Module Summary

• Software Development Methodologies
  • Project Management Phases
  • Agile Methodology
  • Agile Manifesto
  • Roles

• Team Roles and Responsibilities

• Goal for First Client Meeting

• Expectations
  • Client
  • Student Team
Agile Software Development in Today’s Industry

CompSci 408 - Fall 2014

Professors: Robert Duvall, Ajay Patel, Salman Azhar
(rcd@cs, ajay.patel, azhar@cs)
Overview

• Introduction

• Software Development Methodologies

• Agile Methodology

• Project Management Phases
Introduction

• My background

• Course to simulate a software consulting firm

• What you, the student, can expect from this course
Software Development Methodologies

• Waterfall

• Iterative Waterfall

• Agile - Scrum
Waterfall Methodology
Iterative Waterfall Methodology
Agile Methodology
Waterfall

Plan
Build
Test
Review
Deploy

Iterative Waterfall Development

Plan Build Test Review Deploy

Scrum

Plan Plan Plan Plan
Build Build Build Build
Test Test Test Test
Review Review Review Review

Plan Plan Plan Plan
Build Build Build Build
Test Test Test Test
Review Review Review Review

Deploy

Agile 101

DUKE COMPUTER SCIENCE
Agile Approach

Agile software development is
• a group of software development methods
• based on iterative and incremental development
• where requirements and solutions evolve through collaboration
Agile Methods

• Scrum (SCRUM)
• Extreme Programming
• Rational Unified Process
• Crystal Clear
• Adaptive Software Development
• Feature Driven Development
• Dynamic Systems Development Method (DSDM)
Agile Manifesto

Individuals and interactions  
over processes and tools

Working software  
over comprehensive documentation

Customer collaboration  
over contract negotiation

Responding to change  
over following a plan

http://agilemanifesto.org
Scrum

• iterative and incremental
  • framework for managing software projects

• focused on delivering features
  • small, tested, independent, valuable

• diversifies risk
  • if one feature does not go as planned, should not impact another feature

http://www.scrumalliance.org/why-scrum
Roles

• Product Owner
  • a stakeholder representing the customer

• Development Team
  • responsible for delivery

• Scrum Master
  • accountable for removing impediments so the team delivers the sprint goal/deliverables

• Test and Evaluation Team
  • responsible for finding, documenting, and reporting all bugs or defects to the rest of the team
Sprint

• A sprint is the basic unit of development in Scrum
  • Incremental feature development
  • Specific duration normally one week to one month
• Each sprint is preceded by a planning meeting
  • Identify tasks and estimate commitment for the goal
  • Review progress and learn lessons from sprint
Sprint Process

• During each sprint
  • the team creates finished portions of a product
  • the feature set that goes into a sprint come from the product backlog
    • which is an ordered list of requirements

• The backlog items for a sprint’s goals are determined during the sprint planning meeting
  • The Product Owner chooses the highest priority items and gets agreement from the team
RECAP

• Software Development Methodologies

• Agile Methodology

• Project Management Phases
Questions?
Team Roles and Client Meeting Preparation

CompSci 408 - Fall 2014

Professors: Robert Duvall, Ajay Patel, Salman Azhar
(rcd@cs, ajay.patel, azhar@cs)
Overview

• My background

• Team Roles and Responsibilities

• Goal for First Client Meeting
Team Roles & Responsibilities

• Project Manager & Team Lead
• Business Analyst
• Technical Lead
• Quality Assurance (Test) Lead
Role: Project Manager & Team Lead

• **Maintains** project milestones & timeline

• Manage **JIRA** (Tasks, Agile Board & Sprints)

• **Primary contact** for team

• Insures team has necessary **resources** (tools/access/info)

• **Communicate** project deliverables (to instructors)
Role: Business Analyst

• Primary client contact
• Coordinates client meetings
• Manages requirements
• Represents/understands client needs
• Manages Confluence
  • (organize, publish client info, document meeting minutes)
Role: Technical Lead

• Provides technical direction in terms of:
  • solution platform (iOS, Android, Web)
  • database, languages, etc.
  • toolkits
  • design patterns
Roles: Quality Assurance (Test) Lead

- Plans and implements testing to insure adequate quality
RECAP: Team Roles & Responsibilities

• Project Manager & Team Lead
  • Maintains project milestones & timelines
  • Manage JIRA (Tasks, Agile Board & Sprints)
  • Primary contact for team
  • Insures team has necessary resources (tools/access/info).
  • Communicate project deliverables (to instructors)

• Business Analyst
  • Primary client contact, coordinates client meetings
  • Manages requirements, represents/understands client needs
  • Manages Confluence (organize, publish client info, document meeting minutes)

• Technical Lead
  • Provides technical direction in terms of solution platform (iOS, Android, Web), database, languages, toolkits, design patterns

• Quality Assurance (Test) Lead
  • Plans and implements testing to insure adequate quality
Goal for First Client Meeting (Project Initiation/Planning)

• Establish project team
  • Client stakeholders
  • Student Team: BA, PM, QA, TL (email instructors by Sep 5 8am)

• Establish communication
  • Primary client contact & student contact (BA)
  • Tools for Collaboration (Confluence)

• Understand project purpose & scope

• Schedule next meeting

• Document meeting minutes
  • date/time, attendees, discussion topics, issues, action items
RECAP

• **Team** Roles & Responsibilities

• **Goal** for First Client Meeting
Questions?
Expectations

CompSci 408 - Fall 2014

Professors: Robert Duvall, Ajay Patel, Salman Azhar
(rcd@cs, ajay.patel, azhar@cs)
OVERVIEW: Expectations

• **Student Team** Expectations

• **Client** Expectations
Your Expectations of the Client

- The client is your **customer**
  - You are providing a service to them

- The **client decides** the features, functionally and behavior of the software
Student Team Expectations of Yourself

• **Satisfy** the client... They are your customer
• **Schedule meetings** with client with sufficient **notice**
  • Be accommodating
• At least **2** team members attend every client meeting
• **Use Confluence** (Wiki) to collaborate with client
  • Document requirements, project timeline with milestones, meeting minutes, user documentation, training material
• **Manage client expectations** of project deliverables
• **Be organized and prepared** for meeting the client
  • The better organized you are and your ability to convey project ambiguity the more productive you will be
• **Hold the client accountable** for their deliverables in the most **business professional** (polite) way
Project Communication

- compsci408s-staff@cs.duke.edu
- Project issues
- Guidance
- Deliverables
Clients’ Expectations

• Introduction

• What to expect
  • Prototype versus software ready for users
Expected of Client

• Meet with student team **weekly** if possible
  • some can be remote
• **Two** in-class meetings for Alpha and Beta releases
• **Consistent** representation:
  • Have at least **one person** (same person) who understands the requirements & attends every meeting with the student team
• Students have about **8-10 weeks** of coding time so define the project **scope** accordingly and know what you want.
  • You provide content (e.g. graphics, text).
• Be **organized & prepared** for meetings with the student team
• **Minimize requirement changes** (short fixed time frame)
• Hold the student team **accountable** for their deliverables
• You will need about **10 users** for user **testing**
• Prepare your **IT group** to maintain and host the solution
RECAP

- **Student Team** Expectations
- **Client** Expectations
Questions?