01/23: Team Status Reports

The Capstone Experience

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From Students…
  …to Professionals

Team Auto-Owners

Status Report

Enterprise Learning Management System

- Project Description
  - Extend Open-Source LMS: Moodle – Plug-In Based Dev.
  - Migrate from existing Microsoft SQL Database
  - Registration System, Recommendation system, certificate tracking, cost structure, educational material tracking, grade import/export, ad-hoc reports.

- Project Plan Document
  - Functional Specification up-to-date
  - Design Specification – waiting on customer feedback
  - Technical Specification –WIP

Team Auto-Owners

Status Report

Enterprise Learning Management System

- Server Systems / Software
  - Running, Stable.
  - Microsoft Server 2008 with IIS7
  - Microsoft SQL Server 2008 R2
  - SVN server (VisualSVN) setup for Moodle Plug-in Dev.
  - OpenSSH for Client delivery of development database
  - Moodle 2.2 for development
- Development Systems / Software
  - SQL Server Management Studio 2008
  - Text Editors: VIM, Notepad++, etc.
  - PHP Test Bed on Server

Team Auto-Owners

Status Report

Enterprise Learning Management System

- Client Contact
  - Face-to-Face Meeting, Monday 1/16 @ Headquarters
  - Weekly Conference Calls, Wednesdays 2:00 pm
- Team Meetings
  - Mondays, Wednesdays 2:00 – 2:45 officially - rescheduling
- Team Organization
  - Chris Marsh: Contact, Documentation, PHP Development
  - Preston Skupinski: Server Admin, PHP Development
  - Fai Wu: Moodle Plug-in Development, PHP Development

Team Auto-Owners

Status Report

Enterprise Learning Management System
Risks

- External Vendor Integration
  - Automating registration of courses and importing of grades to/from external vendors. API may not exist, no knowledge of procedure, 10's of vendors.
  - Discussed with customer – decided to focus on the top one or two vendors, exploring vendor contacts through Auto-Owners to see if automation is feasible.
- Data Migration from Old Database to Moodle
  - Must be done before most development begins; creation of migration solution through SQL script.
  - Moving forward with higher level development first (UI), while waiting for client response.
- Other, Standard Risks coming from Learning New APIs/Software

Team Boeing

Status Report

Design, Fly, and Battle Simulator

- Project Description
  - Flight simulator
  - Multi-player dogfights
  - Single-player obstacle courses
  - Separate observer with replays
- Project Plan Document
  - On GoogleDocs
  - Screen mockups in PPT
  - Schedule Estimates
  - Risks

Team Boeing

Design, Fly, and Battle Simulator

- Server Systems / Software

  - Windows XP (not set up yet, server issues)

  - Jenkins/SVN

  - Windows environments set up with VMWare

- Development Systems / Software

  - OpenSceneGraph (maybe using Bullet for physics)

  - QTCreator (already set up with OSG)

  - DIS 7 networking standard

Team Boeing

Status Report

Design, Fly, and Battle Simulator

- Client Contact
  - Initial conference call 1/11
  - Weekly call check-ins

- Team Meetings
  - Weekly Friday meetings at minimum
  - Tuesday Triage meetings

- Team Organization
  - Client point of contact: David
  - Technical roles based on previous experience

Team Boeing

Status Report

Design, Fly, and Battle Simulator
Risks

- Networking/Encryption
  - Very little previous experience within group
  - Previous projects for Boeing used as resource
- Physical simulation
  - Planes supposed to have HIGH level of interactivity
  - Start with basic model, work our way up
- Replays
  - Zero experience, likely requires compression/decompression
  - May need to be cut/severely scaled down
- Scope
  - Multiple vastly different modules
  - May need to cut or scale back multiple features

Team Dow

Status Report

Global Emissions Inventory Water Dashboard

- Project Description
  - Web-based Dashboard for internal use
  - Displays water table scarcity levels near DOW Plants
  - Can be used to compare data at multiple locations world-wide
  - To avoid DOW plants from over-stressing water strained areas
- Project Plan Document
  - Template has been made
  - Fairly good handle on function/design specs. Some technical specs are fuzzy.
  - Need to figure out how to test
  - We "know" our risks

