World View: Understanding Dependencies in Global Development Projects

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Dependencies

- Dependencies arise in any software development project
  - social dependencies among people
  - technical dependencies among artifacts

- Tasks arise from, build upon, and update dependencies

- When social and technical dependencies optimally align, an organization is in a state of congruence
Distribution

- Distribution dramatically interferes with our ability to achieve congruence, particularly over time.

- To date, however, we know little about exactly how social and technical dependencies arise, change, and disappear in a distributed setting.

- We are currently engaged in building World View, a novel visualization of dependencies, and mining the Jazz repository as an example project.
World View, 2006 Q4
World View, 2007 Q1
World View, 2007 Q1, Filtering & Zooming
Ongoing and Future Work

- Technically, extend the tool to address additional kinds of dependencies
  - dependencies when code is edited by more than one team / individual
  - dependencies when code from one team / individual calls code from another team / individual
  - dependencies representing different kinds of work items

- Scientifically, use the tool to understand patterns of distributed software development, and particularly how distributed development influences congruence

- Practically, turn World View into a day-to-day project awareness tool