Team Iterative Processes (SB5-MAI)

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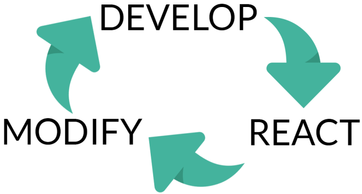
Team Iterative Processes

- Most of the software projects require a larger effort than a solo programmer can handle
- Programmers have to organize themselves into teams

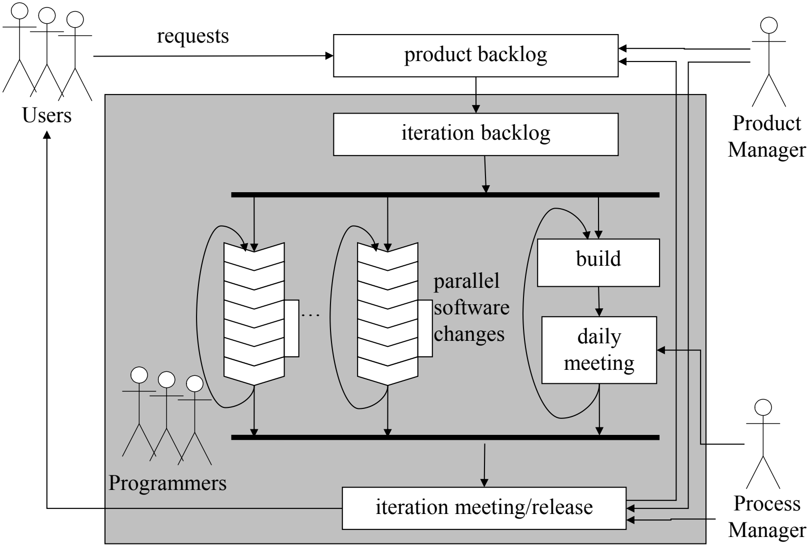
Agile Iterative Processes (AIP)

AIP



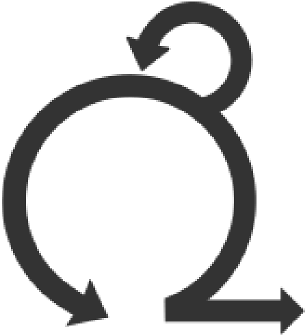
- Agile process for small-to-medium-sized teams
- Decisions made by consensus
- No specializations among the programmers
- Developers have only the programmer role

Model of AIP

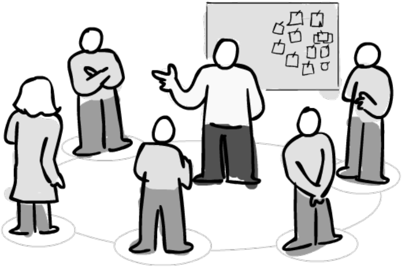

requests
product backlog
Users
Product Manager
iteration backlog
build
parallel software changes
...
daily meeting
Programmers
Process Manager
iteration meeting/release

Iterations

- Iteration meeting
- Assessing current state of the product
    - all stakeholders participate
    - technical and business point of view
- Planning the next iteration
    - iteration backlog
    - extracted from product backlog



Daily meeting



- Daily problems and challenges
- A consensus about the progress
- Daily assignments of change request
- Clarify the ambiguities
- Needs for code refactoring
- Early warning when anything goes wrong

Agile Manifesto

- Developed in 2001 (17 original authors)
- Signed by numerous people since

Individuals and interactions over processes and tools

Working software over comprehensive documentation

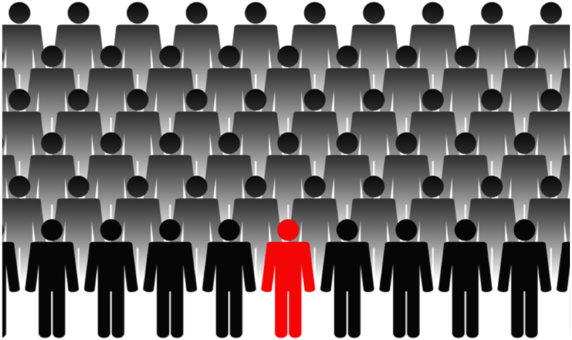
Customer collaboration over contract negotiation