Team Dow

Status Report

Global Emissions Inventory Water Dashboard

- Server Systems / Software
  - Windows Server 2008 R2 - Up and running
  - SQL Server 2008 R2 - Up and running
  - SharePoint Server 2010 - Initial setup complete
- Development Systems / Software
  - Windows 7 x64 Virtual Machines - Up and running
  - MS Visual Studios 2010 - Up and running
  - MS SharePoint Developer 2010 - Up and running

Team Dow

Status Report

Global Emissions Inventory Water Dashboard

- Client Contact
  - Introductory meeting was held 1/13
  - Weekly meetings setup up for Fridays, 2:30pm-3pm
- Team Meetings
  - Team Status meetings held every Tuesday, 4pm
  - Additional meetings held on Thursday, 4pm if necessary
- Team Organization
  - Tony Curley, Client Contact & Project Facilitator
  - Nate Henry, Developer & Systems Administrator
  - James Solomon, Tester & Program Manager

Team Dow

Status Report

Global Emissions Inventory Water Dashboard
Risks

- MS SharePoint 2010
  - Only 1 of us has real experience with it
  - Customer gave tutorial
- Map Integration with SharePoint
  - Get map to load in SharePoint/Adding to map
  - Google and/or Customer
- Interfacing SharePoint, SQL Server, Visual Studio
  - Getting different environments to share maps, pins, data, etc.
  - Google and/or Customer
- Possible Additional Requirements
  - Customer has lots of "nice to haves"
  - Work faster

Team GE Aviation

Status Report

Mobile Avionics Weather

- Project Description
  - Display Weather Maps
  - Used in the Aviation Industry
  - Intuitive, Easy to use
  - Support for multiple users (I.e pilots, air traffic controllers, ground controllers)
- Project Plan Document
  - Completed rough draft / Sent to client

Team GE Aviation

Status Report

Mobile Avionics Weather

- Server Systems / Software

  - Ubuntu Server for SVN

- Development Systems / Software

  - Xcode with iPhone 5 SDK

  - Eclipse with Android SDK

Team GE Aviation

Status Report

Mobile Avionics Weather

- Client Contact
  - Conference call 13th
  - On-site meeting at MSU, Monday 23rd
- Team Meetings
  - Triage Meetings start today.
  - Have met/plan on meeting every Mon, Wed, Fri
- Team Organization
  - Team Gmail Account
    - Calendar
    - Email

Team GE Aviation

Status Report

Mobile Avionics Weather
Risks

- New to mobile Development
  - Little to no previous experience
  - Forums, Tutorial, Books
- Loss of GPS
  - After a certain altitude GPS functionality on the tablets is non functional
  - Bad Elf : Add-on. This gives fully functional GPS data
- REST Request with NOAA API
  - REST Request response for weather information
  - Currently have a working python script prototype

Team Meijer

Status Report

Food Safety Audits and Reports

- Project Description
  - Food Safety Auditors currently use paper forms
  - Online website to submit results of inspection
  - Used by employees only
  - Take a picture of any food violations
- Project Plan Document
  - Outline Created
  - Started Risks

Team Meijer

Status Report

Food Safety Audits and Reports

- Server Systems / Software
  - HTML 5, CSS – Hello World
  - C#/.Net – Hello World
  - MSQL 2008 Sever Reporting Services – still learning
- Development Systems / Software
  - Supports Android & iOS Tablets
  - Visual Studio 2010 – installed
  - Windows Server 2008 – installed

Team Meijer

Status Report

Food Safety Audits and Reports

- Client Contact
  - Met with team over phone
  - Scheduled an in store visit next week
- Team Meetings
  - Friday Mornings 10:30am
  - Todo list for next week
- Team Organization
  - Wooseuk – C# programmer
  - Patrick – HTML5 guy
  - Kyle – Client Contact and Design Specialist

