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Supervised by	Prof. Liam Bannon
Project Area	GSD 4
Project Title	Social, Organizational, and Cultural aspects of Global Software Development (socGSD)

Research purpose

- ❑ An exploratory study aimed at investigating the collaborative work practices of this particular Open Source community
- ❑ Focused on understanding how sprint-driven development is achieved and its implications on collaboration in the community



Fig. 1 Communities of Practice
(Source: Wenger 1998)

The PyPy community



- ❑ Was initiated in early 2003 with the objective of implementing a Python interpreter using Python
- ❑ Received partial funding from the EU between December 2004 and March 2007
- ❑ Sprint systematically, about every 6 weeks or so, always in different locations to accommodate as wide a group of participants as possible

Related research

The Open Source phenomenon

- B. Fitzgerald, "The Transformation of Open Source Software," *MIS Quarterly*, vol. 30, pp. 587-598, 2006.
- A. Mockus, R. Fielding, and J. D. Herbsleb, "Two Case Studies of Open Source Software Development: Apache and Mozilla," *ACM Transactions on Software Engineering and Methodology*, vol. 11, pp. 309-346, 2002.

Methodologies

- W. Sack, F. Detienne, N. Ducheneaut, J.-M. Burkhardt, D. Mahendran, and F. Barcellini, "A Methodological Framework for Socio-Cognitive Analyses of Collaborative Design of Open Source Software," *Computer Supported Cooperative Work (CSCW): An International Journal*, vol. 15, pp. 229-250, 2006.

Studies of Open Source communities

- N. Ducheneaut, "Socialization in an Open Source Software Community: A Socio-Technical Analysis," *Computer Supported Cooperative Work (CSCW): An International Journal*, vol. 14, pp. 323-368, 2005.
- G. v. Krogh, S. Spaeth, and K. R. Lakhani, "Community, joining, and specialization in open source software innovation: a case study," *Research Policy*, vol. 32, pp. 1217-1241, 2003.

Research method

Ethnographically-informed work practice studies

Analysis of Limerick Sprint (August 2006)

- ❑ Direct observation and in situ conversations
- ❑ Project administrator organized workshop for local researchers
- ❑ Video recordings of daily status meetings and workshop



Fig. 2 Limerick Sprint

Analysis of Trillke Sprint (March 2007, Germany)

- ❑ Participant observation and in situ conversations
- ❑ Audio recordings of all group meetings



Fig. 3 Trillke Sprint

Analysis of online activities (August 2006-January 2008)

- ❑ Structured analysis extending back retrospectively as well as following events continuously

Conclusions and further work

Publications to date

Sigfridsson, A., G. Avram, et al. (2007). Sprint-driven development: working, learning and the process of enculturation in the PyPy community. *Open Source Systems '07*. Limerick, Ireland.

Conclusions

- ❑ Sprints facilitate situated learning in the project, because it allows developers to:
 - collaborate using hands-on approaches such as pair programming
 - socialize and form stronger personal relationships
- ❑ This also helps to facilitate the expansion of the community through enculturation:
 - It helps new members to achieve both the necessary technical knowledge and the community membership needed to contribute to the project

Next steps

- ❑ The goal is to use four empirically based analytical categories to explain in detail how sprints extend the distributed collaboration
- ❑ Email questionnaire to selected core members of the community
- ❑ A journal paper is currently in production