Responding to change over following a plan

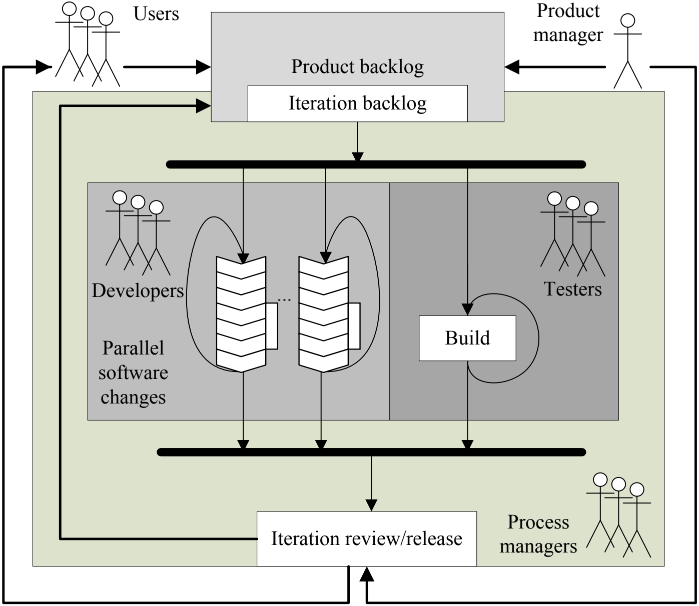
Directed Iterative Processes (DIP)

DIP

- Process runs under direction of managers
- Several different specialized roles for the programmers
- The process scales to large teams and large systems



Model of DIP


Users
Product manager
Product backlog
Iteration backlog
Developers
Parallel software changes
...
Testers
Build
Iteration review/release
Process managers

The Roles

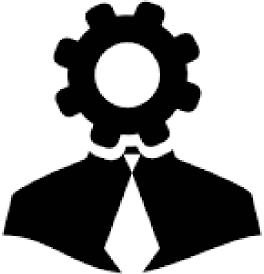
- Developers produce code
- Testers verify new baseline
- There can be additional specialized roles
- Specialization increases effectiveness

Architect

- Guarantees that developers preserve software architecture constrains
- Approves or disapproves commits

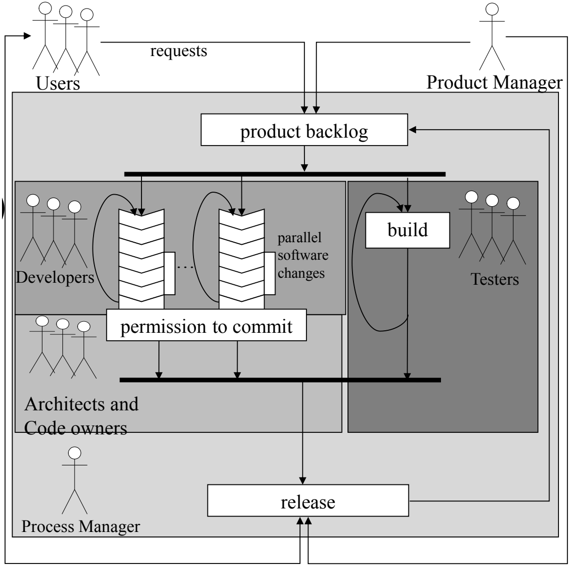
Management

- Product managers make strategic decisions
- Process managers assign tasks and control the process



Centralized Iterative Processes (CIP)

Model of CIP


Users
requests
Product Manager
product backlog
Developers
parallel
software
changes
. . .
build
Testers
permission to commit
Architects and
Code owners
Process Manager
release

Code ownership

- Programmers specialize in certain parts of the code
- Coordination can become a problem

Open Source Development

- Safeguarded
- Code ownership
- Wide community of developers, variable skills