Team Meijer

Status Report

Food Safety Audits and Reports

Risks

- Risk 1
  - Lack of experience with SOAP
  - Learn from tutorials
- Risk 2
  - No experience with Server Reporting Services
  - Discuss expectations with client
- Risk 3
  - Testing web app through both tablet browsers
  - Manage time effectively, allow more time for testing
- Risk 4
  - Keeping our business contact properly informed
  - Weekly meetings with company

Team Motorola Mobility

Status Report

Context Driven Content Delivery

- Project Description
  - Synchronize what the user is viewing on the television with the secondary device
  - Provide the user with the ability to customize the secondary content received
  - Provide the administrative functionality to allow content provider to manage the secondary content.
- Project Plan Document
  - Assigned different work to team members.
  - Report status on individual work regularly.

Team Motorola Mobility

Status Report

Context Driven Content Delivery

- Server Systems / Software
    - Windows XP and Mac OS X
        - Environment/Virtual Machine ready for development
    - Tomcat, Glass Fish, postSQL server
        - Installed/configured for exercise
- Development Systems / Software
    - Restlet, MyBatis, PostgreSQL
        - Installed/configured for exercise
    - Eclipse Java EE with Maven
        - Installed and ready for development
    - jQuery, jQuery mobile
        - Used in exercise
    - Cloud to Device framework
        - In setup process

Team Motorola Mobility

Status Report

Context Driven Content Delivery

- Client Contact
  - Conference calls scheduled every Monday(5pm-6pm), and Friday(3pm-4pm).
  - Daily contact via Google Talk and email
- Team Meetings
  - Meeting after client's conference call to assign individual task from client
  - Daily contact via email to report status on individual task
  - Triage Meetings every Wednesday 4:20-4:40
- Team Organization
  - Tasks are assigned to team members immediately after conference calls

Team Motorola Mobility

Status Report

Context Driven Content Delivery

Risks

- Integration
  - Building upon and integrating previous semesters' work
  - Mitigation : Regression testing
- Performance
  - Must sync accurately to provide appropriate secondary content
  - Mitigation : Extensive testing, fail-safes in the system
- Interfacing with Set Top Box
  - Developing a UI and web services for a set top box.
  - Mitigation : Read documentation available immediately
- New Technologies
  - REST, jQuery mobile, MyBatis, C2D framwork
  - Mitigation: Start working on learning them immediately

Team Mozilla
Status Report

In-Content Preferences for Firefox

- Project Description
  - Move preferences page from pop out window to browser tab
  - Increase user experience with easy to understand layout that utilizes space appropriately
- Project Plan Document
  - Has been started
  - Specifications have begun

Team Mozilla

Status Report

In-Content Preferences for Firefox

- Server Systems / Software
  - Set up Virtual Machines with Windows 7 on both machines
  - Need to set up/decide what to do with server
- Development Systems / Software
  - Installed VS2010 on windows 7, JEdit on OSX
  - Successfully got code repository from Mozilla, already submitted two patches for review!

Team Mozilla

Status Report

In-Content Preferences for Firefox

- Client Contact
  - Jared Wein   (California)
  - Blair McBride   (New Zealand)

- Team Meetings
  - Triage: Monday 2:25-2:45
  - Weekly Conference Call : Monday 4:00pm (?)

- Team Organization
  - Devan Sayles – Customer Liaison
  - Rest - Undecided

In-Content Preferences for Firefox

Risks

- Risk 1
  - Lack of knowledge of code base/coding standards
  - Look over code provided to best understand
- Risk 2
  - Design issues
  - Confirm all design decisions with the User Experience team at Mozilla
- Risk 3
  - New technologies (XHTML, XUL, XBL, Javascript)
  - Research and practice is the only way to learn new technologies

Team Plex Systems

Status Report

HTML5-Based WYSIWYG Label Designer

- Project Description
  - Allow users to design manufacturing labels in a browser in an intuitive manner
  - Create, Save, Load, Edit, and Manage functionalities
    - Printing functionality may be added later depending on client needs
- Project Plan Document
  - Established the framework of the document
  - Wrote a tentative timeline
  - Rough draft of the Features section started
  - Started the Application Specification section

