Co-located agile development: community and culture

Helen Sharp and Hugh Robinson

Centre for Empirical Studies of Software Development
The Open University, Walton Hall

Milton Keynes MK7 6AA, UK

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Overview

- Background: XP and our research approach
- The teams we observed
- XP’s rhythms of progress
- Mature XP team characteristics
- Significant factors for team members
- Summary
eXtreme Programming (XP)

- Focus on working code as being the important output
- Sustainable culture of software development
- Twelve practices, e.g. pair programming, 40-hour week, small releases, simple design
- Explicitly-stated value system: communication, feedback, simplicity, courage, respect

- One of several ‘agile’ methods, www.agilealliance.org
Some views of XP

WE'RE GOING TO TRY SOMETHING CALLED EXTREME PROGRAMMING.

FIRST, PICK A PARTNER. THE TWO OF YOU WILL WORK AT ONE COMPUTER FOR FORTY HOURS A WEEK.

THE NEW SYSTEM IS A MINUTE OLD AND I ALREADY HATE EVERYONE.

EXTREME PROGRAMMING

THE TWO OF YOU WILL BE A CODE-WRITING TEAM.

STUDIES PROVE THAT TWO PROGRAMMERS ON ONE COMPUTER IS THE MOST PRODUCTIVE ARRANGEMENT.

SOMETIMES I CAN WHISTLE THROUGH BOTH NOSTRILS. I'VE SAVED A FORTUNE IN HARMONICAS.

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Research Approach

- Observational studies
- Focus on social and cultural aspects
- Focus on practice and practitioners
- Interviews, (Participant) Observation, Documents
- Observers are software developers
- Approach holistic and themes emergent
- Treating the familiar as strange
Teams we studied

- Team A: intelligent web adverts, team size 14, Java
- Team B: multi-author environments, team size 23, C++
- Team C: operational risk in a bank, team size 12+, Java
- Team D: online insurance, team size 9 +, COBOL & Smalltalk
- Team E: database migration, team size 11, Java
Reassuring rhythms

- **Daily rhythm**
  - Start of day → stand-up → pairing conversations → end of day

- **Rhythm of the iteration**
  - Pre-planning → planning game → daily rhythm → retrospective

- **(Release rhythm)**
  - Release planning game → iteration rhythm → release retrospective
Planning Game

- Who is involved?
  - Developers (estimate stories)
  - Customers (prioritise stories)
  - Managers (hold development overview)

- Purpose
  - Choose stories for the next phase
Stand-ups

Who takes part?

- Developers
- Customer(s)
- Manager(s)

Purpose

- Reporting on yesterday’s work
- Identifying issues/problems
- Deciding what stories to do next
- Choosing pairs
Stand-ups

Democracy in action ... the men of the St Kilda parliament, deciding what to do that day - if anything
Pairing

- Pairing: design, program, refactor, test

- Social aspects
  - a three-way conversation
  - intense & stressful
  - variety of styles
  - situated in wider context
Customer Collaboration

- Who is the customer?
- Variation affects other practices
  - Planning game
  - Collective ownership (through stand ups)
  - Pairing (interruptions)
Retrospective

- Reflection for all the team
  - What worked,
  - What didn’t work?
  - How can we improve?

- At end of an iteration – an hour
- At end of a release – a day
Issues of sustainability

- Tensions between team members’ cultures
- Confidence and trust
- ‘Sameness’ – boredom and promotion
- Loss of confidence with constant pairing
Characteristics of teams

- Individuals and the team are respected
- Individuals and the team take responsibility – self-managing teams
- Individuals and the team actively encourage preservation of sustainable pace
- Individuals and the team have faith in their own abilities - trust
Significant Factors

- Quality of code
- Importance of taking breaks
- Communal (non-work) time
- Mutual support
- Physical layout (communication)
- Visible progress
Visible progress

- Regular releases (progress for individual and for team)
- Stand-ups (reporting to others)
- Small (or large) celebrations of achievement
Summary

- Observational studies of mature XP teams
- Many important aspects underpinning team
  - explicit value system
  - reassuring rhythms
  - strong team characteristics
  - shared understanding/purpose/goals
  - mutual support and trust
  - pride
- XP’s way has problems too, not ideal
Some relevant reading

Thank you

Any questions/comments?

h.c.sharp@open.ac.uk