Source Code Management
for
Distributed Teams

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More than 25 developers around the world

Launchpad: http://launchpad.net

- ✔ More than 90000 lines of Python code
- ✔ More than 25 developers
- ✔ Several countries and timezones (England, Brazil, Australia, Canada, Spain, etc)
- ✔ Several developers writing code at the same time.

Procedures

- ✔ No bureaucratic restrictions
- ✔ Developers collaborate freely:
  - · specifications
  - · bug-fixing
- ✔ Development
  - · Several simultaneous tasks
- ✔ Code Review
- ✔ Automatic Test Infrastructure

Source code management - I

Code control:

Each portion of code ...

- what ?
- who ?
- where from ?
- when ?
- why ?

Source code management - II

Quality management:

- ✔ Where was the code applied ?
- ✔ Which problems did the code solve ?
- ✔ Which specification did the code implement ?
- ✔ Who did review it ?

Bazaar: Distributed Version Control System

See http://bazaar-vcs.org.

Written in Python.

Used also in Ubuntu and other software projects.

Sponsored by Canonical Ltd.

Using Version Control

- Several blocks of code:
  - "Branches"
  - Personal tasks
  - Production / Development / Staging / …
  - Grouping changes
- Historic:
  - Check how the code was before
  - Check how the code became what it is now

Work Process

- ✔ Defining implementation strategy (*voice call* or *IRC*)

- ✔ Create a "branch"

- ✔ Adding revisions (codification)
  - · Sharing progresses
  - · Comparing activities

- ✔ Code review

Code Review

- Criteria:
  - Project
  - Compatibility
  - Implementation
  - Tests
- Incorporating changes
- **approved** [p= / r= / rs= / trivial]

PQM: secure branch incorporation

- Request Processing
  - destiny
  - permission
  - author, reviewer
  - bug-fixes
- Conflict verification
- Automatic tests
- Specific policy verifications

Staging Server

- ✔ Miniature Production

  - · Daily update

  - · Development code

  - · Production database copy

  - · *Quarantine* process

- ✔ Funcionality checks (Q.A.)

  - · Reproducing problems

  - · *User feedback*

Production System

Launchpad website: http://launchpad.net

- *Branch-based rollouts*
- Current state:
    - "Production"
    - partial incorporations
- "Production" is also PQM-controlled

Questions and comments

Thank you.

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http://bazaar-vcs.org