Team Plex Systems

Status Report

HTML5-Based WYSIWYG Label Designer

- Server Systems / Software
  - Windows Server 2008 R2 configured on server
  - SQL Server 2008 set up and tested
  - IIS 7 with ASP.NET web server up and running
- Development Systems / Software
  - Installed Windows 7 virtual machines for dev/test
  - Installed Visual Web Developer Express
  - Obtained required libraries (jQuery, etc)
  - Team leads have worked through several available examples to more closely learn the technologies we are working with

Team Plex Systems

Status Report

HTML5-Based WYSIWYG Label Designer

- Client Contact
  - Had initial meeting with Client
  - Plan to email weekly as needed
  - Phone calls to follow up with more involved topics
- Team Meetings
  - Meet formally twice a week after class
- Team Organization
  - Development Lead, Project Manager – Michele
  - Sys/DB Admin, Client Liaison – Matt
  - Test Lead – Andrew
  - All team members are cross functional regardless of main tasks

HTML5-Based WYSIWYG Label Designer

- Risks

- Limited experience with web technologies
  - No team member has done extensive web development
  - Researched tutorials and reference resources
  - Each team member is learning the technologies

- Project specification
  - Design is very open
  - Ask clients to nail down specifics and write code in an editable manner
  - Provide examples early and often

- HTML5 is not uniformly supported
  - Each browser implements HTML5 in its own way
  - Before committing to a specific approach test in each major browser

Team Raytheon
Status Report

Android Secure VOIP Communication System

- Project Description
  - Command and control communications in battle zone
  - Utilizes Android handheld devices
  - Secure VOIP communication
  - Hands-free voice operation

- Project Plan Document
  - Project plan template is set up
  - Project plan research underway
  - User interface in the works
  - Application features are being determined

Team Raytheon

Status Report

Android Secure VOIP Communication System

- Server
  - Ubuntu Server 10.10 up and running
  - Asterisk Server setup and tested
  - SVN & SSH both running
- Development Systems / Software
  - Eclipse/Android SDK/Java setup
  - Waiting on Android Devices
  - Waiting on MX 4035 Radio

Team Raytheon

Status Report

Android Secure VOIP Communication System

- Client Contact
  - Contact Established
  - NDA's Sent

- Team Meetings
  - API/Task Related Research
  - Work Environments Created

- Team Organization
  - Ben: Prototype interface. Kyle: Asterisk and VOIP
  - Forrest: Encryption and SIP. Calvin: SIP and Bluetooth

Team Raytheon

Status Report

Android Secure VOIP Communication System

Risks

- Android Audio Capture
  - Don't know how to capture and process audio from the microphone.
  - A few leads from the development community.
- VOIP over SIP
  - SIP is a strange and complicated protocol.
  - A few leads from the development community.
- TBSA, SmartEdge, Bluetooth Radio?
  - What are they? How do they work?
  - Clients will supply these at some point.
- Speech Recognition
  - Is it possible in Android? How might we accomplish this?
  - Hours of research.

Team Spectrum Health

Status Report

Web Applications for Healthier Communities

- Project Description
  - Enable users to create/edit health forms via the web
  - Allow users to access a central database
  - Replace paper forms with electronic forms
  - Provide a print-friendly view for forms

- Project Plan Document
  - Set up title page, table of contents, and subsections
  - Using Photoshop for web mock-ups
  - Discussing UI at team meetings
  - Need to put discussions into writing

Team Spectrum Health

Status Report

Web Applications for Healthier Communities

- Server Systems / Software
  - Server OS: Windows Server 2008
  - Database: Microsoft SQL Server 2008
  - SVN Server: Collabnet Subversion
- Development Systems / Software
  - IDE: Visual Studio 2008
  - Development languages: ASP.NET (C#) with Razor view engine, Javascript (jQuery), HTML5, CSS
  - Source control: SVN with TortoiseSVN

Team Spectrum Health

Status Report

Web Applications for Healthier Communities

- Client Contact
  - Seth Wentland: Webmaster
  - Sergey Stoma: Architect
- Team Meetings
  - Triage: Wednesday 5:00 – 5:20pm
  - Client: Mondays
- Team Organization
  - Client Contact: Brian
  - Project Manager: Bret

