



Report of the HICSS-42 Workshop on Concepts, Methods, and Tools for Collaborative IS Development – Prevailing Issues and Future Research

Tobias Hildenbrand
University of Mannheim
hildenbrand@uni-mannheim.de

The “Concepts, Methods, and Tools for Collaborative IS Development” minitrack intended to create and foster a comprehensive and pluralistic perspective on software development tasks. Methodologically, it was supposed to comprise both, design and behavioral science approaches. While design science-oriented approaches create models, methods, and tools that *support* the coordination of collaborative ISD, behavioral research is required to lay the conceptual *foundations* for developing new approaches as well as for *evaluating* the new artifacts’ application in experiments and practice. The papers actually submitted covered a broad range of prevailing collaborative ISD (CISD)-related topics and methodologies (cf. Heinzl et al. 2009,).

Distribution of artifacts and stakeholders, either geographically (*Dafoulas, Swigger, Brazile, Aplaslan, Lopez-Cabrera, and Cemile Serce*;), temporally (*Carmel, Dubinsky, and Espinosa*;), or organizationally (*Prifling, Gregory, and Beck*;) was among the most commonly discussed topics within this minitrack and the ensuing workshop. Methodologically, both novel approaches like “follow the sun” (FTS;) and explanations for particular CISD behavior, e.g. in offshoring contexts , were presented.

Closely related to distribution issues are *coordination* problems in CISD: *Ortega, Izquierdo-Cortazar, Gonzalez-Barahona, and Robles*, for instance, investigated contribution structures within virtual open communities by means of quantitative data analysis methods. In doing so, they compare findings from open source software development communities to those from the Wikipedia project in terms of the coordinating roles of so-called “privileged users” .

Among the most prevailing issues, *change management and the adoption* of novel CISD approaches were also presented and discussed, e.g. by *Briggs, Murphy, Carlisle, and Davis*. In order to explain actual change of practice, a value frequency model (VFM) was developed and tested . The ensuing discussion within the workshop resulted in novel constructs and relations that have yet to be tested.

Standards for CISD processes and tools have to be considered a cross-cutting theme affecting all minitrack contributions so far. Examples such as the Capability Maturity Model Integration (CMMI) agile development processes as well as respective tools support were in the center of many post-presentation discussions and the ensuing workshop. Yet, more research is to be conducted regarding which methods and tools are most useful in particular CISD settings.

Future research pertaining to concepts, methods, and tools for CISD, therefore, includes a wide field of unsolved and recurring issues, since ISD in general is known as a “fail field” in practice. Hence, *research and knowledge transition* between academia and practice is utmost important and has to be fostered. CISD practice provides more and more empirical data, since globally-distributed projects become a normal case rather than an exception. On this basis, it is crucial to interlink existing theory from related fields and aim at framing particular CISD theories in order to better explain and eventually improve these kinds of scenarios, e.g. by means of more adequate methods and tools.

In the context of improving CISD *productivity*, software *product line engineering* (PLE), was discussed as an approach for enabling flexible sourcing. In the same vein, *strategic planning for outsourcing* decisions was considered as one of the major fields of

empirical CISD research to be further investigated. In terms of due design science research, concepts, methods, and tools for creating and visualizing the “big picture” of (globally-distributed) CISD projects were postulated and discussed (see e.g.). This global picture should contain interlinked information on relevant artifact and stakeholder information as well as enable tracking *changes over time*, for instance, in terms of changing artifact versions and pertaining design *rationale*. Thus, collaborative *traceability and rationale management* (TRM) was identified as one of the major design goals for future CISD settings.

To summarize this first workshop on concepts, methods, and tools for CISD brought up a more concise list of prevailing issues as compared to the initial minitrack call for contribution (cf.). The first set of minitrack papers and this workshop paved the way and set the agenda for future research endeavors. It has been shown that an *integrated* approach, consisting of both empirical findings from current CISD settings and newly designed artifacts for supporting future CISD projects has to be continued in order to improve and solve issues leading to failure.

References

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