Global – Yet Agile – Software Development

Agile 2007
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(Mis)Conceptions about Globalization...
Global Development

- Several development sites involved
  - Typically spread over several countries
- Often larger projects
  - Development by several teams
- A team can be dispersed across several sites
- Different companies can be involved
- The customer can be far away

(Mis)Conceptions about Agility...
The Agile Value System

Agile development is defined by the value system:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

Source: http://agilemanifesto.org

Agile Principles

- Value system is based on the following principles:
  - Early and continuous delivery of valuable software
  - Welcome changing requirements
  - Deliver working software frequently
  - Business people and developers work together
  - Trust motivated individuals
  - Face-to-face conversation
  - Working software is the primary measure of progress
  - Promote sustainable development
  - Technical excellence and good design
  - Simplicity is essential
  - Self-organizing teams
  - Team reflection and adjustment
Building Teams

- **Avoid the typical structure**
  - According activities and know-how
    - Analysis in Germany, UI in India, middleware in Ireland...
    - Enforcement of incompatible interfaces
    - Achievement of business value only at the end of the project
  - **Instead structure along features**
    - For ensuring the business value and the customer's advantage
    - Features shouldn't be split across teams
      - The feature provides a joint goal and thus enforces team spirit

Feature Team

- **Comprehends all necessary roles**
  - Domain expert, tester, ...
- **Comprehends all required know-how**
  - UI, database, ...
- **Some people might only be required for a limited time**
- **Depending on technology and size**
  - One architect per feature team
  - Or 1-x architects support several feature teams
  - **But: For ensuring simplicity there is always one chief architect!**
**Global, Yet Agile, Software Development**

**Dispersed Teams**

- First choice is often to have subteams colocated
  - But: required know-how is often not colocated
  - Communication across subteams is harder
- Dispersed subteams are not the worst choice
  - Cross subteam communication is enabled by colocation
    - Eases conceptual integrity
    - Inner team communication is enforced by common goal

**Synchronization**

- Frequent Synchronization is a must
  - To have a common understanding
  - To deal with roles
  - To deal with changes and problems
  - To get feedback
- Daily Scrum / Stand-Up meeting:
  - Update on:
    - What have I done since the last daily scrum?
    - What will I do till the next daily scrum?
    - What's in my way?
- Synchronize daily across subteams
  - Scrum of Scrums
Dispersed Synchronization

- **Two options:**
  - Colocated people meet in person
    - Sites are connected via phone
    - Connect via the lowest available bandwidth
  - Different language
  - Different times
    - Make it comfortable occasionally for everyone
- **Record impediments**
  - On accessible prominent place
  - Ensure follow-up

Communication and Trust

- **A team needs**
  - Common vision, rules, values
  - Mutual respect and trust
- **Thus a dispersed (sub)team needs to:**
  - Meet face-to-face from time to time
    - Depending on distance between sites
      - More and longer at the beginning
      - Less frequent after a while
      - Couple of days every week
      - Regular for iteration review and planning
Cultural Differences

- „Expatriates“ and other face-to-face options create understanding
- Watch out for things that are more difficult at one site than at another site
  - Common difficulties
    - Realistic planning
    - Taking up responsibility
    - Stating problems
    - Giving honest feedback

Keep the Sites in Touch

- Ensure communication
  - Management/communication by flying around
  - Communication facilitator
- Regular joint celebration of bigger deliveries
- Pictures et.al. on the wiki
  - From each review and planning meeting
  - From each team member with contact information
  - Social information about each site
- Embassy at each site
Ambassador

- Establish an embassy at each foreign site to:
  - Gain mutual respect
  - Ensure common culture
  - Keep communication flow between the sites
- For avoiding burn out have a pool of ambassadors
  - Ambassador schedule
    - Iterations are a good start
    - Contact information

Development Cycles

- No need to prolong cycles
  - To steer in the right direction you need frequent feedback
  - Short cycles to reduce all risks
- Two-week iterations have been proven
  - Good balance between organizational overhead and risk reduction
  - Ensure delivery at the end of the iteration
- Same heartbeat across all sites
  - Holidays can require some adaptation
Integration and Build

- Before spreading over several sites
  - Ensure integration and build works at one site
  - The later you are addressing these problems the more difficult they get
- Don’t underestimate the complexity and required effort
  - Ensure you have full-time people being responsible
  - Assign 10% of your development effort

Release Iteration

- If a release iteration (sprint) is required for a bigger delivery
  - Each team who delivers to the release sends a representative (in person) to the integration site
Iteration Review and Planning

- Each subteam individually plans the iteration
  - Guided by the coach and customer (product owner)
  - Outcomes are visible and accessible at prominent place

- For dispersed teams:
  - Get together in person from time to time
    - E.g. for every other review and planning meeting
  - Use different communication media
    - Phone, webcam, NetMeeting (or the like), video conferencing, ...
  - Ensure review and planning is in the mid of the week

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Iteration Tracking

- Plans should be located at prominent place
  - Easy to access
  - Make progress visible
  - Read- and writeable by everyone

- Example tools
  - Trac (http://trac.edgewall.org)
  - PPTS (http://ses-ppts.sourceforge.net/)
Retrospectives

• aka: Project experience workshops
  • At the end of a project
  • Regularly after every iteration
• Continuous learning
  • Learn from failure
  • Recognize and extract best practices
  • Prepare for next iteration
• Staged retrospectives
  • Come together from time to time
  • Use virtual facilities

Common Development Culture

• State (and evolve) guidelines, rules and patterns, e.g.
  • Make How-to’s available on the wiki
  • Evolve patterns from retrospective and reviews
  • Ensure everyone knows required skills
  • Ensure common culture by mentors
• Inspect and improve development culture
  • Regularly team representatives are getting together
    • personally or virtually
  • Review the state-of-the-art
  • Learn from each other
• But: people and teams differ
  • Let teams decide
  • Don’t overspecify and overrule
Ensuring the business value

- **Customer / product owner**
  - Decides on highest business value
  - Prioritizes the features according the customer's understanding
  - Steers the iteration
  - Provides feedback on delivery
    - Acceptance or rejection
  - Obtains feedback from the teams
    - Amount of features that can be delivered in an iteration
    - Unfinished tasks that need to be re-prioritized
- **Represents customer perspective**
  - Good and intense communication channel

Supporting feature teams

- **One product owner might not be enough**
  - Team of product owners with one chief product owner
  - One product owner might steer 2-3 feature teams
  - Might require travel effort
- **Chief product owner**
  - Ensures the big picture
Summary

- Communication is even more important
- Frequent synchronization ensures the common goal
- Traveling is unavoidable
- Frequent feedback is obtainable via short iterations
- Feature teams and product owner(s) ensure the business value

Many Thanks!

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