Global – Yet Agile – Software Development

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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!**

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 Synchonization 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

- **Different communication channels**
  - Colocated people meet in person
  - Sites are connected via phone
    - Watch out for a good mic and speaker
- **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 Differencies

- **„Foreign workers“ 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 on the wiki**
  - From each review and planning meeting
  - From each team member with contact information
- **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

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)
  - XPlanner (http://xplanner.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
    - It‘s everyones responsibility to update those
  - 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

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

Dealing with Change

- **Change in features and in priorities**
  - Most often this can be addressed with iterations
    - Maybe iteration length has to be shortened to increase responsiveness
  - Sometimes team structure might have to change
    - Ensure the new feature team can jell
    - Face-to-face meeting in the beginning

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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