / Software
  ▪ Mobile IDEs
    o Installed Eclipse on VM
    o Basic application running
    o iOS Account and Xcode running
Team Whirlpool

Status Report

Connected Appliance SmartZones

• Client Contact
  ▪ Weekly Conference Calls
  ▪ In-person Meeting Today

• Team Meetings
  ▪ Meet Weekly (Tue 4:30 / Thur 4:30 / Weekends)

• Team Organization
  ▪ Google Calendar
  ▪ Google Docs
  ▪ GroupMe SMS
  ▪ Gmail
  ▪ Skype
Team Whirlpool

Status Report

Connected Appliance SmartZones

Risks

• Appliance API
  ▪ Is it easy enough for us to be able to work with.
  ▪ Communicate with Whirlpool about the documentation/use.

• Geolocation GPS Services
  ▪ Are they flexible enough to accomplish project goals.
  ▪ Research API and create Geofence test program.