Team Spectrum Health

Status Report

Web Applications for Healthier Communities

Risks

- Integrating SQL server with their data warehouse
  - Custom C-Trac system currently used by Spectrum Health
  - Model database schema after currently used schema
- Concurrency problems with multiple users
  - Multiple users editing the same form at once can lead to lost data
  - Research online for potential risks and solutions
- Client Communication
  - Client is working on a liberal timeline
  - Continue regular communication about Capstone deadlines
- Capability with mobile devices
  - No team member with mobile development experience
  - Read online tutorial/books on mobile development

Team TechSmith

Status Report (1 of 4)

Mobile Smart Video Player

- Project Description
  - Smart Video Player for iPhone and iPad
  - Rich Playback Experience
  - Use metadata from Crowdsourcing
    - Hot-spots from other users

- Project Plan Document
  - Skeleton of document complete
  - First draft of Table of Contents, core functionalities, executive summary, acknowledgements
  - First two weeks of Timetable completed

Team TechSmith

Status Report

Mobile Smart Video Player

- Server Systems / Software
  - Subversion control repository in use
  - Windows Server 2008 set up, needs configuration
- Development Systems / Software
  - Xcode with iOS SDK installed on iMac and MacBooks
  - TechSmith Camtasia Studio installed and activated
  - iOS devices – iPad and iPhone from TechSmith
  - Received sample metadata from TechSmith
  - Additional 17'' MacBook Pro from TechSmith
  - Virtual machine on iMac with Windows 7 installed

Team TechSmith

Status Report

Mobile Smart Video Player

- Client Contact
  - Met at TechSmith location twice
  - Meetings on every other Friday
- Team Meetings
  - At least twice per week after class or on weekend
- Team Organization
  - Client Contact: Scott Klum
  - Project Manager: Yue Lu
  - Program Manager: Meryl Dara Mabin
  - System Administrator: Meryl Dara Mabin

Mobile Smart Video Player

Risks

- Risk 1
  - No programming experience with Objective C
  - Stanford lectures on iTunes; iOS tutorial books; daily practice
- Risk 2
  - Camtasia's video format is not iOS playable
  - We will have to do some research into effective conversion
- Risk 3
  - No experience with client-to-server communication
  - TechSmith provided resources and guidelines, and we are in communication with a previous TechSmith Capstone member
- Risk 4
  - Aggregating data will be mathematically difficult
  - Scott has some experience; we will do research

Team Urban Science

Status Report

Infographics Generator

- Project Description
  - Standalone webapp
  - Lazy suzan infographic selector interface
  - Example users are ford manager or someone at dealership
  - Infographic framework
- Project Plan Document
  - Discussed functional, design, and technical specs
  - Started filling in skeleton document
  - Gathered ideas for UML diagrams
  - Created multiple screen mockups

Team Urban Science

Status Report

Infographics Generator

- Server Systems / Software
  - Installed Windows Server 2008 with relevant web server tools
  - Started learning IIS – have sample webpage up
  - .Net framework 3.5 and SQL Server
- Development Systems / Software
  - Visual Studio has been installed
  - Contacted customer about providing iPad
  - Working with customer on version control setup

Team Urban Science

Status Report

Infographics Generator

- Client Contact
  - Had two conference calls with our customer
  - Set up regular communications with customer
- Team Meetings
  - Created agenda for each meeting
  - Set up semi-weekly meetings outside of All Hands Meeting
- Team Organization
  - Split front end and back end tasks
  - Assigned roles to create accountability

Team Urban Science

Status Report

Infographics Generator

Risks

- Risk 1
  - Unfamiliar with asp.net and HTML5
  - Online tutorials and books/documentation
- Risk 2
  - Customer gave ambiguous requirements
  - Find focus using prototypes and elicitation
- Risk 3
  - Not much free time overlap in schedules
  - Email chains to keep communication, clear planning agendas
- Risk 4
  - Little artistic experience
  - Brainstorm and try to learn from other apps, what is popular